

Annex

11-1

The Project for Capacity Development on
Urban Development Control and Promotion (CDUDCP) in Laos

Report on
Area Concept Plan of Pilot Area
(Kamsawat Station Area in Xaysettha District)

June 2024

Urban Promotion Working Team of CDUDCP
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Exchange Rate: LAK 1 = JPY 0.00278 (JICA exchange rate in April 2024)

USD 1 = JPY 151.37 (JICA exchange rate in April 2024)

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List of Abbreviations

C/P	Counterpart
DHUP	Department of Housing and Urban Planning
DONRE	Department of Natural Resource and Environment
DPWT	Department of Public Works and Transport
DUP	Detailed Urban Plan
GIS	Geographical Information System
GUP	General Urban Plan
MOF	Ministry of Finance
MONRE	Ministry of Natural Resource and Environment
M/P	Master Plan
MPI	Ministry of Planning and Investment
MPWT	Ministry of Public Works and Transport
OPWT	Office of Public Works and Transport
Lao PDR	People's Democratic Republic of Laos
LRT	Lso-Thai Railway Enterprise
PPP	Public-Private Partnership
PTI	Public Works and Transport Research Institute
SEZ	Special Economic Zone/ Specific Economic Zone

Chapter 1. Introduction

1.1 Background

The Project for Capacity Development on Urban Development Control and Promotion in Laos (CDUDCP) supported by Japan International Cooperation Agency (JICA) has been implemented since July 2021 to July 2024 and aims to strengthen the capacity of Lao counterparts (Department of Housing and Urban Planning MPWT (DHUP), Public Works and Transport Research Institute (PTI) and Department of Public Works and Transport of Vientiane Capital (DPWT)) to control and promote urban development of Vientiane Capital. The outline of the project is shown in Table 1-1.

Table 1-1: Outline of the CDUDCP

Project Name	Project for Capacity Development on Urban Development Control and Promotion
Overall Goal	Urban development is controlled and promoted in accordance with the urban plan.
Project Purpose	Capacity of urban development control and promotion in accordance with the urban plan is enhanced.
Outputs	[Output 1]: The mechanism for discussion and sharing the views on the policy and issues of urban development is established. [Output 2]: Capacity of urban development management is enhanced. [Output 3]: Capacity to promote urban development projects is enhanced. [Output 4]: Capacity to regulate building construction is enhanced.

Source: CDUDCP

1.2 Objective of Area Concept Planning in the CDUDCP

In the CDUDUP, the Output 3 aims to enhance the C/P's capacity to promote urban development projects through the formulation of the following outcomes:

- Area Plan is drafted and the institutional issues for implementation are identified.
- Guideline for promoting Urban Collaborative Development Project is formulated.

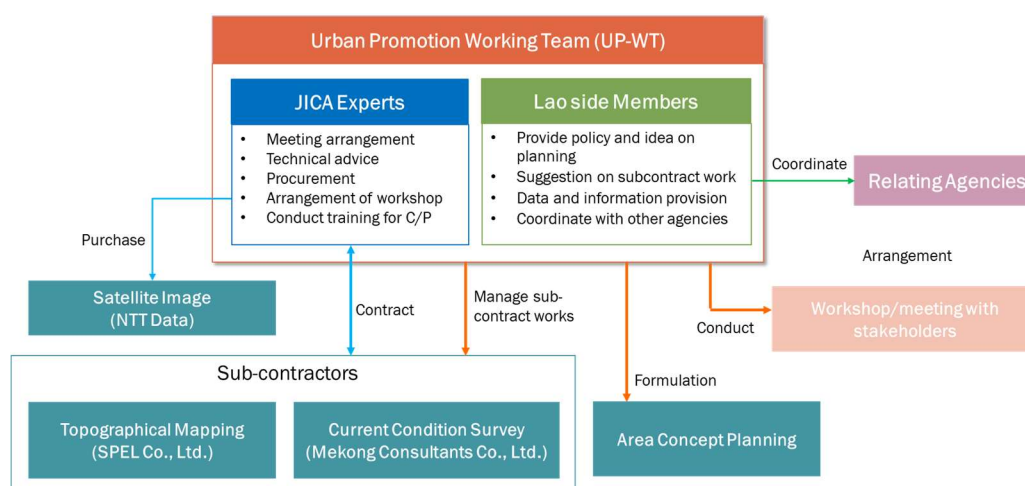
The Area Concept Plan and the formulation activities aims to follows:

- To promote public-private (local business)- community collaboration activities and its capacity building
- To enhance planning technique for urban development thorough the planning activities
- To enhance coordination skill for the stakeholder's consensus building
- To reflect the outcomes and experiences of the activities into guideline formulation for the dissemination

For the activity, the CDUDCP selected the Kamsawat Station area in Xaysettha District in Vientiane Capital as the pilot study area. The activity of the formulation of the Area Concept Plan including topographical mapping basic survey and workshop events has been conducted by Lao counterpart and the JICA Expert Team since June 2022 to June 2024.

1.3 Working Team for Area Concept Plan Formulation

The formulation of the Area Concept Plan of pilot area was conducted by the Urban Promotion Working Team (UP-WT) consisting of the staffs of DHUP, PTI, DPWT and OPWT of Xaysettha district and JICA Experts. The implementation structure and member of the UP-WT are shown Table 1-2 and Figure 1-1.



Source: CDUDCP

Figure 1-1: Implementation Structure for Area Concept Planning Activity

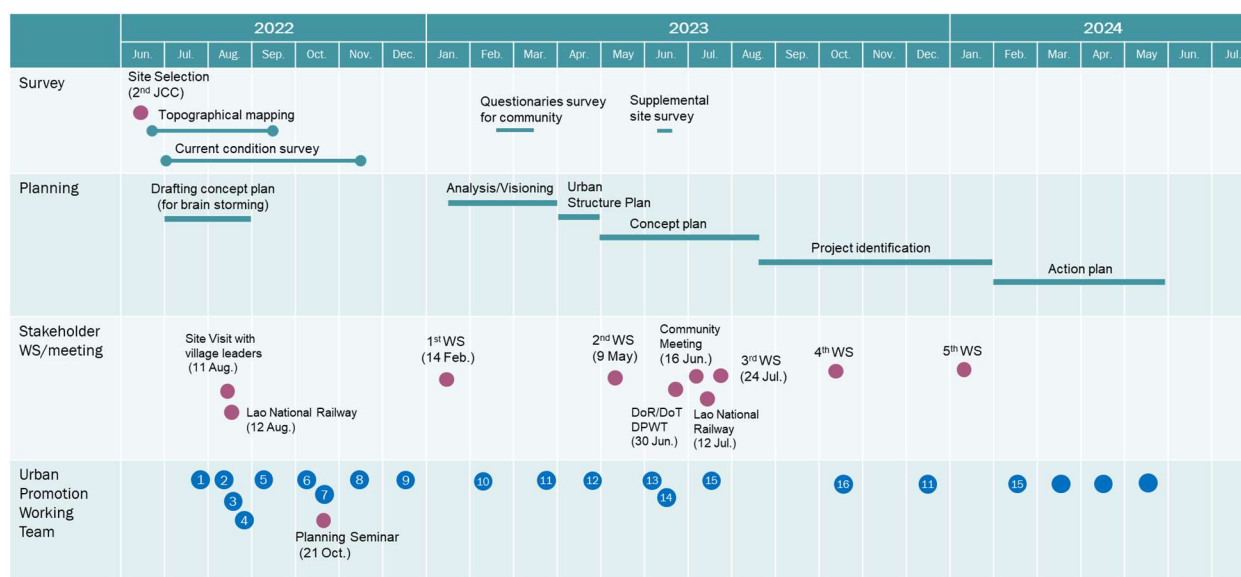
Table 1-2: Member of UP-WT

Organization	Name	Leader/Coordinator
DHUP	Mr. Vasaly SISAVATH, Division of Urban Planning	Co-Leader/ Coordinator
	Mr. Sulikorn XAYXANA, Division of Urban Planning	
	Mr. Phayboun SOUNAKEN, Division of Construction Control	
PTI	Mr. Somchit CHERSUANTHOR	Leader
	Mr. Bounpone SISAVATH	
	Mr. Sinakhone DUANGPANYA	
DPWT	Mr. Sonepaseuth PHOTHISA, Division of Housing and Urban Planning	
	Mr. Vientihane BANTHONGXAY, Division of Housing and Urban Planning	
OPWT of Xaysettha	Mr. Desa PHOMMASAK, Deputy Director	
JICA Project Team	Ms. Tomoko YAMAMOTO	
	Mr. Minoru MATSUI	
	Mr. Chikara UCHIDA	
	Mr. Akihito MUTO	
	Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant	
	Mr. Chayyang Chuvea, JICA Project Assistant	

Source: CDUDCP

1.4 Activities for the Planning

The schedule of the activity of the Area Concept Planning in the CDUDCP is shown Figure 1-2. The activity started from the site selection in June 2022. The UP-WT has conducted the topographical mapping, current condition survey and concept planning through the discussion in the stakeholder workshops as the community participatory approach.



Source: CDUDCP

Figure 1-2: Schedule of Area Concept Planning Activity

1.5 Objective of this Report

This report is a comprehensive document compiling with the outcomes and result of the activities of the area concept planning in the CDUDCP, and aims to be a quasi-official plan by the consensus of the C/Ps. For the promotion and implementation of the urban development in the pilot area, it is expected that the C/Ps will take an action for the necessary preparation and planning based on the Area Concept Plan in this report.

Chapter 2. Scope of Area Concept Plan

2.1 Objective of Area Concept Plan

The Area Concept Planning in the CDUDCP aims to followings in terms of the capacity enhancement:

- To promote public-private (local business)- community collaboration activities and its capacity building
- To enhance planning technique for urban development thorough the planning activities
- To enhance coordination skill for the stakeholder's consensus building
- To reflect the outcomes and experiences of the activities into guideline formulation for the dissemination

Figure 2-1 shows the scope of the Area Concept Planning. It consists of six plan components of a) current condition analysis, b) visioning, c) development strategy, d) concept planning, e) project identification and f) action planning.

As the participatory planning approach, the UP-WT conducted stakeholder workshops involving other related agency, private business operator and community in the pilot area to reach the consensus on the Area Concept Plan.



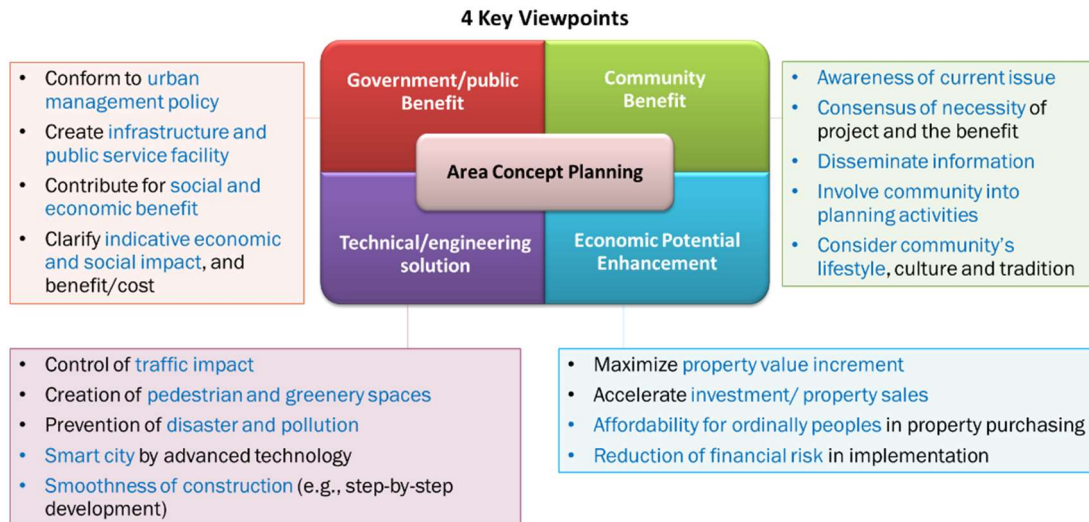
Source: CDUDCP

Figure 2-1: Scope of Area Concept Planning

2.2 Key Viewpoints of Area Concept Plan

The key viewpoints of the Area Concept Planning are shown in Figure 2-2. The planning needs to consider the four types of effect and impact of a) government and public benefit, b) community benefit, c) technical and engineering solution, and d) economic potential enhancement for the planning site and the surroundings.

These viewpoints make the plan to be the beneficial for social and economic and feasible in terms of the financing and investment.



Source: CDUDCP

Figure 2-2: Key Viewpoints of Area Concept Planning

2.3 Site Location

The pilot area was selected through the comparative analysis of the three candidate sites. The result of the selection was agreed in the 2nd Joint Coordination Meeting (JCC) of the CDUDCP which was held on 14 June 2022. The location of the selected pilot area is shown in Figure 2-3.

The pilot area is located 7 km east from city centre of Vientiane Capital and adjacent to the That Luang Lake SEZ and covers an area of approximately 500 ha.



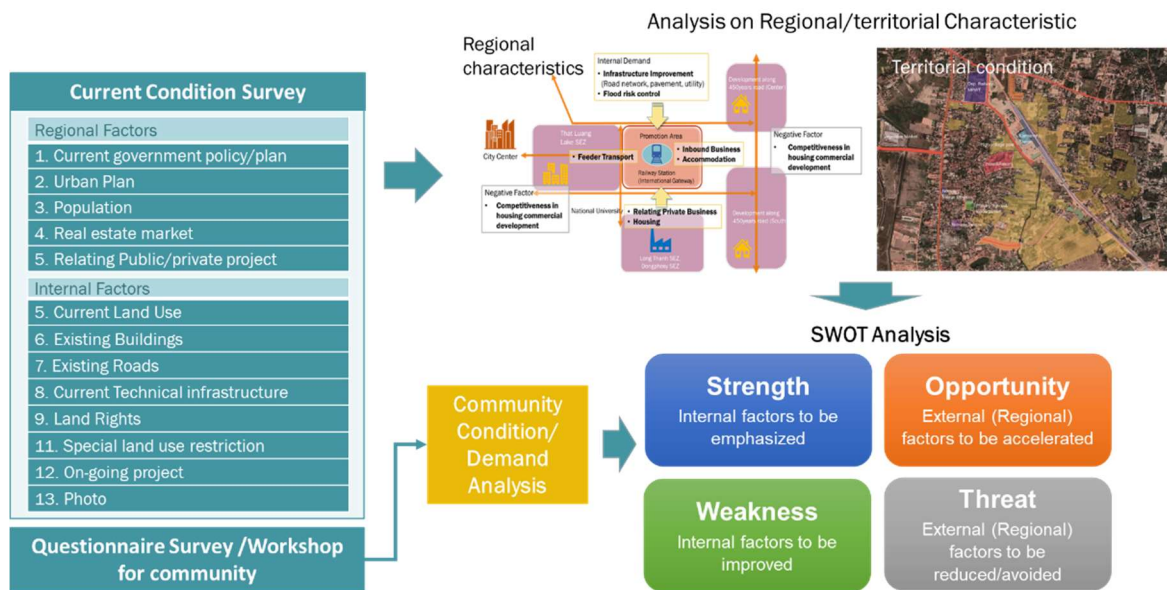
Source: CDUDCP

Figure 2-3: Location of Pilot Area

Chapter 3. Current Condition Analysis

3.1 Objective of Current Condition Survey and the Analysis

Current condition survey aims to identify the regional and territorial characteristic and the regional and internal factors of the pilot area to be considered for the area concept planning. The survey was conducted by both of the field survey and digital data analysis. In order to apply community's demand into the area concept plan, community's opinion was caught up through the questionnaire survey and discussion in workshops. The overall framework of the current condition survey is shown in Figure 3-1.



Source: CDUDCP

Figure 3-1: Overall Framework of Current Condition Analysis for Area Concept Planning

For the current condition analysis, the SWOT analysis method was applied to evaluate the pilot area's condition and potential to be enhanced or improved by the urban development. The outline of the SWOT analysis method is shown as follow:

SWOT Analysis:

SWOT analysis is a framework used to evaluate the subject's competitive position and/or to develop strategic planning. SWOT analysis assesses internal and external factors, as well as current and future potential. It helps identify a subject's Strengths, Weaknesses, Opportunities, and Threats as follows.

- Strengths (S): These refer to the internal aspects where the subject excels. Examples include strong technical expertise, abundant know-how, or a large customer base.
- Weaknesses (W): These are internal factors where the subject falls short. It could be underperforming areas, costly processes, or outdated systems.
- Opportunities (O): Opportunities arise from external factors that can enhance the subject's

position. These might include market gaps or unexplored areas.

- Threats (T): Threats are external factors that could pose problems. Unlike weaknesses (which are internal), threats are beyond your control.

3.2 Regional Factors

(1) Methodology for Data Collection for Regional Factor

The data collection for regional factor is mostly the survey of data of government policies, plan and regulation of governmental departments and ministries. Besides this, there are also related to population statistic data and market trend of real estate and investment in the Vientiane Capital and its regional areas. The collected data and information are as below:

[Government policy and plan]

- 9th Five-Year National Socio-Economic Development Plan (2021-2025)
- Ministry of Public Works and Transport 5 Year (2021-2025) Development Plan
- Department of Planning and Investment 5 Year (2021-2025) Development Plan
- Department of Natural Resource and Environment 5 Year (2021-2025) Development Plan
- Department of Information, Culture and Tourism 5 Year (2021-2025) Development Plan
- Department of Agriculture and Forestry 5 Year (2021-2025) Development Plan

[Urban plan and land use regulation]

- Land use regulation by Ministry of Natural Resource and Environment
- Land use regulation by Public Works and Transport

[Population]

- Vientiane population and household data

[Real estate price/market trend]

- Research of advertisement of real estate

[Investment Project]

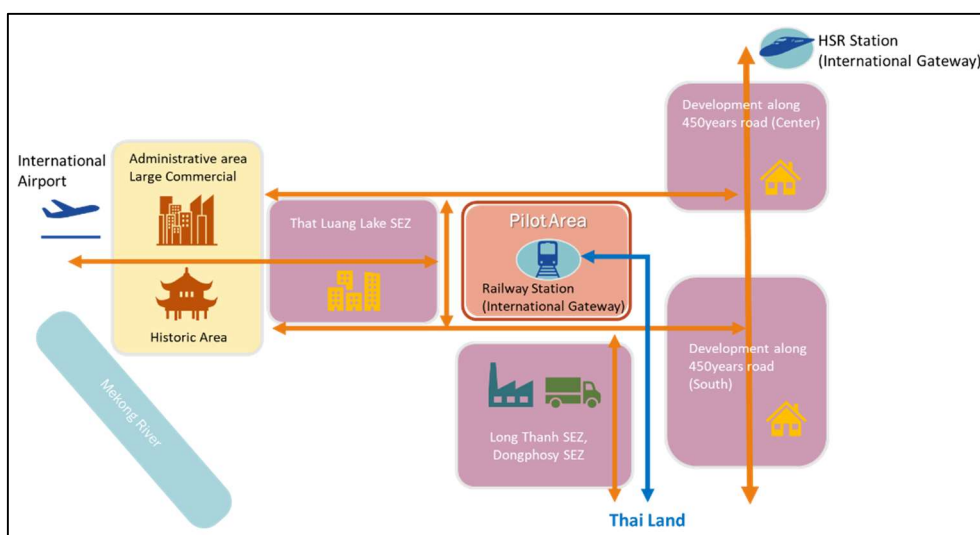
- National investment project in Vientiane Capital

[Public Transportation]

- Information of railway, bus and airport

(2) Regional Location of Pilot Area

Figure 3-2 shows the schematic model of the regional location of the pilot area. The pilot area locates at the middle between city center and large-scale development areas in Vientiane Capital. The distance from the city center is 7 km. The Kamsawat station of Lao-Thai Railway locates at inside of the pilot area. It will work as a transportation hub for international travel from/to Thailand. The surrounding large-scale development area such as SEZ will encourage the potential of economic of tourism, industry and housing.



Source: CDUDCP

Figure 3-2: Schematic Model of Regional Location of Pilot Area

(3) Government Policy and Plan

Key components of policies and plans of the national government and Vientiane Capital for urban development are summarized into Table 3-1. The Area Concept Plan needs to support and incorporate with these components to have the priority of the urban development.

Table 3-1: Government Policy and Plan relating to Pilot Area

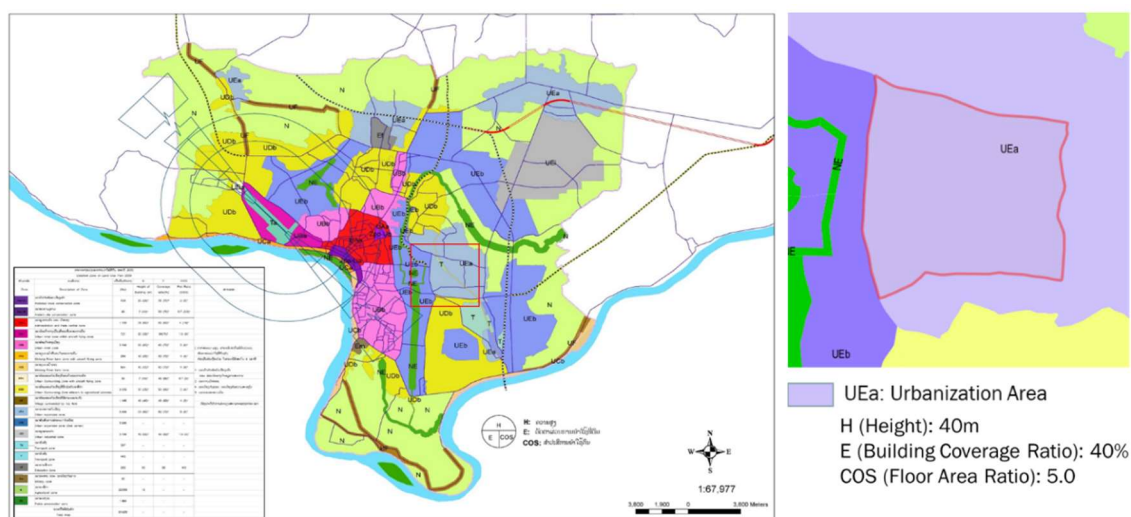
Item	Key Components of Policy and Plan
National Government Policy	
Key Policy for urban development	• Develop sustainable cities/resilient infrastructure • Promote investment, trade and tourism • Create job opportunities and income • Reduce gap between urban and rural • Establish model of Smart City
Sector Policies of Vientiane Capital	
Urban Development	• Promote modern/high-technique utilization • Protect/ improve the city's environment • Encourage housing following green growth standard • Improve land scape of main roads • Expand utility supplying
Transportation	• Improve road network and pedestrian spaces • Modernize public transportation system • Sustainable Urban Transport (BRT) • Electric Vehicle (incl. charging station and supplier industry) • Road-side parking management
Culture and Tourism	• Develop tourism to promote natural, cultural and historical tourism • Organize tourism festivals to attract domestic and foreign tourists • Upgrade tourism management and foreign language skill
Investment	• Expand Vientiane to a medium-sized city with 2million population by 2030 • Promote investment, trade, and tourism • Create jobs to generate income

Item	Key Components of Policy and Plan
	• Improve waste treatment system and environmental protection
Natural Resource and Environment	• Build Vientiane Capital as green-clean-beautiful-sustainable city • Ensure sustainable using, management and protection of natural resources • Strengthen toward climate change and natural disasters • Improve land management system
Agriculture	• Ensure stable economic growth, food safety and quality • Create jobs and generate income for the people • Reduce distance between urban and rural areas • Protecting cultural identity of Lao ethnic groups

Source: The 9th Five-Year National Socio-Economic Development Plan (2021-2025),
Ministry of Public Works and Transport 5 Year (2021-2025) Development Plan,
Department of Planning and Investment 5 Year (2021-2025) Development Plan,
Department of Natural Resource and Environment 5 Year (2021-2025) Development Plan,
Department of Information, Culture and Tourism 5 Year (2021-2025) Development Plan,
Department of Agriculture and Forestry 5 Year (2021-2025) Development Plan

(4) Urban Plan

Based on the General Land Use Plan of Vientiane Capital, which was approved by the National Assembly in November 2020 (see Figure 3-3), the pilot area locates at zone of UEa (Urbanization Area) which is designated as urban development promotion zone. The UEa zone provides the land use control with the 40 meters of the maximum building height, the 40 % of the maximum building coverage ratio and the 5.0 of the maximum Floor Area Ratio. The land use regulation for the General Land Use Plan is still under updating by the Vientiane Capital.



Source: Department of Housing and Urban Planning, MPWT

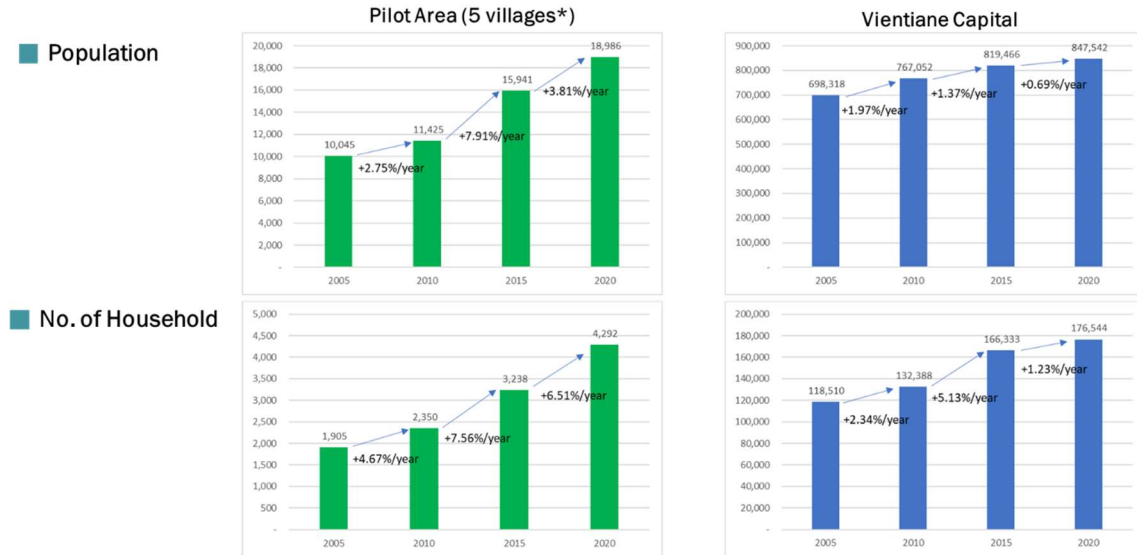
Figure 3-3: General Land Use Plan of Vientiane Capital

(5) Population

Population data from the year of 2005 until 2020 throughout Vientiane Capital was collected from the National Statistic Center of the Ministry of Planning and Investment. The data is categorized as district levels and village levels. The transitions of population and number of households in the pilot area and whole

Vientiane Capital are shown in Figure 3-4.

The number of population and households in the pilot area has been rapidly increasing in comparison with its whole Vientiane capital. It indicates the higher housing demand of the pilot area.



5 villages: Khamsavat, Nonvay, Muangnoy, Xiengda and Somsanga

Source: Population Statistics Book for 2005-2020, National Statistic Center, Ministry of Planning and Investment

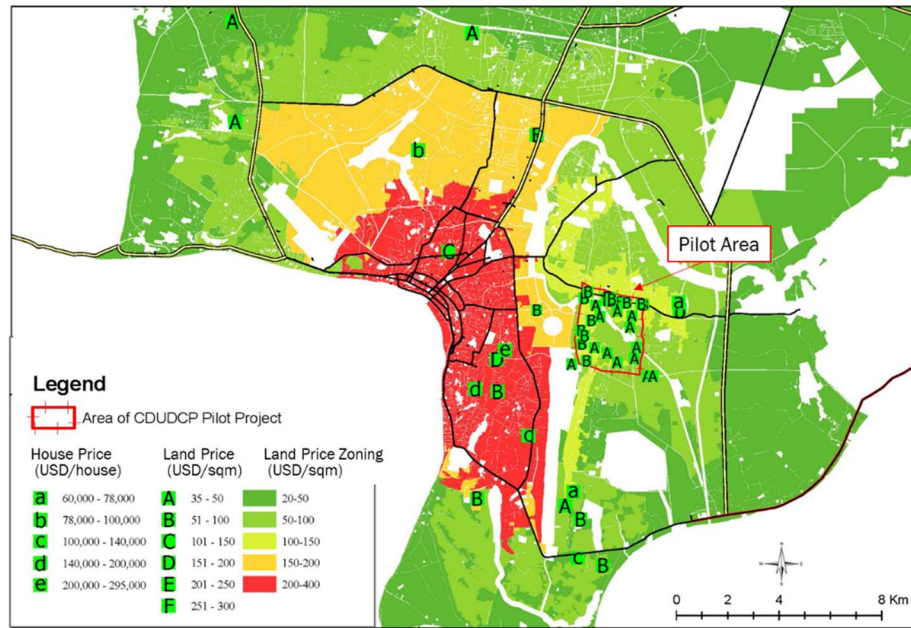
Figure 3-4: Population and Household in Pilot Area and Vientiane Capital

(6) Real Estate Market

The data of real estate price (sales and rent) were collected from online advertising information in Vientiane Capital and advertisements within the pilot area. The real estate locations with the sales price range and the land market price zone which was developed by the collected data are shown in Figure 3-5. The land price ranges of pilot area and the outside are categorized as follow:

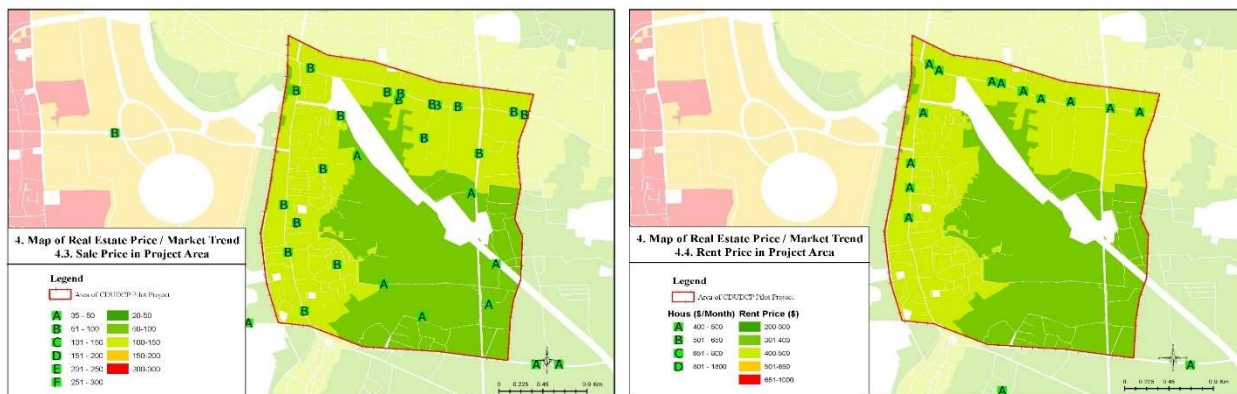
- Pilot Area: 50 - 100 USD/sqm
- That Luang Lake SEZ: 150 - 200 USD/sqm
- City Center of Vientiane Capital: 200 - 400 USD/sqm

Currently, the land price in the pilot area is being at rage from 50 to 100 USD per sqm. It is obviously lower than the outside developed area due to the lack of infrastructure of the pilot area.



Source: Market Research and Site Survey by CDUDCP

Figure 3-5: Property Market Price Zone Map in Vientiane Capital



Source: Market Research and Site Survey by CDUDCP

Figure 3-6: Sales and Rent Price of Real Estate in Pilot Area

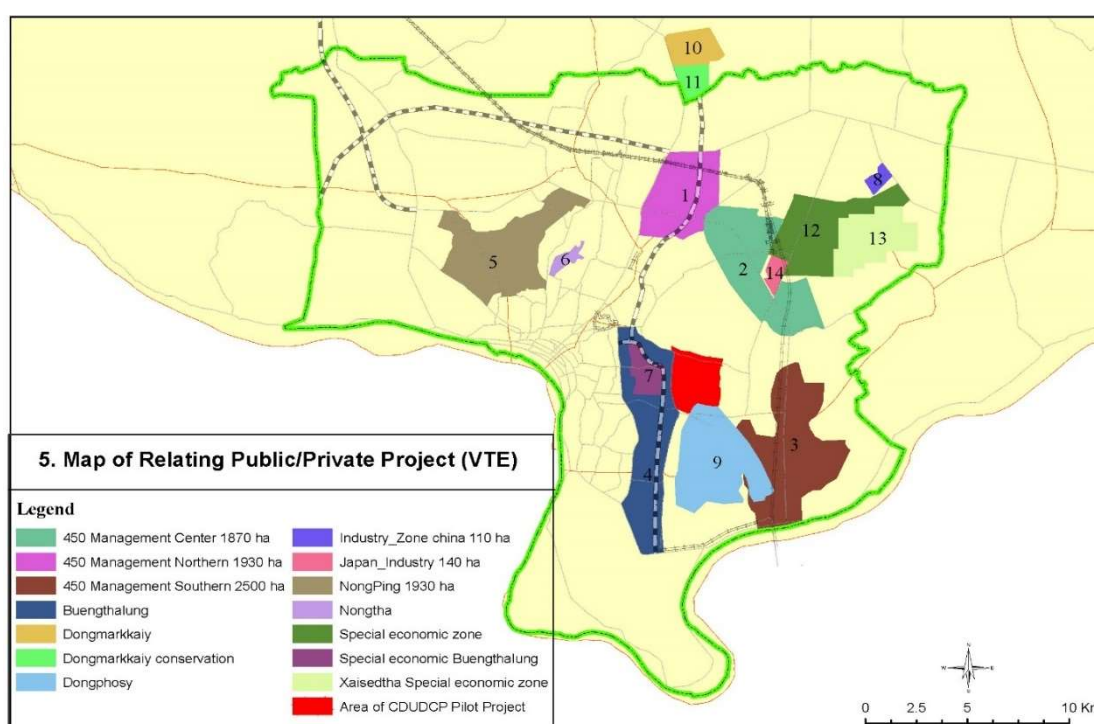
(7) Investment Project

As large-scale investment project in the Vientiane Capital, ten locations of SEZ projects have been on-going and planned. The summary and location of the projects shown in Table 3-2 and Figure 3-7

Table 3-2: Outline of Large-scale Investment Project in Vientiane Capital

No.	Description	Investment Type	Value	Area (Ha)	Commencement Year	Concession Period
I.	Investment in Vientiane Capital					
1	Nongping Development SEZ Project	Urban & Housing Estate				
2	Nongtha Development SEZ Project	Urban & Housing Estate				
3	North 450 Year-old Road Development SEZ Project	Logistics and Warehouse				
4	Central 450 Year-old Road Development SEZ Project	Logistics and Warehouse				
5	South 450 Year-old Road Development SEZ Project	Logistics and Warehouse				
6	Thatluang Lake Development SEZ Project	Commercial Building	1,600,000 USD	365 Ha	2011	99 Years
7	Dongphosy Development SEZ Project	Commercial Buidling	50,000,000 USD	53.94 Ha	2009	50 Years
8	Xaysettha Development SEZ Project	Industrial Factory	128,000,000 USD	1,000 Ha	2011	50 Years
9	Vientiane Industry Trade Area Development SEZ Project	Industrail Factory	43,000,000 USD	110 Ha	2009	75 Years
10	Longhang Vientiane Development SEZ Project	Golf, Hotel & Resort	1,000,000,000 USD	557.75 Ha	2012	50 Years

Source: Department of Housing and Urban Planning of MPWT, Special Economic Zone Office of Vientiane Capital



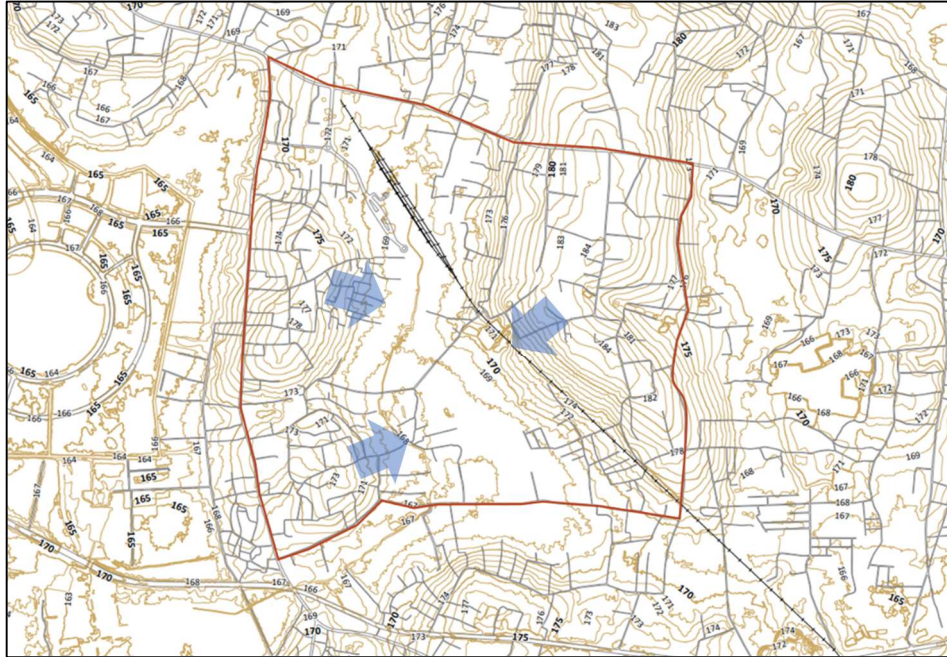
Source: Department of Public Works and Transport, Vientiane Capital

Figure 3-7: Location of Large-scale Investment Project in Vientiane Capital

3.3 Internal Factor

(1) Topographical Condition

Figure 3-8 shows the topographical condition of the pilot area. The pilot area locates at an altitude of 167 to 184 meters. The lowest part is an area along existing canal running from north to south at the center of the pilot area.

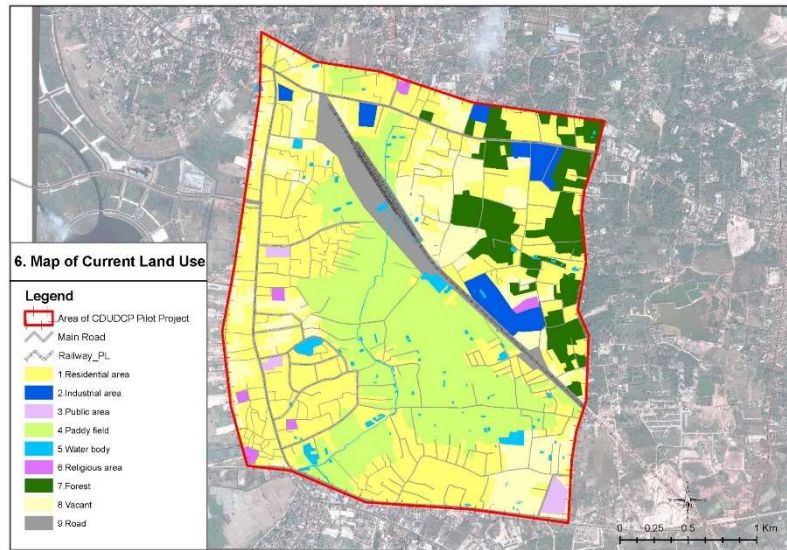


Source: Topographical Map by CDUDCP

Figure 3-8: Topographical Condition of Pilot Area

(2) Current Land Use

Current land use in the pilot area is shown in Figure 3-9 and Table 3-3. The 51 % of the lands in the pilot area is currently used for urban land usages such as residence, industry and infrastructure. These urban land usages mostly locate at along existing outer trunk roads and alley roads. Remaining 49 % of lands is used for agriculture and vacant lands which will have the development potential. However, these lands currently have less accessibility to infrastructure.



Source: Topographical Map and Site Survey by CDUDCP

Figure 3-9: Current Land Use in Pilot Area

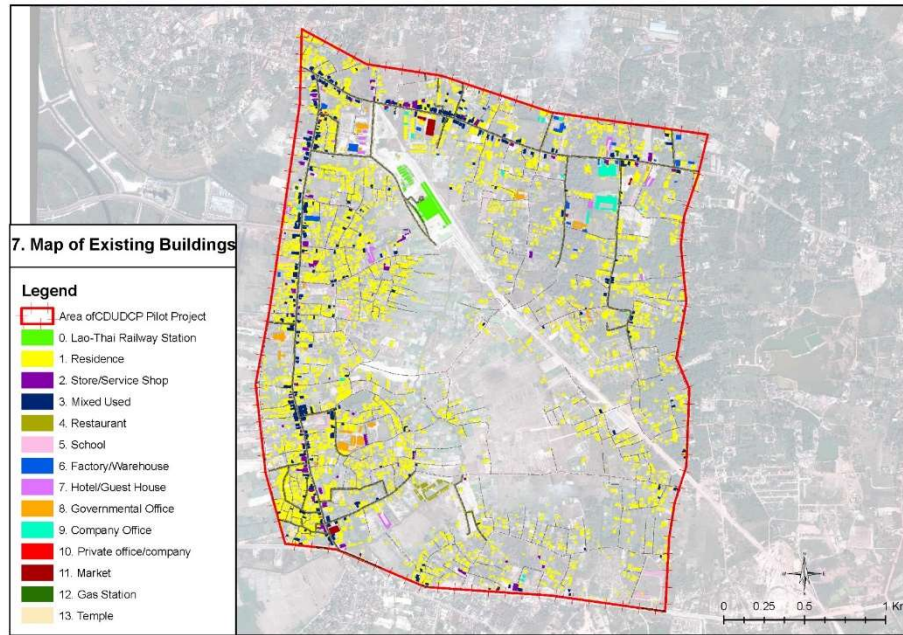
Table 3-3: Summary of Current Land Use in Pilot Area

Category	Area (sqm)	%
Urban Land Use		
Residential Area	2,826,618	37%
Industrial Area	223,235	3%
Public Area	60,015	1%
Religious Area	51,987	1%
Road and Railway Area	770,579	10%
Subtotal	3,932,434	51%
Agriculture and vacant lands		
Paddy Field	1,863,726	24%
Forest	610,550	8%
Water Body	128,477	2%
Vacant Land	1,117,358	15%
Subtotal	3,720,110	49%
Total	7,652,545	100%

Source: Topographical Map and Site Survey by CDUDCP

(3) Existing Building

Existing buildings in the pilot area is shown in Figure 3-10 and Table 3-4. There are 3,751 buildings in total in pilot site. The 87% of total buildings are residential use where mostly locate along alley roads. The other building uses such as commercial use, industrial use and government offices locates along existing outer trunk roads.



Source: Topographical Map and Site Survey by CDUDCP

Figure 3-10: Existing Building in Pilot Area

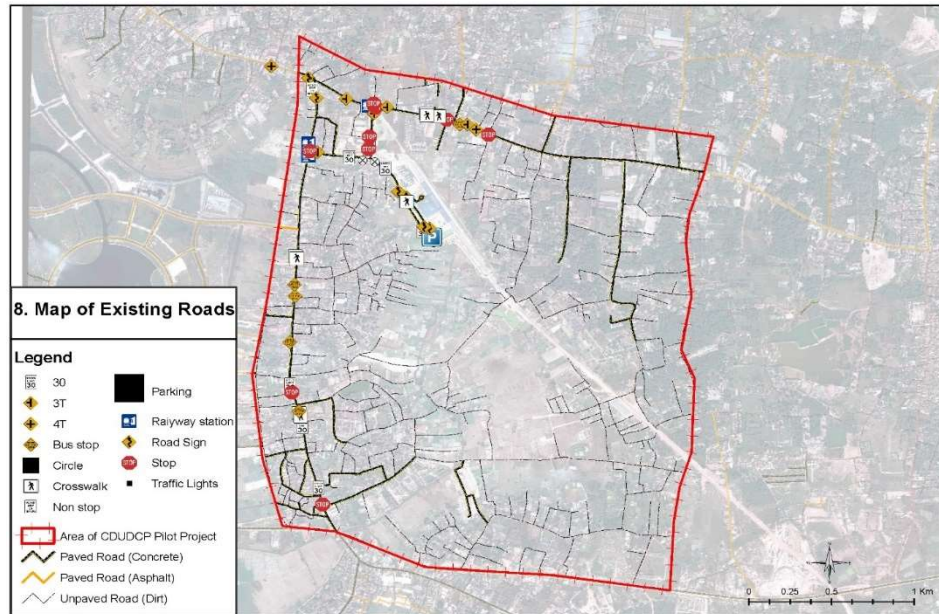
Table 3-4: Summary of Existing Building in Pilot Area

Category		No. of Building
House	Residence	2,910
	Mixed Use	365
	Subtotal	3,275
Commercial	Market	4
	Store/ Service	115
	Restaurant	95
	Hotel/Guest House	46
	Subtotal	260
Industry	Company Office	30
	Factory	59
	Gas Station	2
	Subtotal	91
Public Service	Government Office	36
	Railway Station and Facility	22
	School	25
	Temple	42
	Subtotal	125
Total		3,751

Source: Topographical Map and Site Survey by CDUDCP

(4) Existing Road

Existing roads in the pilot area is shown in Figure 3-11 and Table 3-5. The 76% of total length of roads in the pilot area is unpaved alley roads. Paved roads are only for outer trunk roads running at north and west-side of the pilot area, access roads to railway station and several alley roads.



Source: Topographical Map and Site Survey by CDUDCP

Figure 3-11: Existing Road in Pilot Area

Table 3-5: Summary of Existing Roads in Pilot Area

Road Type	Length (m)
Paved Road (Asphalt)	123.73
Paved Road (Concrete)	15,812.36
Unpaved Road (Earth)	51,062.10
Total	66,998.20

Source: Topographical Map and Site Survey by CDUDCP



Concrete Paved Road (Outer Trunk Road)



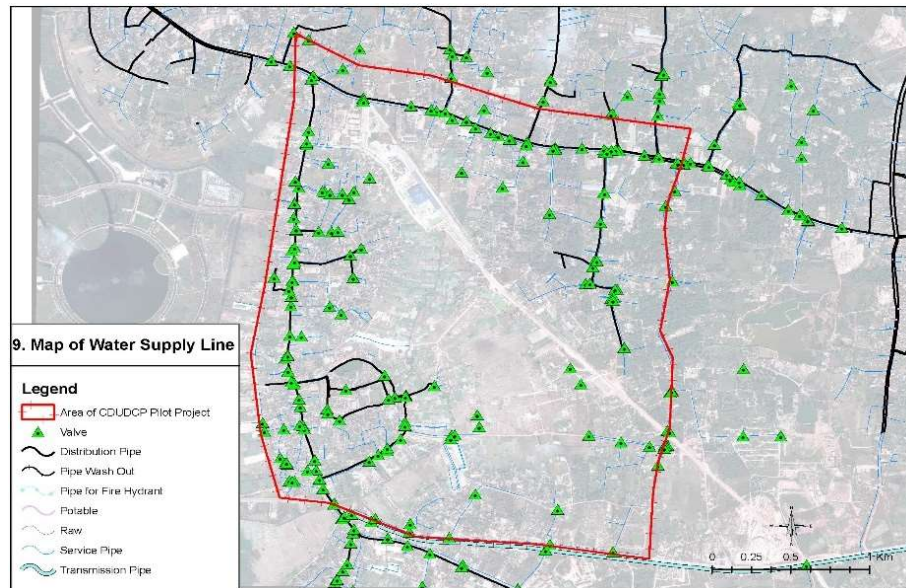
Unpaved road

Source: Site Survey by CDUDCP

Figure 3-12: Existing Roads in Pilot Area

(5) Water Supply

Existing water supply lines in the pilot area is shown in Figure 3-13. Water supply network doesn't cover for all lands in the pilot area and is serving for only lands along outer trunk road and several main alley roads.

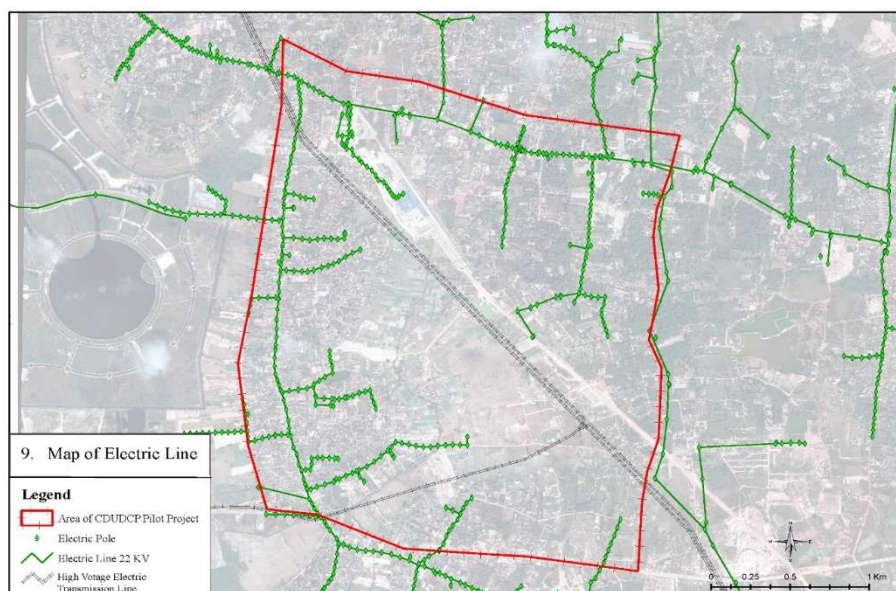


Source: Water Supply State Enterprise Vientiane, 2021

Figure 3-13: Water Supply Lines in Pilot Area

(6) Electricity

Existing electricity lines in the pilot area is shown in Figure 3-14. Electricity network for ordinary use with 22 KV doesn't cover for all lands in the pilot area and is serving for only lands along outer trunk road and several main alley roads. In addition, 2 high voltage transmission lines are running along railway line and south side of the pilot area.



Source: Électricité du Laos (2021)

Figure 3-14: Electricity Lines in Pilot Area



22 KV Electric Line



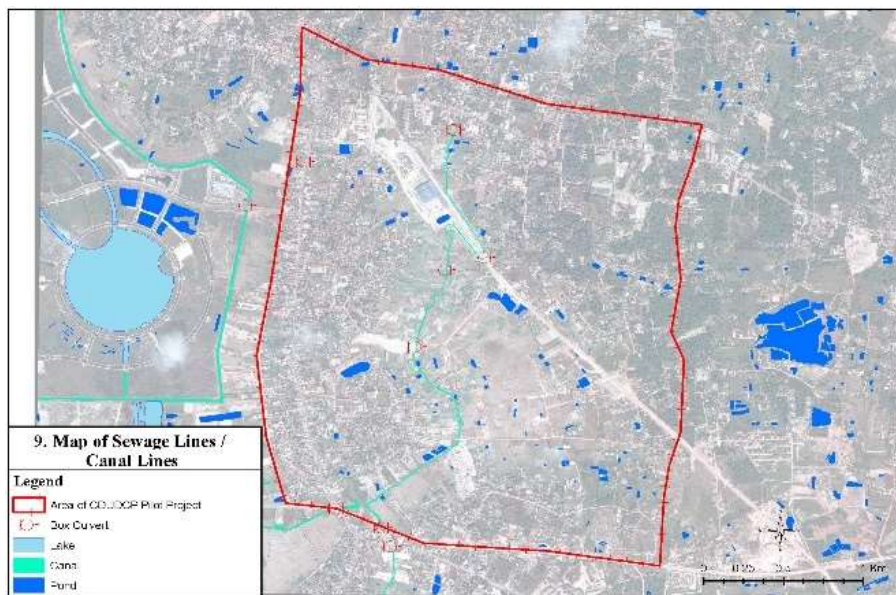
High Voltage Transmission Line

Source: Site Survey by CDUDCP

Figure 3-15: Existing Electricity Lines in Pilot Area

(7) Water Surface

Existing canal line and ponds in the pilot area is shown in Figure 3-16. There is a canal line from north to south of the pilot area and crossing with the Lao-Thai railway. The southern section of the canal is natural river. Ponds are sporadically locating within the pilot area.



Source: Topographical Map and Site Survey by CDUDCP

Figure 3-16: Canal and Pond in Pilot Area

Table 3-6: Summary of Canal and Pond in Pilot Area

Type	Length (m)	Area (sqm)
Canal	4,620	24,296
Pond	-	128,477

Source: Topographical Map and Site Survey by CDUDCP



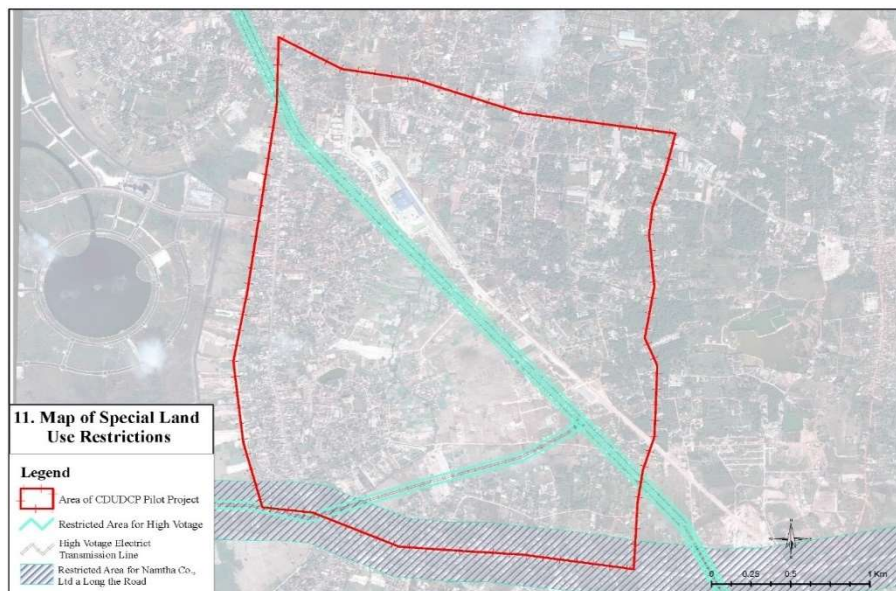
Source: Site Survey by CDUDCP

Figure 3-17: Existing Canal and Pond in Pilot Area

(8) Special Land Use Restriction

Figure 3-18 shows the area of special land use restriction in the pilot area. Area with 25 meters on both sides from the center of the high voltage transmission lines is restricted in its land use. However, there are some residential land uses within the restricted areas.

Meanwhile, land use at southern part of the pilot area along new road development is controlled by Namtha Co., Ltd. Area with 200 meters on both sides from the center of the new road is restricted in its land use.

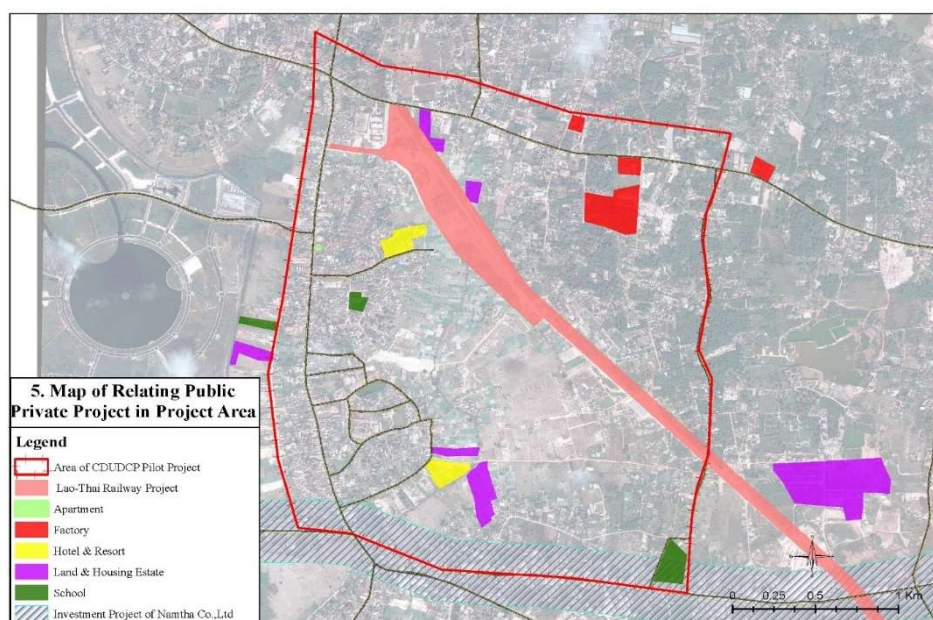


Source: Office of Public Works and Transport, Xaysettha District

Figure 3-18: Special Land Use Restrictions in Pilot Area

(9) On-going Project

Existing on-going development project in the pilot area is shown in Figure 3-19. As public project, Lao-thai railway project is on-going. Regarding private project, Table 3-7 Figure 3-18 shows the private on-going development project in the pilot area.



Source: Site Survey by CDUDCP

Figure 3-19: Locations of On-going Development Projects in Pilot Area

Table 3-7: Summary of On-going Private Development Projects in Pilot Area

No.	Description	Investment Type	Village	Area (m2)	Coordinate Point	
					X	Y
II.	Investment in Project Area					
1	STX Apartment	Apartment	Noneway Village, Xaysettha District	463	102.6671858	17.95473473
2	Vangview Hotel & Resort	Hotel & Resort	Noneway Village, Xaysettha District	16,209	102.6725429	17.95551922
3	Vanlao daokham Restaurant & Resort	Hotel & Resort	Meuangnoy Village, Xaysettha District	27,693	102.6746654	17.94190559
4	Land & Housing Estate	Land & Housing Estate	Khamsavat Village, Xaysettha District	28,423	102.6732597	17.9611306
5	Land Estate	Land & Housing Estate	Meuangnoy Village, Xaysettha District	38,889	102.6767162	17.94068851
6	Land Estate	Land & Housing Estate	Meuangnoy Village, Xaysettha District	13,941	102.6752544	17.9430227
7	Land Estate	Land & Housing Estate	Khamsavat Village, Xaysettha District	10,762	102.6759755	17.95821991
8	Land Estate	Land & Housing Estate	Meuangnoy Village, Xaysettha District	31,921	102.6635459	17.94781282
9	Land Estate	Land & Housing Estate	Nakhouay Village, Xaysettha District	42,514	102.696169	17.94129451
10	Daokham Concrete Co., Ltd.	Pre-cast concrete	Somsanga Village, Xaysettha District	12,410	102.6926145	17.95950681
11	Aishin Lao Co., Ltd.	Product for women's health	Somsanga Village, Xaysettha District	17,783	102.6848165	17.95773511
12	J-Family Trading Co., Ltd.	Raw Plastic Material	Somsanga Village, Xaysettha District	6,818	102.6850796	17.95962548
13	Issarapon International School	School	Noneway Village, Xaysettha District	11,357	102.6644652	17.95019771
14	Soochow University	School	Xiengda Village, Xaysettha District	35,811	102.6875639	17.93647118
15	Vixaythad Infant Care - Kingdergarten - Primary School	School	Noneway Village, Xaysettha District	7,380	102.6696403	17.95162026
16	Khungloulod Logistics Co., Ltd.	Warehouse/Logistics	Somsanga Village, Xaysettha District	7,117	102.6818725	17.96206947

Source: Site Survey by CDUDCP

(10) Public Transportation

The pilot area locates at 13 km far from the Wattay International Airport and 15km far from the China high-speed railway station. There is no public bus line connecting to the pilot area.

The Kamsawat station of the Lao-Thai Railway locate at inside of the pilot area. The station was newly developed for the extension of the railway. It is announced that the station will open April 2024. The current condition of the Kamsawat station area is shown in Figure 3-20. The station building and access road were completed. There is a gap in the ground level with 3 meters between station area and existing agricultural land in front of the station. According to the Lao-Thai Railway Enterprise, direct connection from the surrounding private lands to main access road in front of the station is prohibited due to the traffic control policy.



Source: Site Survey by CDUDCP

Figure 3-20: Current Condition of Kamsawat Station Area

3.4 SWOT Analysis

Based on the collected data and information of regional and internal factor of the pilot area and community's recognition of the current condition which is summarized in Table 4-3 in Chapter 4, regional and internal characteristics of the pilot area were analyzed by the SWOT analysis as shown in Table 3-8.

Table 3-8: Result of SWOT Analysis for Pilot Area

Viewpoints	Regional Factor	
	Opportunity	Threat
Government/ public Benefit	- Designated as Urban Promotion Zone - Promote innovative technology (smart city/renewal energy/EV) - Shift agricultural business to high -value product - Promote tourism industry/inbound business	Limitation of gov. budget for development
Technical/ engineering Solution	- Extension of bus network to railway station - External technical infrastructure system	Environmental impact (air pollution)
Community Benefit	Investment attracts	- Unplanned private investment - Obstacles and accidents from Lao-Thai railway - If no any good planning, social complain will be occurred
Economic Potential Enhancement	- International Gateway for tourists (900 pax/day in 2030) - Higher population and housing demand - Commercial /housing demand by residents/worker from surrounding large-scale development areas - Accessibility to centre/ sub-centers in VTE	- Competitiveness with surrounding development area - High housing demand caused to disorder housing development
Viewpoints	Internal Factor	
	Strength	Weakness
Government/ public Benefit	- Administrative office (DoR of MPWT) - Educational intuition - Lao-Thai railway station	- No detailed design - Disorganized construction and land filling - Lack of land use management
Technical/ engineering Solution	- Road accessibility to station area - Existing outer paved roads - Natural water drainage	- Poor road connectivity and condition in villages - Area divided by railway facility (lack of connectivity between east and west sides) - Flood risk - Prohibit to connect to station access road - Land use restriction in Transmission line - No public transportation to city center
Community Benefit	- Having willingness for participation - Young population - Farmlands which can be developed as urban use	- Continue current farming (unwilling for urban land use) - Lack of job and business opportunity - Insufficient of people's knowledge on urbanization
Economic Potential Enhancement	- Visitors from/to railway station - Available vacant lands in station area - Huge farmland and vacant land - Existing hotel resort - Existing education institute	- Lack of infrastructure (road, utility) - Less current commercial land use - Lack of attractiveness for visitors - Lower current property value

Source: CDUDCP

3.5 Key Considerations for Area Concept Planning

Key considerations for area concept planning were elaborated from the result of SWOT analysis. The summary is shown in Table 3-9 and Table 3-10.

As basic planning policy, factors of opportunity and strength will be utilized and enhanced for urbanization of the pilot area. Meanwhile, factors of threat and weakness need to be reduce and improved.

Table 3-9: Key Considerations from Regional Factors

Reginal Factor	Opportunity	Threat
	• International gateway for tourist • Designated as Urban Promotion Zone • Potential for tourism business (international gateway) • Population increasing • Housing demand from Vientiane Logistic Park and other large-scale development area • Gov. policy on EV and Smart City	• Limitation of government budget for development • Unplanned private housing investment • Obstacles and accidents from Lao-Thai railway • Competitiveness with surrounding development area
Key Consideration for Area Concept Plan	• Utilize/enhance opportunity of tourism business/ housing demand/ EV and Smart City	• Involve private investment in consideration of less gov. budget • Promote special and competitive character

Source: CDUDCP

Table 3-10: Key Considerations from Internal Factors

Internal Factor	Strength	Weakness
	• Visitors from/to new railway station (International gateway) • Good infrastructure access at surrounding station • Possibility to commercial land use in station area • Farm and vacant lands to be developed for urban land use • Existing education institute	• Lack of infrastructure accessibility in villages • Flood risk • Continue current farming (unwilling for urban land use) • Lack of job and business opportunity • Lower current property value
Key Consideration for Area Concept Plan	• Utilize function of public transportation hub • Promote commercial utilization of vacant lands • Collaborate with education institute	• Develop/ improve infrastructure • Need to promote community's land use and business • Need key facility to impact the area value

Source: CDUDCP

Chapter 4. Community Consultation

4.1 Objective

To enhance community's understanding and corporation to the Area Concept Planning, the community consultation activities in the pilot area were conducted as the private-participatory planning approach. The activity consists of questionnaire survey, field survey and workshop involving representatives of villages and private business operators.

4.2 Outline of Community Consultation Activity

The community consultation activity in the pilot area is summarized in Table 4-1. In the 1st and 2nd stakeholder workshops, group work sessions involving the participants were incorporated into the program. Through the group works, community's recognition on the current urban issues and necessity of the urban development were enhanced and the community's ideas for the area concept plan was also extracted.

Table 4-1: Summary of Community Consultation Activity

Title/ date	Objective	Participants	Outcomes
1st Stakeholder WS (14 February 2023)	- To promote common understanding on urban issue - To collect opinion and demand	10 representatives from 5 Villages	Reached common understanding on current issue and development demand in pilot area
Questionnaire Survey for Community (14 to 28 February 2023)	To gather information and opinions from community in model area	165 households	- Understanding of current urban issue - Idea/opinion of future land use (Summary of survey result attached as Appendix 1)
2nd Stakeholder WS (9 May 2023)	- To understand current situation and result of community opinion survey in pilot area - To develop draft of Vision and Area Concept Plan of pilot area	16 representatives from 4 Villages	Gathered community's idea for vision and concept plan through the group work session
Consultation meeting with Community (16 June 2023)	To discuss on draft of Area Concept Plan in pilot area (updated version based on result of 2nd WS)	8 representatives from 4 Villages	Reached consensus of community on draft of Area Concept Plan
Field survey with villages (21-22 June 2023)	Interviews with village representatives to confirm village boundary and discuss the Area Concept Plan	Representatives from 4 Villages	Verification of village boundary by the Lao side
3rd Stakeholder WS (24 July 2023)	To discuss with stakeholders on draft of Area Concept Plan in pilot area	5 representatives from 4 Villages 3 landowners in pilot site	Reached consensus of stakeholders on draft of Area Concept Plan

Title/ date	Objective	Participants	Outcomes
		• 2 business operators in pilot site • Lao National Railway Enterprise • Division of Road, Division of Transportation of DPWT • Divisions of Xaysettha District	

Source: CDUDCP

Table 4-2: Groupwork Sessions at the 1st and 2nd Stakeholder Workshop

Item	Groupwork session
1 st Stakeholder WS (on 14 February 2023)	Identify current issues and future demands in the pilot area through the discussion among representatives of village.
2 nd Stakeholder WS (on 9 May 2023)	Develop draft of vision and urban structure plan for area concept plan and present their proposed plan by representatives of village

Source: CDUDCP

4.3 Community's Recognition of Current Condition and Urbanization

Based on the discussion in the 1st stakeholder workshop and questionnaire survey, community's recognition on the current condition and opinion of the future urbanization of the pilot area is summarized in Table 4-3 and Table 4-4.

Table 4-3: Community's Recognition on Current Condition of Pilot Area

	Good/Favourable points	Issue/dissatisfied points
Land Use	- Existing stores, markets and restaurant along main road supply daily used materials and foods - Government offices effects for the security and convenience for the surroundings - Railway station will create job opportunity and convenient for travel - Large vacant lands has development opportunity - Paddy field for food production	- Nightclubs/bars along road side cause traffic congestion - Noise from nightclubs (always operate over specified time) - Land slides occurred by deep excavation for railway construction.
Infrastructure	Infrastructure is developed in some area	- Narrow and unpaved road - Less road connectivity - Insufficient road drainage (Road flooding occurred frequently) - Insufficient power supply - Disorder garbage disposal

Source: CDUDCP

Table 4-4: Community's Opinions for Future Urbanization of Pilot Area

	Favourable land use	Unfavourable land use
Land Use	- Religious facilities (temples) shall be preserved. - Agriculture lands shall be preserved. - Railway station shall be associated with future development. - High-rise buildings and attractive place for people are very necessary. - Schools from pre-elementally to secondary level are very beneficial. - Resorts, hotels, restaurants and shopping mall shall be produced. - Allocation of green and agricultural zones	Nightclubs and bars shall be excluded.
Infrastructure	- Concrete road and drainage ditches shall be provided. - Inner roads connecting to railway station shall be improved and paved. - Main road shall be improved - Concrete road along railway - Sufficient electric and water supply shall be provided.	
Others	- More job opportunities - Community contribution shall be conducted.	

Source: CDUDCP

4.4 Community's Idea for Area Concept Plan

(1) Vision of Pilot Area

Through the groupwork session in the 2nd stakeholder workshop, ideas and keywords for visioning for the pilot area were proposed from community. The summary of the idea is shown in Table 4-5. These ideas were reflected into the final version of the vision of the pilot area.

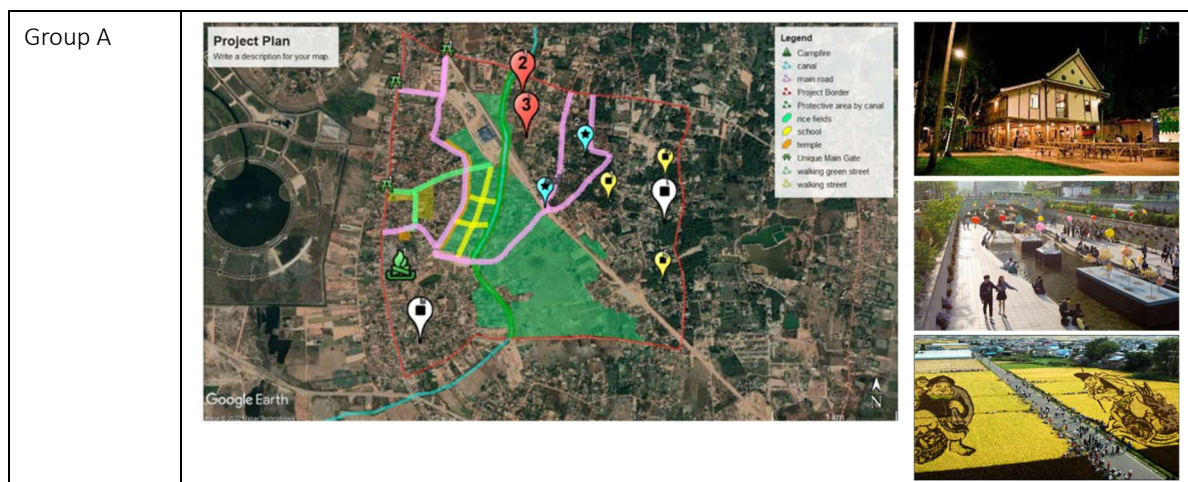
Table 4-5: Community's Ideas of Vision for the Pilot Area (Result of 2nd Stakeholder WS)

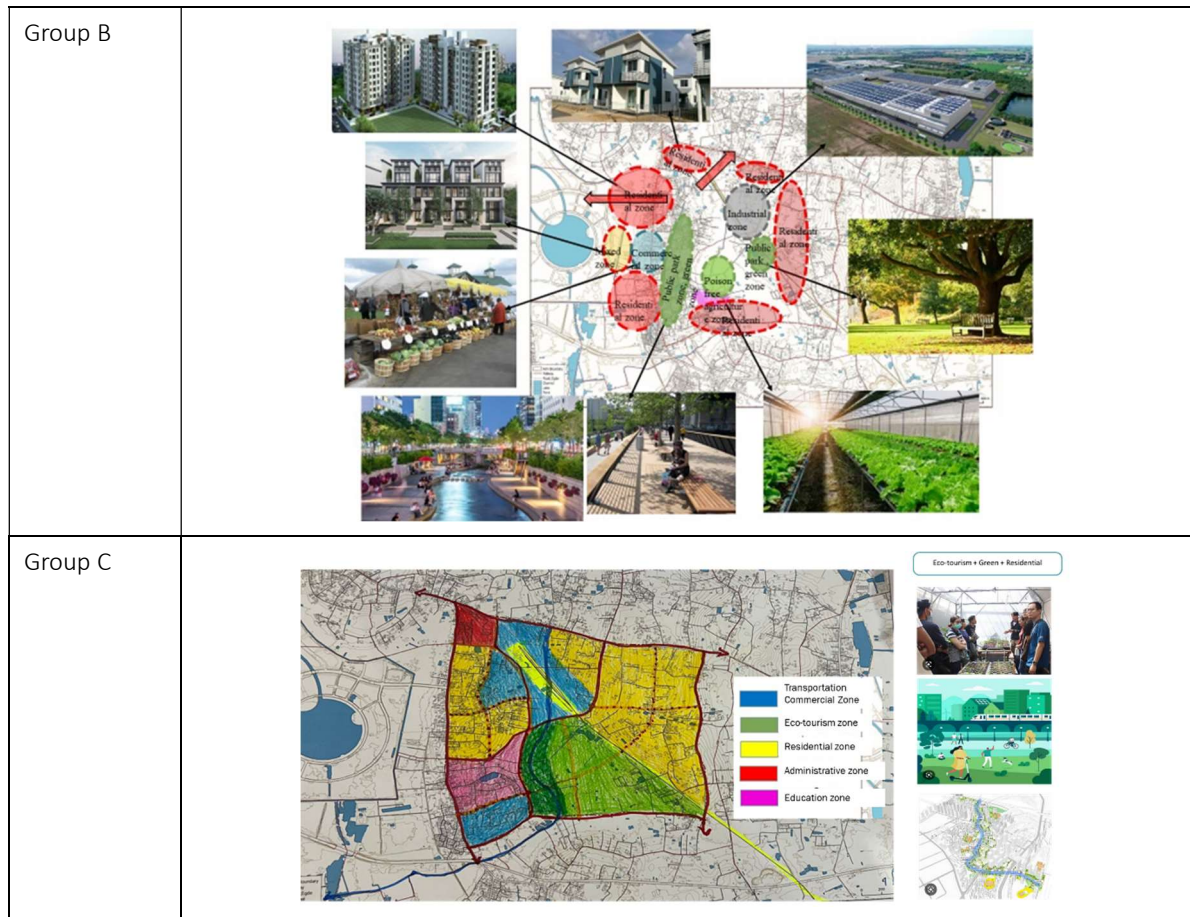
Category	Idea
Keyword	Brightness
Economy	• Tourism business (attract domestic and foreign tourists) • Large-shopping center • Market/warehouse
Livable/ Resilience	• Infrastructure (road pavement, drainage, utility) • Pubic service (public transportation, health service, hospital) • Safe and Security (street light, CCTV, fence of railway) • Orderliness buildings and facility • Community event/ community activity
Education	• Higher-level education • Vocational training/ employment information center
Green	• Green environment (green park/ green walkway/ agricultural area) • Green technology (green mobility, EV, waste management) • Green business (Aglo-product, organic agriculture)

Source: CDUDCP

(2) Ideas of Urban Structure Plan for Pilot Area

Through the groupwork session in the 2nd stakeholder workshop, ideas of the urban structure plan for the pilot area were proposed from community. The summary is shown in Figure 4-1. These proposed urban structure plans were considered for the formulation of the area concept plan of the pilot area.





Source: CDUDCP

Figure 4-1: Community's Urban Structure Plan for the Pilot Area (Result of 2nd Stakeholder WS)

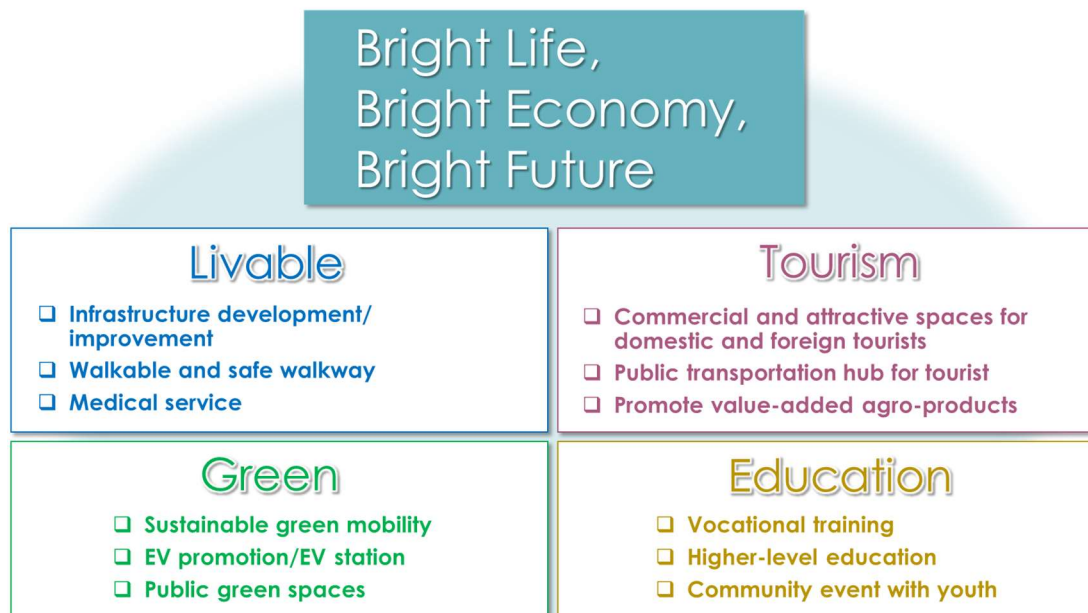
Chapter 5. Area Concept Plan

5.1 Vision

Based on the result of the current condition analysis and community's idea which was proposed in the stakeholder workshop, the Vision of the pilot area was proposed as shown in Figure 5-1.

As the top of umbrella of the Vision, three key goals of the Bright Life, Bright Economy and Bright Future were set for better quality of life for community, better livelihood and commercial activity and better urban environment for the next generations.

To realize the key goals, four development pillars of the Livable, Tourism, Green and Education were set in consideration of the utilization and enhancement of the current factors as opportunity and strength, and reduction and improvement of the threat and weakness of the pilot area.



Source: CDUDCP

Figure 5-1: Vision for Urban Development of the Pilot Area

5.2 Urban Structure Plan

The urban structure plan of the pilot area is shown in Figure 5-2. It consists of four core zones of transit hub zone, tourism and commercial zone, business education zone and urban green zone.

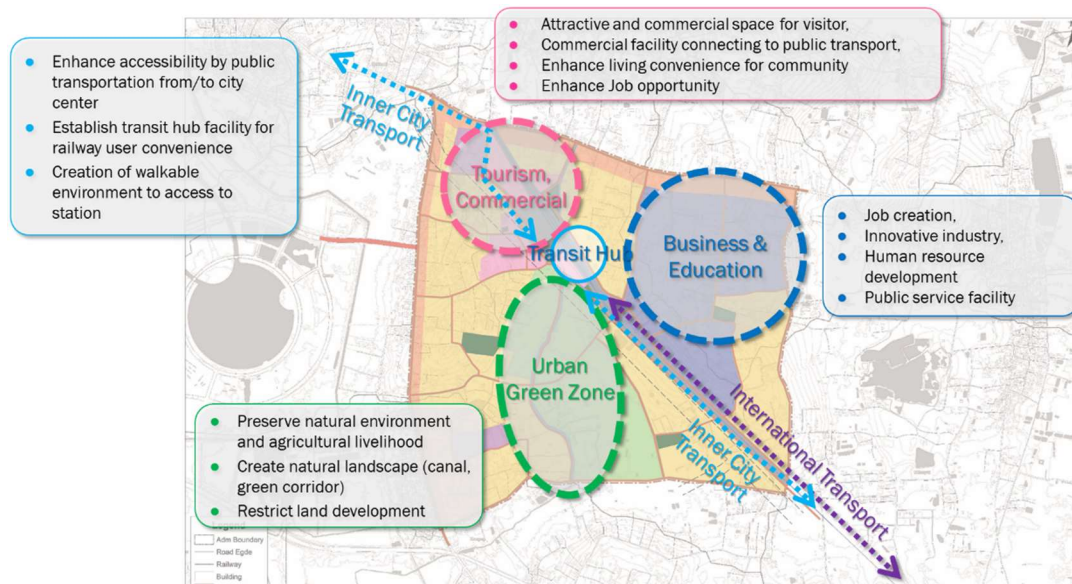
Transit hub zone is a distribution center of public transportation with Kamsawat station and new inner city bus transport which will connect the city center and southern suburb area. To enhance the connectivity between public transports, walkable environment will be created at the surrounding of the Kamsawat station.

This zone aims to provide transportation conveniences for residence in the pilot area as well as visitors entering by the Lao-Thai railway.

Tourism and commercial zone have two functions as an attractive and commercial space for visitor and living convenience for community. It provides tourist information, entertainment, accommodation, retail and amenity as the international gateway. These commercial developments also create the job opportunities in the pilot area.

Business and education zone aims to create job opportunity for innovative industry business through the human resource development. To improve the business environment, public service facility such as vocational training and hospital will be incorporated into the development.

Urban green zone is a preservation area for existing agricultural land use. The preservation aims to conserve existing agricultural livelihood and secure the natural land scape.

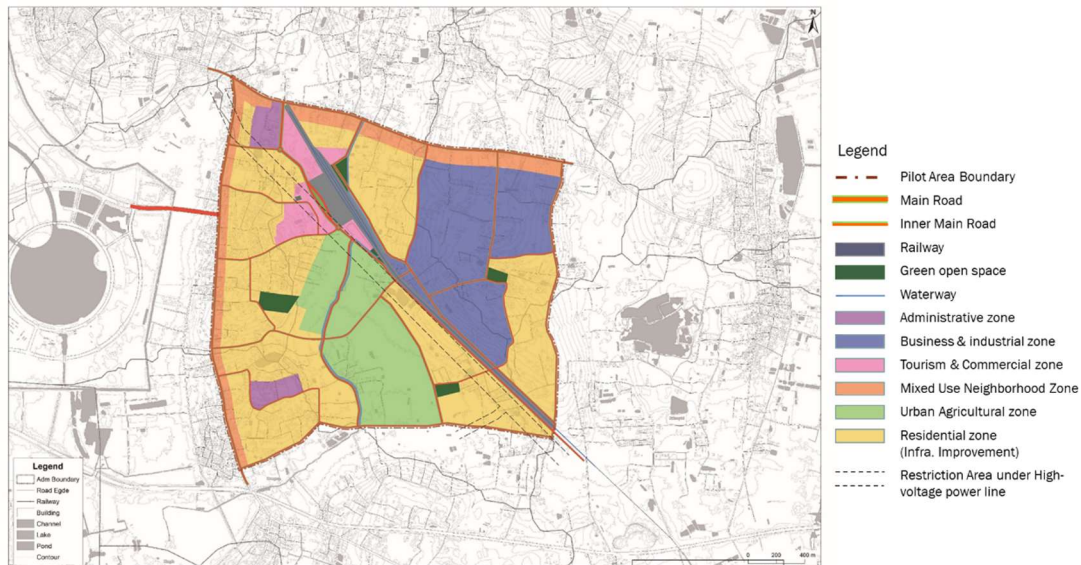


Source: CDUDCP

Figure 5-2: Urban Structure Plan of the Pilot Area

5.3 Land Use Plan

Based on the vision and urban structure plan and consideration of current land use, land use plan of the pilot area was developed as shown in the Figure 5-3. The area of land use zone is summarized in Table 5-1.



Source: CDUDCP

Figure 5-3: Land Use Plan of the Pilot Area

Table 5-1: Summary of Land Use Plan of Pilot Area

Category	Area (ha)	%
Road	7.6	1.5%
Railway	19.7	3.8%
Green and open space	6.5	1.2%
Canal	2.8	0.5%
Administrative zone	12.2	2.3%
Business and industrial zone	98.2	18.8%
Tourism and commercial zone	21.1	4.0%
Mixed use and neighborhood zone	39.7	7.6%
Urban agricultural zone	78.3	15.0%
Residential zone	237.4	45.3%
Total	523.6	100.0%

Note: Road is only main roads and inner main roads excluding alley roads

Source: CDUDCP

5.4 Sector Plans

(1) Road and Public Transport

Figure 5-4 shows the road and public transport plan of the pilot area. The major corridor of the road network consists of outer main roads and main roads (w=13.5 m) inside of the pilot area. Two main roads will serve traffic accessing to the railway station and inter traffic. Inner main roads (w=9.5 m) upgraded of existing alley road will support the main road for access to each land use.

Regarding public transportation, the Kamsawat station area performs as a transit hub connecting Lao-Thai railway and new city bus line. For the transit hub function, intermodal transit facility such as bus stop and taxi stop is installed in the Kamsawat station area.

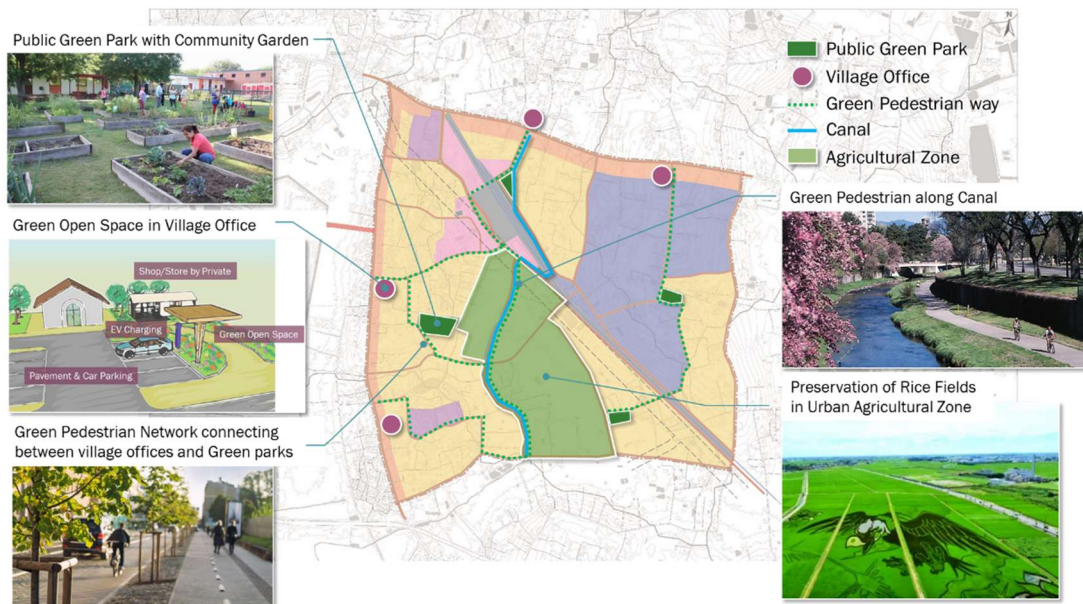


Source: CDUDCP

Figure 5-4: Road and Public Transport Plan

(2) Green and Open Space

Figure 5-5 shows the green and open space plan of the pilot area. Public green parks are layout at four locations to cover utilization of the whole residences in the pilot area. Existing village offices are upgraded to have garden spaces for visitor's amenity. These green spaces are connected by green pedestrian network consisting of inner main roads and green pedestrian way along canal.



Source: CDUDCP

Figure 5-5: Green and Open Space Plan

(3) Commercial and Business Area

Figure 5-6 shows the commercial and business area development plan in the pilot area. Existing vacant area with an area of 7 ha at the northside of the Kamsawat station is proposed as visitor center, shopping mall and market street targeting domestic and foreign tourists. Existing agricultural area at the westside of the station is proposed as accommodation area collaborating with existing private hotel. At north-east and south side, retail shops and market area are proposed for the local community's daily use.

In the eastern area from the Kamsawat station, business and industrial zone is proposed to promote innovative industry business, vocational training facility and public service facility.



Source: CDUDCP

Figure 5-6: Commercial and Business Area Plan

(4) Residential Area

Figure 5-7 shows the residential area plan in the pilot area. Most of existing residential area are lack of infrastructure, especially road pavement and rainwater drainage. These areas are proposed as infrastructure improvement area for low-rise residential use with paved alley road, drainage, street lighting and sidewalk.

Roadside area along outer main road is proposed as mixed-use neighborhood zone with low/medium rise buildings for the residence and commercial usage in consideration of the economic potential by the outer main road's traffic and accessing to railway station and business zone.



Source: CDUDCP

Figure 5-7: Residential Area Plan

Chapter 6. Project Identification

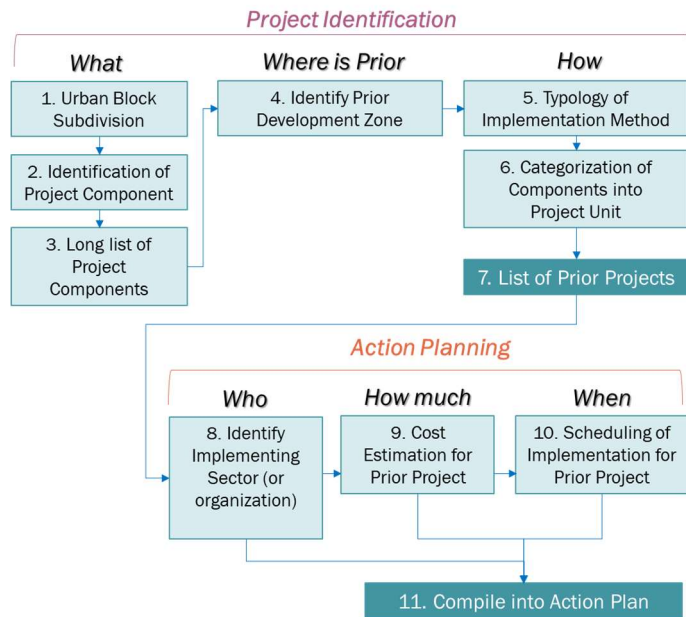
6.1 Methodology

Project identification is one of the planning works to clarify project components to realize the development plan. Figure 6-1 shows the workflow of the project identification and action planning.

In the project identification, the planning area is subdivided into urban blocks as the preparation of the identification work. Based on the subdivided urban block, project components are extracted with the size and type of the project by the category. The result of the identification is compiled into the long list of the project components.

Prior development zone is identified from viewpoints of social and economic impact and easiness of the implementation in the Area Concept Plan. Prior projects are extracted from the long list of project components in consideration of the implementation method.

Based on the list of prior projects, action plan for the implementation is formulated. It clarifies the implementing sector, rough development cost and implementation schedule.



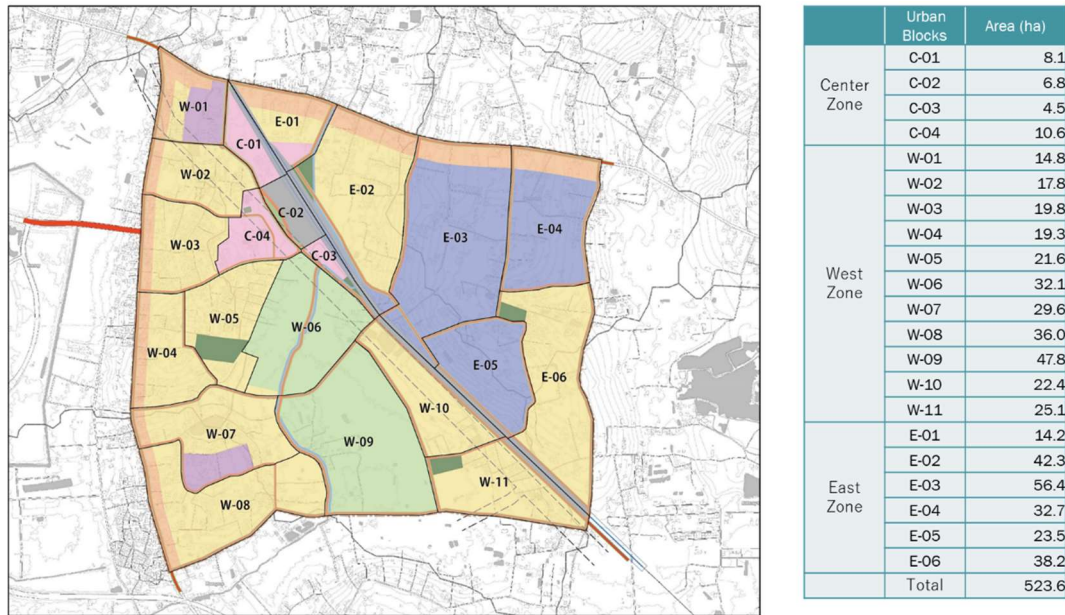
Source: CDUDCP

Figure 6-1: Workflow of Project Identification and Action Planning

6.2 Project Identification

(1) Urban Block Subdivision

Figure 6-2 shows the urban blocks of the pilot area which was subdivided based on the existing and/or planned major urban facility such as main roads and railway. The pilot area with a total area of 523 ha subdivided into 21 urban blocks.

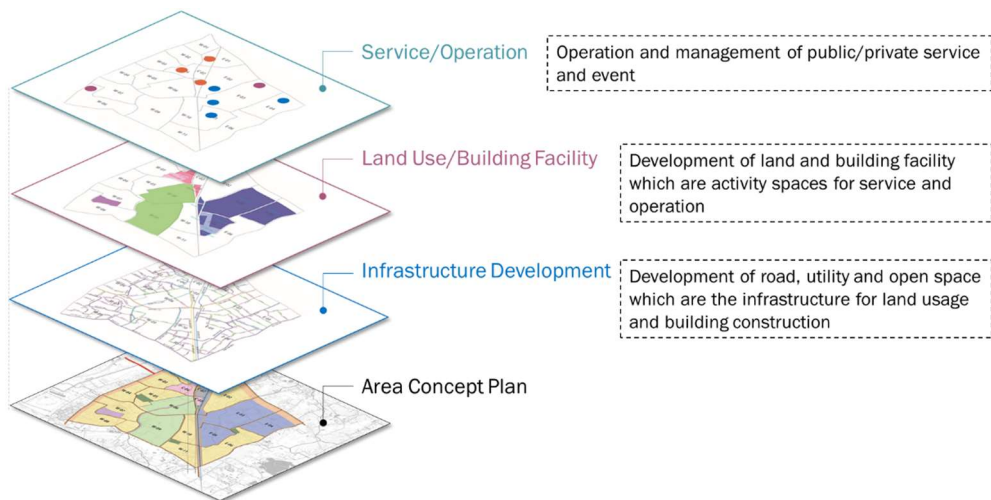


Source: CDUDCP

Figure 6-2: Subdivided Urban Blocks for Project Identification

(2) Identification of Project Components

Figure 6-3 shows the three major categories of the project components to realize the Area Concept Plan. The category of infrastructure development consists of fundamental infrastructure facility such as road, utility and open space which is necessary in advance to implement land use and building construction. The category of land use and building facility is the secondary group of project components which will provide the space of the activity for the service and operation. The category of the service and operation consists of operation and management projects by public and private sector.



Source: CDUDCP

Figure 6-3: Category of Project Components to realize Area Concept Plan

Based on the Area Concept Plan in the pilot area and major category of project components, items of project components in the pilot area were identified as shown in Table 6-1. The long list of the project components by the category and the location map are shown in Appendix 1.

Table 6-1: Identified Project Components in Pilot Area

Major Category	Sub-category	Type of Project Components
Infrastructure Development	01. Road (incl. drainage and utility installation)	01-1. Development of main road (w=13.5m)
		01-2. Improvement of main road (w=13.5m)
		01-3. Development of inner main road (w=9.5m)
		01-4. Improvement of inner main road (w=9.5m)
		01-5. Development of new service road
		01-6. Improvement of existing service road
Land Use and Building	02. Open Space	02-1. Development of green open space 02-2. Micro garden development
	03. Canal	03-1. Improvement of existing canal
	11. Commercial and Business	11-1. Tourism center development
		11-2. Tourist market development
		11-3. Local market development
		11-4. Business area development
	12. Education	12-1. Vocational center development
	13. Health	13-1. Medical center development
	14. Housing	14-1. New Housing Development 14-2. Existing Village Improvement
	15. Multi-purpose use	15-1. Commercial use in Village Office Area
	16. Agriculture	16-1. Land use restriction of agricultural lands
Service and Operation	21. City Bus Line	21-1. Extension of Bus Service Line
	22. Parking Control	22-1. Parking ban management
	23. City beautification/ environment	23-1. Landscape design guideline
		23-2. Garbage management
		23-3. Community cleanliness event
	24. Tourism	24-1. Added-value local product development
		24-2. Tourism promotion event
	25. Health	25-1. Health care service business
		25-2. Health/sport event
	26. Education	26-1. Vocational training business
	27. Sefa/security	27-1. CCTV security management
	28. Urban management	28-1. GIS-platform operation (information sharing)

Source: CDUDCP

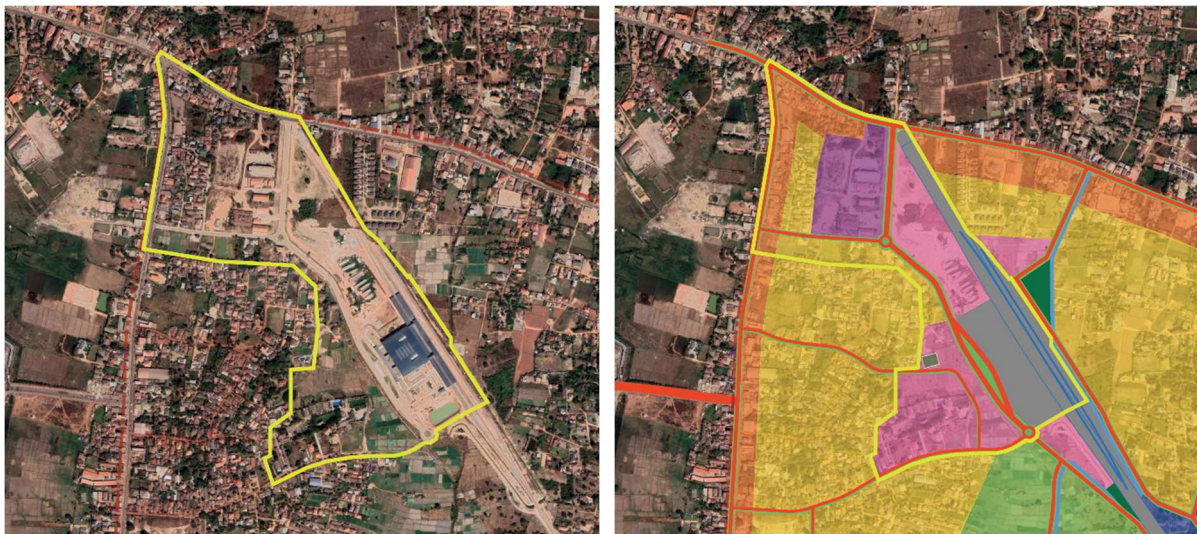
6.3 Prior Development Zone

The pilot area with an area of approximately 523 ha is huge area for the investment. It is necessary to consider the prioritization for the investment from viewpoints of the impact, easiness and phasing of the implementation.

The prior development zone with an area of 47.4 ha was strategically set at the west side of the Kamsawat station in consideration of following situations:

- Accessible and valuable location by being in front of the railway station and closer to the city center
- Easier to attract the investment due to the existing infrastructure such as main access roads which was developed by the railway project
- Contain several development potential lands such as vacant land at the north of the railway station, agricultural lands and vacant lands along existing main access road.
- Regional social and economic impact can be expected by the tourism and commercial development

The priori development zone is shown in Figure 6-4.



Source: CDUDCP

Figure 6-4: Prior Development Zone in Pilot Area

6.4 Prior Projects and Implementation Method

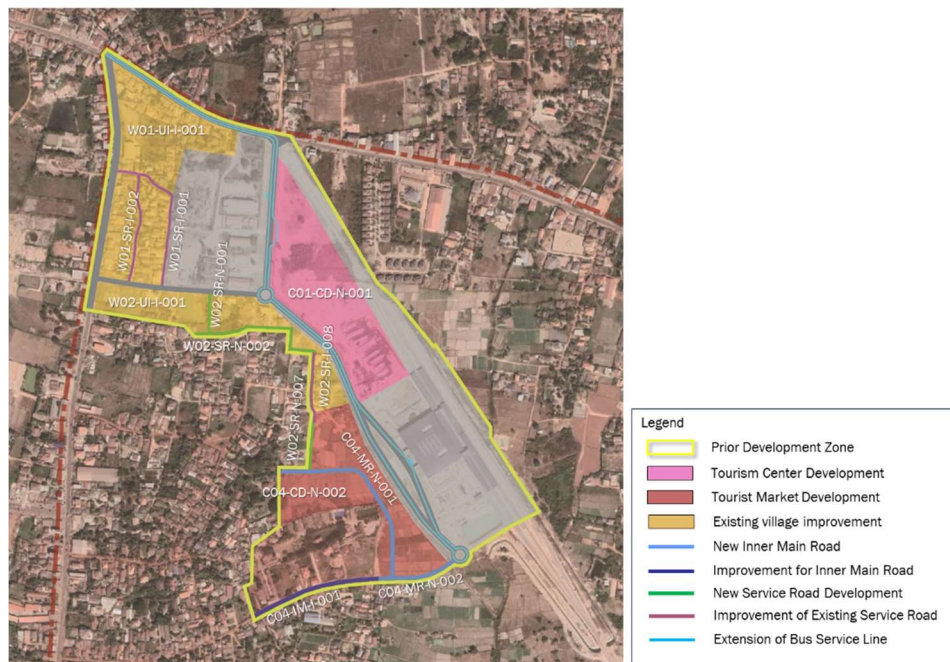
(1) Prior Projects in Prior Development Zone

Based on the long list of the project components in the pilot area, prior project in the prior development zone were identified as shown in Table 6-2 and Figure 6-5.

Table 6-2: Prior Projects in Prior Development Zone

Major Category	Project ID	Type of Project	Size of Project
Infrastructure Development	C04-MR-N-001	New inner main road	W9.5m x L353m
	C04-MR-N-002	New inner main road	W9.5m x L167m
	C04-IM-I-001	Improvement of inner main road	W9.5m x L282m
	W01-SR-I-001	Improvement of service road	W5.0m x L333m
	W01-SR-I-002	Improvement of service road	W5.0m x L240m
	W02-SR-N-001	New service road	W6.0m x L83m
	W02-SR-N-002	New service road	W6.0m x L344m
	W02-SR-N-007	New service road	W6.0m x L94m
	W02-SR-I-008	Improvement of service road	W5.0m x L156m
Land Use and Building	C01-CD-N-001	Tourism center development	5.49 ha
	C04-CD-N-001	Tourist market development	5.08 ha
	W01-UI-I-001	Existing Village Improvement	6.34 ha
	W02-UI-I-001 (part)	Existing Village Improvement	3.42 ha
Service and Operation	SO-N-002	Landscape design guideline	47.4 ha
	SO-N-003	Tourism promotion event (Railway station and Tourism center area)	10.0 ha
	SO-N-006	CCTV security management	47.4 ha
	SO-N-008	Extension of Bus Service Line	3.2 km

Source: CDUDCP



Source: CDUDCP

Figure 6-5: Location of Prior Project in Prior Development Zone

(2) Implementation Methods of Prior Projects

Table 6-3 shows summary of implementation method and implementer for prior projects. The detail for type of a, b and c of the implementation method are described follows.

Table 6-3: Implementation Method of Prior Projects

Major Category	Project ID	Type of Project	Implementation Method		Implementer
			Outline	Type	
Infrastructure Development	C04-MR-N-001	New inner main road	Private Investment for commercial development (included into C04-CD-N-001)	b	Private
	C04-MR-N-002	New inner main road	Private Investment for commercial development (included into C04-CD-N-001)	b	Private
	C04-IM-I-001	Improvement of inner main road	Collaborative road development	c	Public and Private
	W01-SR-I-001	Improvement of service road	Collaborative road development	c	Public and Private
	W01-SR-I-002	Improvement of service road	Collaborative road development	c	Public and Private
	W02-SR-N-001	New service road	Collaborative road development	c	Public and Private
	W02-SR-N-002	New service road	Collaborative road development	c	Public and Private
	W02-SR-N-007	New service road	Private Investment for commercial development (included into C04-CD-N-001)	B	Private
	W02-SR-I-008	Improvement of service road	Collaborative road development	c	Public and Private
Land Use and Building	C01-CD-N-001	Tourism center development	Concession on government land	a	Private
	C04-CD-N-001	Tourist market development	Joint Development/Land readjustment	b	Private
	W01-UI-I-001	Existing Village Improvement	Road development and improvement		Public and Private
	W02-UI-I-001 (part)	Existing Village Improvement	Road development and improvement		Public and Private
Service and Operation	SO-N-002	Landscape design guideline	Detailed urban plan formulation		Public
	SO-N-003	Tourism promotion event	Event		Public and Private
	SO-N-006	CCTV security management	Facility installation/management system		Public
	SO-N-008	Extension of Bus Service Line	Bus procurement/ bus stop installation		Public

Source: CDUDCP

a) Concession on Government Land

Tourism center development (C01-CD-N-001) at north of Kamsawat station apply the concession scheme to provide development right to private developer. It is expected that the Lao-thai Railway enterprise will be the project owner after the land transferring from the central government. This development scheme aims to

the integration with railway station and commercial development as well as securing financial stability of the Lao-Thai Railway operation by the concession fee under the Transit-Oriented Development concept. The image of concession on government land is shown as Figure 6-6.

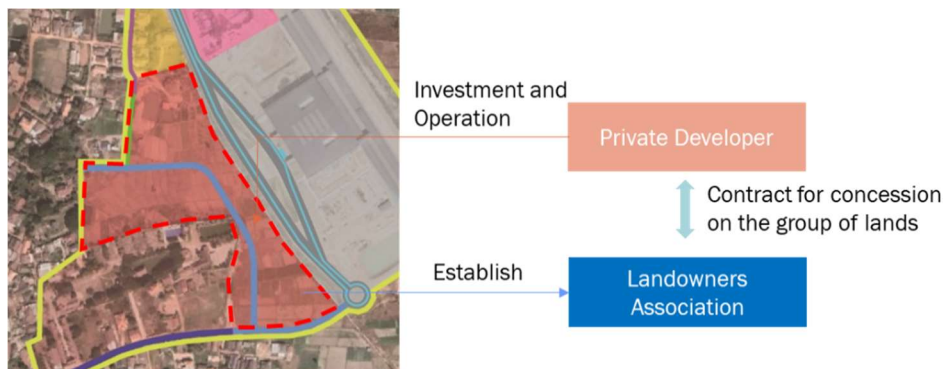


Source: CDUDCP

Figure 6-6: Image of Concession on Government Land

b) Joint Development

Tourism market development (C04-CD-N-001) including new road developments apply the concession scheme to provide development right from landowners group to private developer. For the development, landowners need to establish the landowner association to manage the land utilization. This development scheme aims that the original landowners continuously own the land right and will receive the profit of the commercial development through the concession fee. From the urban management point of view, this scheme will avoid sporadic individual land development without contribution of the road network development. The image of joint development is shown as Figure 6-7.

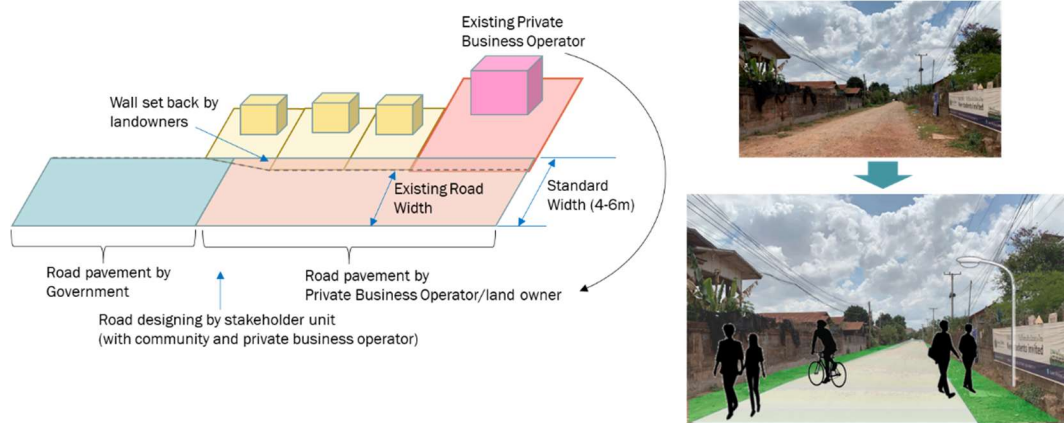


Source: CDUDCP

Figure 6-7: Image of Joint Development

c) Collaborative Road Development

New road development and improvement of existing road out of area of joint development apply the collaborative development scheme with government and existing landowners by the cost sharing. This development scheme aims that beneficially contributes the development cost for the infrastructure. The image of the collaborative road development is shown as Figure 6-8.



Source: CDUDCP

Figure 6-8: Image of Collaborative Road Development

Chapter 7. Action Plan

7.1 Role of Stakeholder

Table 7-1 shows the role of stakeholder for prior projects in the stage of planning, implementation and operation and maintenance.

Table 7-1: Role of Stakeholder for Prior Project

Organization	Planning	Implementation	O&M	Remarks
MPWT				
DHUP	Urban Plan Approval	Budgeting coordination	Project evaluation	
PTI	Urban Planning	Support development planning		
Vientiane Capital				
DPWT	Urban Planning/ Infrastructure design/	Infrastructure development/support for concession project	Maintain infrastructure	
OPWT Xaysettha	Urban Planning/ Community Coordination	Infrastructure development/ Coordination with landowners	Maintain infrastructure	
DOT	Bus extension planning	Procurement of vehicle /Installation of Bus stop	Operation of city bus	
Other				
Lao-Thai Railway Enterprise	F/S for government land utilization	Contract for concession/ Supervise concession project	Manage contract	
Landowners	Participate for urban planning	Contribution for road spaces		

Source: CDUDCP

7.2 Development Cost and Demarcation

Table 7-2 shows the development cost for the prior projects and the cost demarcation between public and private. The cost was roughly estimated based on the examples of project in Vientiane.

Table 7-2: Development Cost for Prior Projects

Major Category	Project ID	Type of Project	Development Cost (thousand USD)	Cost Demarcation	
				Public	Private
Infrastructure Development	C04-MR-N-001	New inner main road	237	-	237
	C04-MR-N-002	New inner main road	112	-	112
	C04-IM-I-001	Improvement of inner main road	182	91	91
	W01-SR-I-001	Improvement of service road	118	59	59

Major Category	Project ID	Type of Project	Development Cost (thousand USD)	Cost Demarcation	
				Public	Private
	W01-SR-I-002	Improvement of service road	86	43	43
	W02-SR-N-001	New service road	36	18	18
	W02-SR-N-002	New service road	146	73	73
	W02-SR-N-007	New service road	40	-	40
	W02-SR-I-008	Improvement of service road	56	28	28
Land Use and Building	C01-CD-N-001	Tourism center development	164,700	-	164,700
	C04-CD-N-001	Tourist market development	152,400	-	152,400
	W01-UI-I-001	Existing Village Improvement (infrastructure development)	-	-	-
	W02-UI-I-001 (part)	Existing Village Improvement (infrastructure development)	-	-	-
Service and Operation	SO-N-002	Landscape design guideline	150	150	-
	SO-N-003	Tourism promotion event	60	30	30
	SO-N-006	CCTV security management	45	45	-
	SO-N-008	Extension of Bus Service Line	580	580	-

Source: CDUDCP

7.3 Action Plan

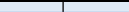
Figure 7-1 shows the necessary detailed activity to implement major three urban developments in the prior development zone. The action plan describing each organization responsibility and the implementation schedule is shown in Table 7-3.



Source: CDUDCP

Figure 7-1: Activities for Development for Prior Development Zone

Table 7-3: Action Plan for Prior Projects

Project	Activity	Organization in Charge	Short-term (for 5 years)					Mid and long-term (for 10 years)	
General Urban Plan	Community-level General urban plan	PTI/DPWT/OPWT							
Tourism center development	Pre-FS for commercial development	LRT, DPWT							
	Stakeholder coordination	LRT, DPWT, OPWT							
	Procurement for concession and contract	LRT							
	Implementation	Private, LRT, DPWT							
Tourism market development	Pre-FS for joint development	DPWT, OPWT, PTI							
	Stakeholder coordination	DPWT, OPWT							
	Establish landowner association	DPWT, landowners							
	Procurement for concession and contract	Landowners, DPWT							
	Implementation	Private, landowner, DPWT							
Road development and improvement	Stakeholder coordination	DPWT, OPWT							
	FS for development	DPWT, OPWT							
	Procurement and contract	DPWT, OPWT							
	Implementation	DPWT, OPWT, private							
Service and Operation	Landscape design guideline	DPWT, OPWT, PTI							
	Tourism promotion	LRT, OPWT							
	CCTV security management	DPWT, OPWT							
	Extension of bus line	DoT, LRT, DPWT							

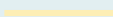
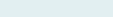
Source: CDUDCP

Appendix 1

Long List of Project Components

01. Road

Table 01-1: Summary of Project Components [Road]

Category	Legend	Type of Road	Width	Total Length (m)
Main Road		1-1. Development of new main road	13.5m	2,135
		1-2. Improvement as main road	13.5m	2,500
Inner Main Road		1-3. Development of inner main road	9.5m	5,697
		1-4. Improvement as inner main road	9.5m	10,605
Service Road		1-2. Development of new service road	6m	10,292
		1-1. Improvement of existing service road	5m in Average	19,443
	Total			50,672

Source: CDUDCP

Table 01-2: Long List of Project Components [Road]

Zone	ID	Type of Facility	Length (m)
C-03	C03-MR-N-001	New main road	531
C-04	C04-MR-N-001	New inner main road	353
	C04-MR-N-002	New inner main road	167
	C04-IM-I-001	Improvement of inner main road	282
W-01	W01-SR-I-001	Improvement of service road	333
	W01-SR-I-002	Improvement of service road	240
W-02	W02-SR-I-001	Improvement of service road	250
	W02-SR-I-002	Improvement of service road	63
	W02-SR-I-003	Improvement of service road	52
	W02-SR-I-004	Improvement of service road	63
	W02-SR-I-005	Improvement of service road	83
	W02-SR-I-006	Improvement of service road	250
	W02-SR-I-007	Improvement of service road	73
	W02-SR-I-008	Improvement of service road	156
	W02-SR-N-001	New service road	83
	W02-SR-N-002	New service road	344
	W02-SR-N-003	New service road	21
	W02-SR-N-004	New service road	125
	W02-SR-N-006	New service road	146
	W02-SR-N-007	New service road	94
	W02-SR-N-008	New service road	52
	W02-SR-N-009	New service road	125
	W02-SR-N-010	New service road	94
	W02-SR-N-011	New service road	73
	W02-IM-I-001	Improvement of inner main road	333
	W02-IM-N-001	New inner main road	198
W-03	W03-SR-I-001	Improvement of service road	115
	W03-SR-I-002	Improvement of service road	281
	W03-SR-I-003	Improvement of service road	260
	W03-SR-I-004	Improvement of service road	94

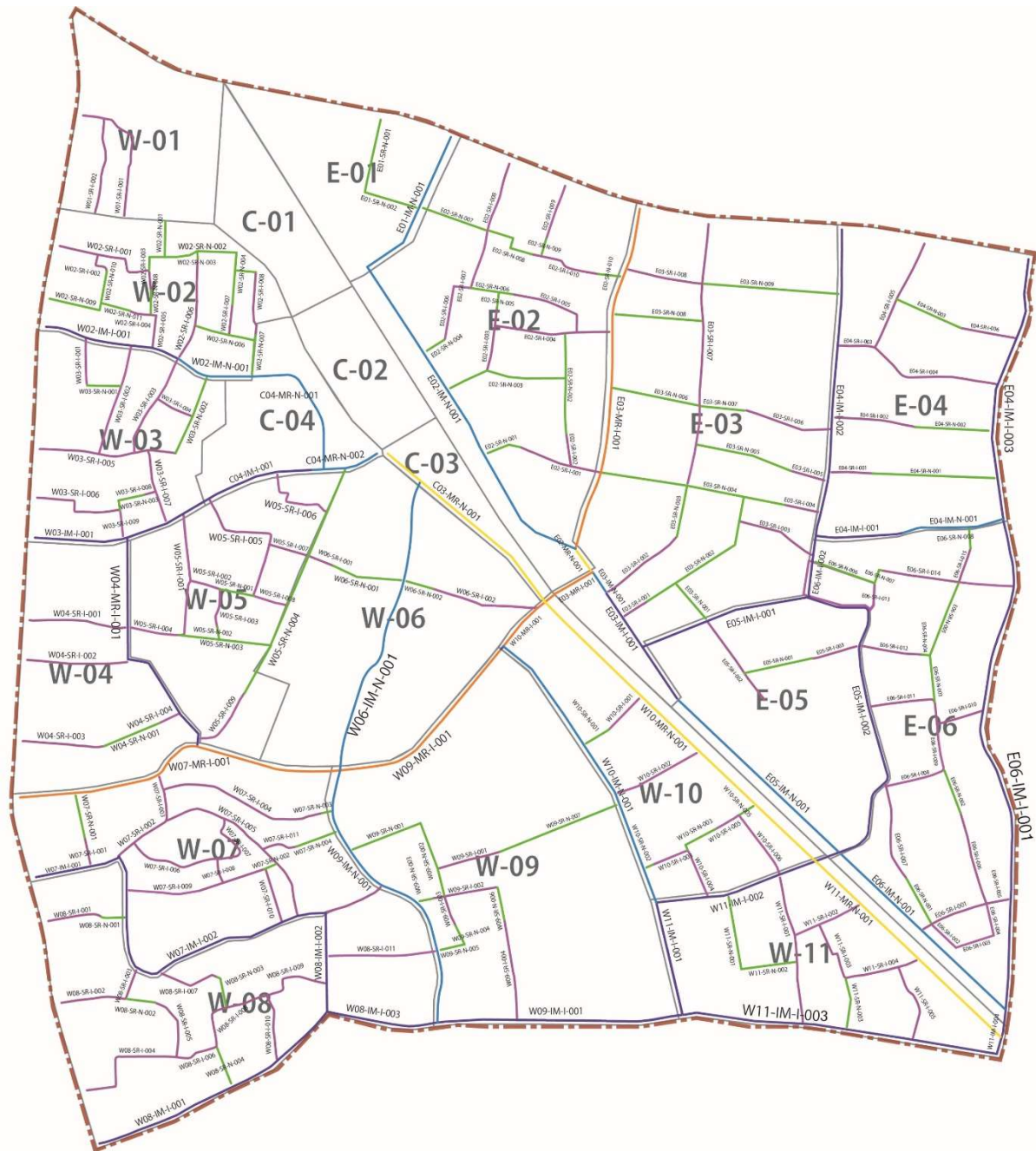
Zone	ID	Type of Facility	Length (m)
	W03-SR-I-005	Improvement of service road	333
	W03-SR-I-006	Improvement of service road	229
	W03-SR-I-007	Improvement of service road	177
	W03-SR-I-008	Improvement of service road	31
	W03-SR-I-009	Improvement of service road	63
	W03-SR-N-001	New service road	83
	W03-SR-N-002	New service road	198
	W03-SR-N-003	New service road	83
	W03-IM-I-001	Improvement of inner main road	437.5
W-04	W04-SR-I-001	Improvement of service road	240
	W04-SR-I-002	Improvement of service road	250
	W04-SR-I-003	Improvement of service road	208
	W04-SR-I-004	Improvement of service road	52
	W04-SR-N-001	New service road	146
	W04-IM-I-001	Improvement of inner main road	594
W-05	W05-SR-I-001	Improvement of service road	302
	W05-SR-I-002	Improvement of service road	73
	W05-SR-I-003	Improvement of service road	94
	W05-SR-I-004	Improvement of service road	135
	W05-SR-I-005	Improvement of service road	448
	W05-SR-I-006	Improvement of service road	188
	W05-SR-I-007	Improvement of service road	104
	W05-SR-I-008	Improvement of service road	83
	W05-SR-I-009	Improvement of service road	167
	W05-SR-N-001	New service road	83
	W05-SR-N-002	New service road	31
	W05-SR-N-003	New service road	229
	W05-SR-N-004	New service road	604
W-06	W06-SR-I-001	Improvement of service road	63
	W06-SR-I-002	Improvement of service road	260
	W06-SR-N-001	New service road	177
	W06-SR-N-002	New service road	63
	W06-IM-N-001	New inner main road	760
W-07	W07-SR-I-001	Improvement of service road	63
	W07-SR-I-002	Improvement of service road	146
	W07-SR-I-003	Improvement of service road	115
	W07-SR-I-004	Improvement of service road	417
	W07-SR-I-005	Improvement of service road	458
	W07-SR-I-006	Improvement of service road	229
	W07-SR-I-007	Improvement of service road	167
	W07-SR-I-008	Improvement of service road	63
	W07-SR-I-009	Improvement of service road	344
	W07-SR-I-010	Improvement of service road	135
	W07-SR-I-011	Improvement of service road	83
	W07-SR-N-001	New service road	104
	W07-SR-N-002	New service road	31
	W07-SR-N-003	New service road	21
	W07-SR-N-004	New service road	104
	W07-IM-I-001	Improvement of inner main road	208
	W07-IM-I-002	Improvement of inner main road	781
	W07-MR-I-001	Improvement of main road	813
W-08	W08-SR-I-001	Improvement of service road	135
	W08-SR-I-002	Improvement of service road	156
	W08-SR-I-003	Improvement of service road	73

Zone	ID	Type of Facility	Length (m)
	W08-SR-I-004	Improvement of service road	292
	W08-SR-I-005	Improvement of service road	156
	W08-SR-I-006	Improvement of service road	104
	W08-SR-I-007	Improvement of service road	146
	W08-SR-I-008	Improvement of service road	229
	W08-SR-I-009	Improvement of service road	177
	W08-SR-I-010	Improvement of service road	156
	W08-SR-I-011	Improvement of service road	260
	W08-SR-N-001	New service road	63
	W08-SR-N-002	New service road	73
	W08-SR-N-003	New service road	73
	W08-SR-N-004	New service road	94
	W08-IM-I-001	Improvement of inner main road	656
	W08-IM-I-002	Improvement of inner main road	240
	W08-IM-I-003	Improvement of inner main road	271
W-09	W09-SR-I-001	Improvement of service road	156
	W09-SR-I-002	Improvement of service road	156
	W09-SR-I-003	Improvement of service road	73
	W09-SR-I-004	Improvement of service road	240
	W09-SR-N-001	New service road	177
	W09-SR-N-002	New service road	188
	W09-SR-N-003	New service road	31
	W09-SR-N-004	New service road	52
	W09-SR-N-005	New service road	63
	W09-SR-N-006	New service road	83
	W09-SR-N-007	New service road	302
	W09-MR-I-001	Improvement of main road	552
	W09-IR-I-001	Improvement of inner main road	604
	W09-IR-N-001	New inner main road	729
W-10	W10-SR-I-001	Improvement of service road	104
	W10-SR-I-002	Improvement of service road	219
	W10-SR-I-003	Improvement of service road	94
	W10-SR-I-004	Improvement of service road	125
	W10-SR-I-005	Improvement of service road	73
	W10-SR-I-006	Improvement of service road	177
	W10-SR-N-001	New service road	63
	W10-SR-N-002	New service road	21
	W10-SR-N-003	New service road	94
	W10-SR-N-005	New service road	42
	W10-IM-N-001	New inner main road	740
	W10-MR-I-001	Improvement of main road	177
	W10-MR-N-001	New main road	927
W-11	W11-SR-I-001	Improvement of service road	365
	W11-SR-I-002	Improvement of service road	167
	W11-SR-I-003	Improvement of service road	156
	W11-SR-I-004	Improvement of service road	177
	W11-SR-I-005	Improvement of service road	188
	W11-SR-N-001	New service road	177
	W11-SR-N-002	New service road	135
	W11-SR-N-003	New service road	115
	W11-IM-I-001	Improvement of inner main road	281
	W11-IM-I-002	Improvement of inner main road	438
	W11-IM-I-003	Improvement of inner main road	771
	W11-IM-I-004	Improvement of inner main road	73

Zone	ID	Type of Facility	Length (m)
	W11-MR-N-001	New main road	625
E-01	E01-SR-N-001	New service road	188
	E01-SR-N-002	New service road	135
	E01-IM-N-001	New inner main road	396
E-02	E02-SR-I-001	Improvement of service road	208
	E02-SR-I-002	Improvement of service road	83
	E02-SR-I-003	Improvement of service road	156
	E02-SR-I-004	Improvement of service road	281
	E02-SR-I-005	Improvement of service road	208
	E02-SR-I-006	Improvement of service road	135
	E02-SR-I-007	Improvement of service road	42
	E02-SR-I-008	Improvement of service road	313
	E02-SR-I-009	Improvement of service road	135
	E02-SR-I-010	Improvement of service road	177
	E02-SR-N-001	New service road	83
	E02-SR-N-002	New service road	240
	E02-SR-N-003	New service road	292
	E02-SR-N-004	New service road	52
	E02-SR-N-005	New service road	42
	E02-SR-N-006	New service road	104
	E02-SR-N-007	New service road	167
	E02-SR-N-008	New service road	135
	E02-SR-N-009	New service road	42
	E02-SR-N-010	New service road	52
	E02-IM-N-001	New inner main road	948
	E02-MR-N-001	New main road	52
E-03	E03-SR-I-001	Improvement of service road	63
	E03-SR-I-002	Improvement of service road	219
	E03-SR-I-003	Improvement of service road	198
	E03-SR-I-004	Improvement of service road	83
	E03-SR-I-005	Improvement of service road	83
	E03-SR-I-006	Improvement of service road	208
	E03-SR-I-007	Improvement of service road	646
	E03-SR-I-008	Improvement of service road	188
	E03-SR-N-001	New service road	115
	E03-SR-N-002	New service road	375
	E03-SR-N-003	New service road	125
	E03-SR-N-004	New service road	458
	E03-SR-N-005	New service road	240
	E03-SR-N-006	New service road	208
	E03-SR-N-007	New service road	104
	E03-SR-N-008	New service road	208
	E03-SR-N-009	New service road	333
	E03-IM-I-001	Improvement of inner main road	313
	E03-IM-N-001	New inner main road	63
	E03-MR-I-001	Improvement of main road	854
	E03-MR-I-002	Improvement of main road	104
E-04	E04-SR-I-001	Improvement of service road	104
	E04-SR-I-002	Improvement of service road	198
	E04-SR-I-003	Improvement of service road	83
	E04-SR-I-004	Improvement of service road	333
	E04-SR-I-005	Improvement of service road	281
	E04-SR-I-006	Improvement of service road	135
	E04-SR-N-001	New service road	302

Zone	ID	Type of Facility	Length (m)
	E04-SR-N-002	New service road	177
	E04-SR-N-003	New service road	177
	E04-IM-I-001	Improvement of inner main road	219
	E04-IM-I-002	Improvement of inner main road	760
	E04-IM-I-003	Improvement of inner main road	656
	E04-IM-N-001	New inner main road	250
E-05	E05-SR-I-002	Improvement of service road	235
	E05-SR-I-003	Improvement of service road	115
	E05-SR-N-001	New service road	167
	E05-IM-I-001	Improvement of inner main road	427
	E05-IM-I-002	Improvement of inner main road	854
	E05-IM-N-001	New inner main road	542
E-06	E06-SR-I-001	Improvement of service road	167
	E06-SR-I-002	Improvement of service road	83
	E06-SR-I-003	Improvement of service road	94
	E06-SR-I-004	Improvement of service road	73
	E06-SR-I-005	Improvement of service road	52
	E06-SR-I-006	Improvement of service road	229
	E06-SR-I-007	Improvement of service road	240
	E06-SR-I-008	Improvement of service road	146
	E06-SR-I-009	Improvement of service road	167
	E06-SR-I-010	Improvement of service road	115
	E06-SR-I-011	Improvement of service road	156
	E06-SR-I-012	Improvement of service road	146
	E06-SR-I-013	Improvement of service road	73
	E06-SR-I-014	Improvement of service road	323
	E06-SR-I-015	Improvement of service road	83
	E06-SR-N-001	New service road	125
	E06-SR-N-002	New service road	115
	E06-SR-N-003	New service road	115
	E06-SR-N-004	New service road	21
	E06-SR-N-005	New service road	188
	E06-SR-N-006	New service road	156
	E06-SR-N-007	New service road	42
	E06-SR-N-008	New service road	52
	E06-IM-I-001	Improvement of inner main road	1260
	E06-IM-I-002	Improvement of inner main road	146
	E06-IM-N-001	New inner main road	552

Source: CDUDCP



Source: CDUDCP

Figure 01-1: Map of Project Components [Road]

02. Open Space

Table 02-1: List of Project Components [Open Space]

Block	ID	Type of Facility	Area (sqm)
C-03	C03-OP-N-001	Development of Green Open space	2,387
W-05	W05-OP-N-001	Development of Green Open space	31,793
W-11	W11-OP-N-001	Development of Green Open space	12,044
E-02	E02-OP-N-001	Development of Green Open space	7,813
E-06	E06-OP-N-001	Development of Green Open space	11,068
Total			65,104

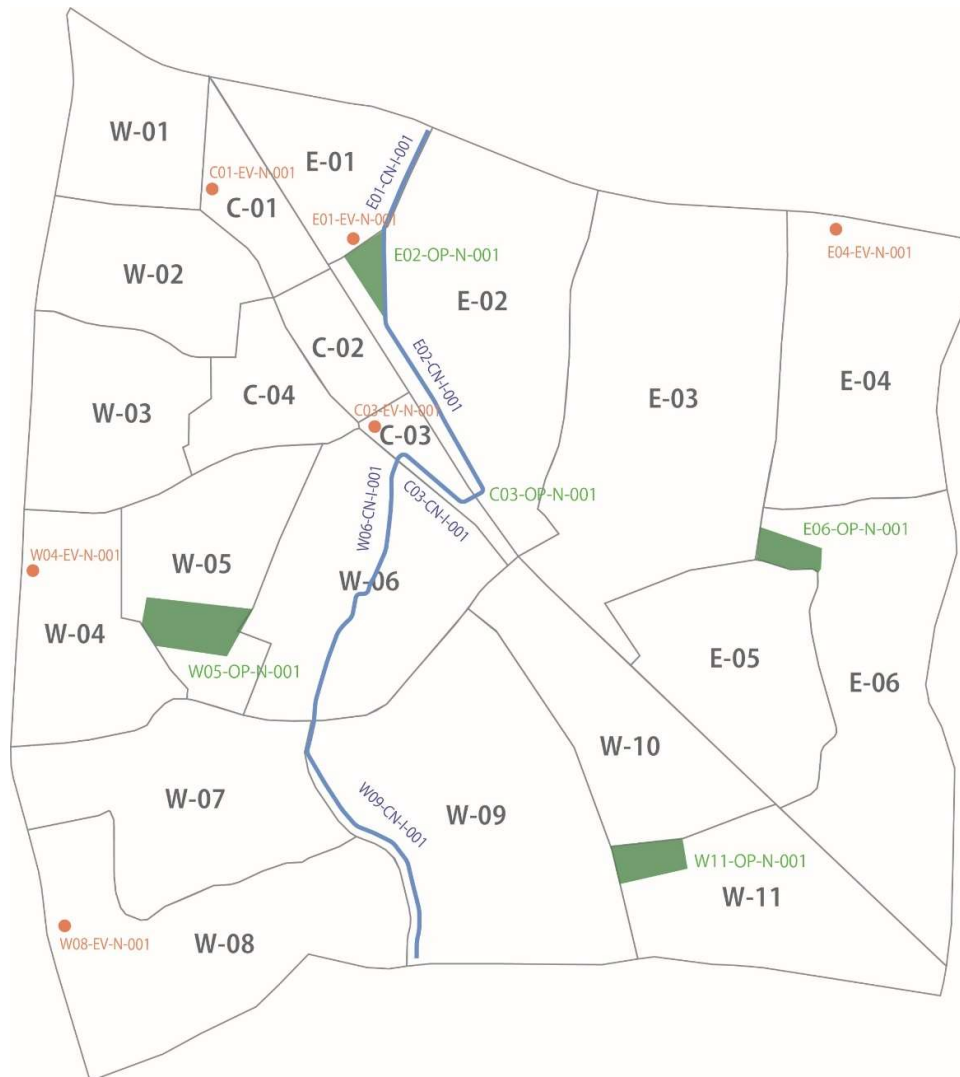
Source: CDUDCP

03. Canal

Table 03-1: List of Project Components [Canal]

Block	ID	Type of Facility	Length (m)
C-03	C03-CN-I-001	Canal Improvement (w=10m)	264
W-06	W06-CN-I-001	Canal Improvement (w=10m)	747
W-09	W09-CN-I-001	Canal Improvement (w=10m)	743
E-01	E01-CN-I-001	Canal Improvement (w=10m)	281
E-02	E02-CN-I-001	Canal Improvement (w=10m)	784
Total			2,818

Source: CDUDCP



Source: CDUDCP

Figure 03-1: Map of Project Components [Open Space/ Canal]

04. Commercial and Business/Education/Health

Table 04-1: List of Project Components [Commercial and Business]

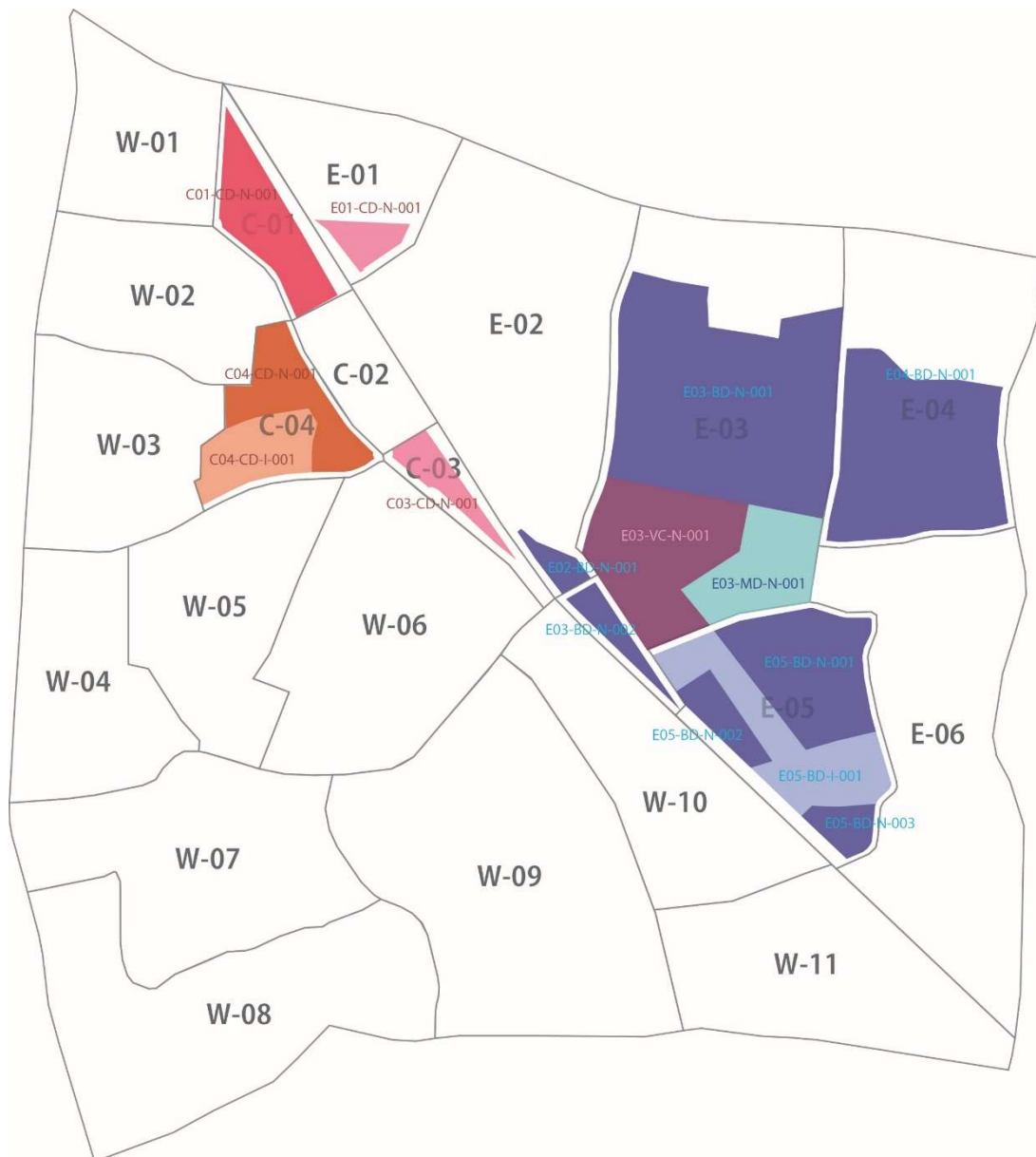
Block	Legend	ID	Type of Development	Area (ha)
C-01		C01-CD-N-001	Tourism Center Development	5.49
C-03		C03-CD-N-001	Local Market Development	1.99
C-04		C04-CD-N-001	Tourist Market Development	5.08
		C04-CD-I-001	Tourism Center Development (Existing)	4.21
E-01		E01-CD-N-001	Local Market Development	1.50
E-02		E02-BD-N-001	Business Area Development	1.00
E-03		E03-BD-N-001	Business Area Development	25.01
		E03-BD-N-002	Business Area Development	1.49
E-04		E04-BD-N-001	Business Area Development	15.70
E-05		E05-BD-N-001	Business Area Development	8.57
		E05-BD-N-002	Business Area Development	2.04
		E05-BD-N-003	Business Area Development	1.55
		E05-BD-I-001	Business Area (Existing)	7.64
Total				81.27

Source: CDUDCP

Table 04-2: List of Project Components [Education/Health]

Block	Legend	ID	Type of Development	Area (ha)
E-03		E03-MD-N-001	Vocational center development	10.36
E-03		E03-VC-N-001	Medical center development	5.79
Total				16.15

Source: CDUDCP



Source: CDUDCP

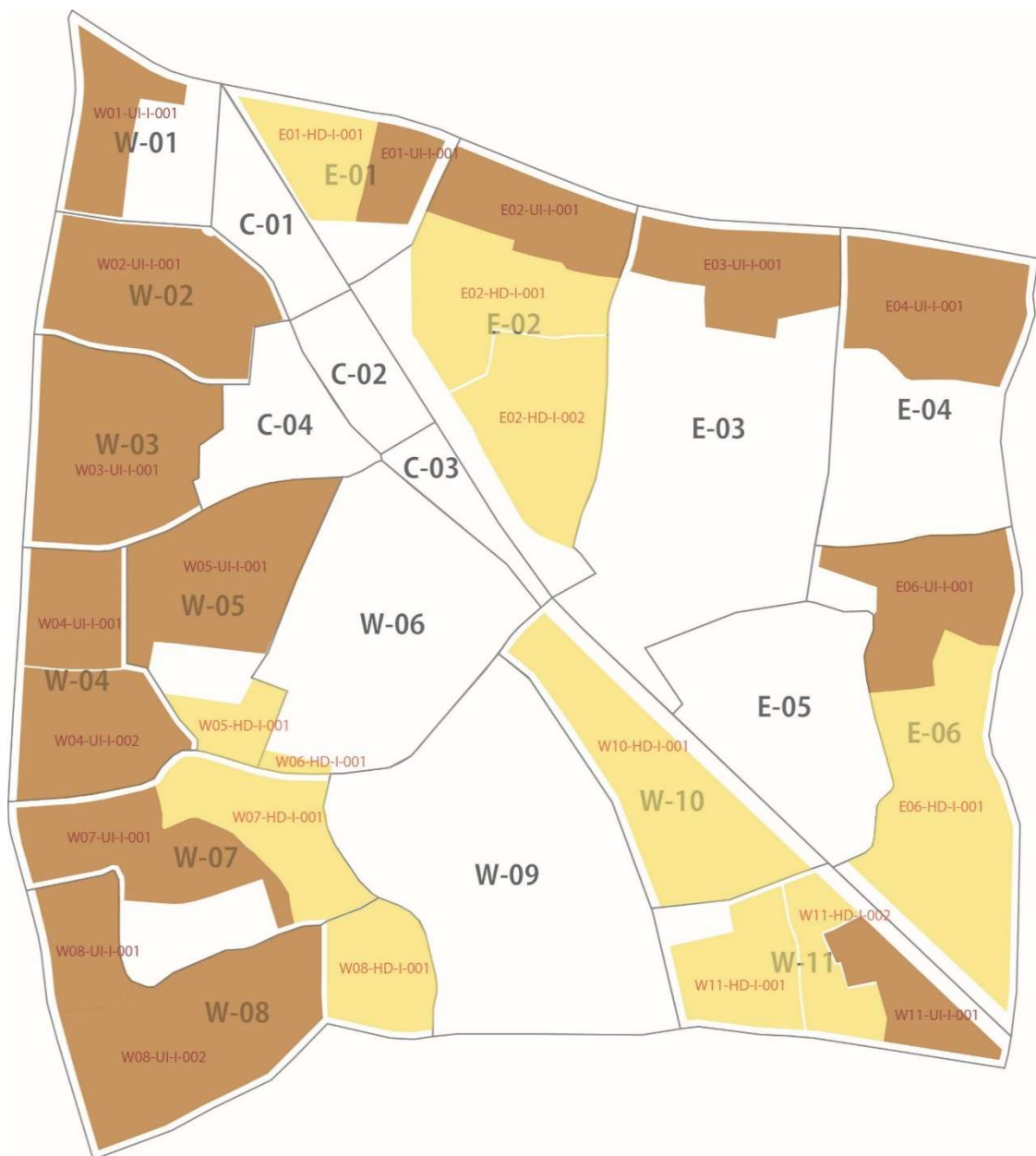
Figure 04-1: Map of Project Components [Commercial and Business/ Education/ Heath]

05. Housing

Table 05-1: List of Project Components [Housing]

Block	Legend	ID	Type of Development	Area (ha)
W-01		W01-UI-I-001	Existing Village Improvement	6.34
W-02		W02-UI-I-001	Existing Village Improvement	15.70
W-03		W03-UI-I-001	Existing Village Improvement	18.11
W-04		W04-UI-I-001	Existing Village Improvement	6.56
		W04-UI-I-002	Existing Village Improvement	10.58
W-05		W05-HD-I-001	Housing Area Development	3.43
		W05-UI-I-001	Existing Village Improvement	15.04
W-06		W06-HD-I-001	Housing Area Development	0.69
W-07		W07-HD-I-001	Housing Area Development	9.81
		W07-UI-I-001	Existing Village Improvement	11.20
W-08		W08-HD-I-001	Housing Area Development	7.23
		W08-UI-I-001	Existing Village Improvement	5.79
		W08-UI-I-002	Existing Village Improvement	19.70
W-10		W10-HD-I-001	Housing Area Development	17.05
W-11		W07-HD-I-001	Housing Area Development	7.60
		W07-HD-I-002	Housing Area Development	5.11
		W07-UI-I-001	Existing Village Improvement	5.73
E-01		E01-HD-I-001	Housing Area Development	5.96
		E01-UI-I-001	Existing Village Improvement	3.46
E-02		E02-HD-I-001	Housing Area Development	12.26
		E02-HD-I-002	Housing Area Development	13.12
		E02-UI-I-001	Existing Village Improvement	8.40
E-03		E03-UI-I-001	Existing Village Improvement	9.70
E-04		E04-UI-I-001	Existing Village Improvement	12.76
E-06		E06-HD-I-001	Housing Area Development	21.32
		E06-UI-I-001	Existing Village Improvement	11.37
Total				264.02

Source: CDUDCP



Source: CDUDCP

Figure 05-1: Map of Project Components [Housing]

06. Multi-purpose use/ Agricultural area

Table 06-1: List of Project Components [Multi-purpose use]

Block	Legend	ID	Type of Development	Area (sqm)
W-04		W04-MU-N-001	Commercial use in Village Office Area	3,150
W-08		W08-MU-N-001	Commercial use in Village Office Area	1,630
E-04		E04-MU-N-001	Commercial use in Village Office Area	1,410
Total				6,190

Source: CDUDCP

Table 06-2: List of Project Components [Agricultural area]

Block	Legend	ID	Type of Development	Area (ha)
W-06		W06-AR-I-001	Land use restriction for agricultural area	14.65
		W06-AR-I-002	Land use restriction for agricultural area	14.28
W-09		W09-AR-I-001	Land use restriction for agricultural area	43.74
Total				72.67

Source: CDUDCP



Source: CDUDCP

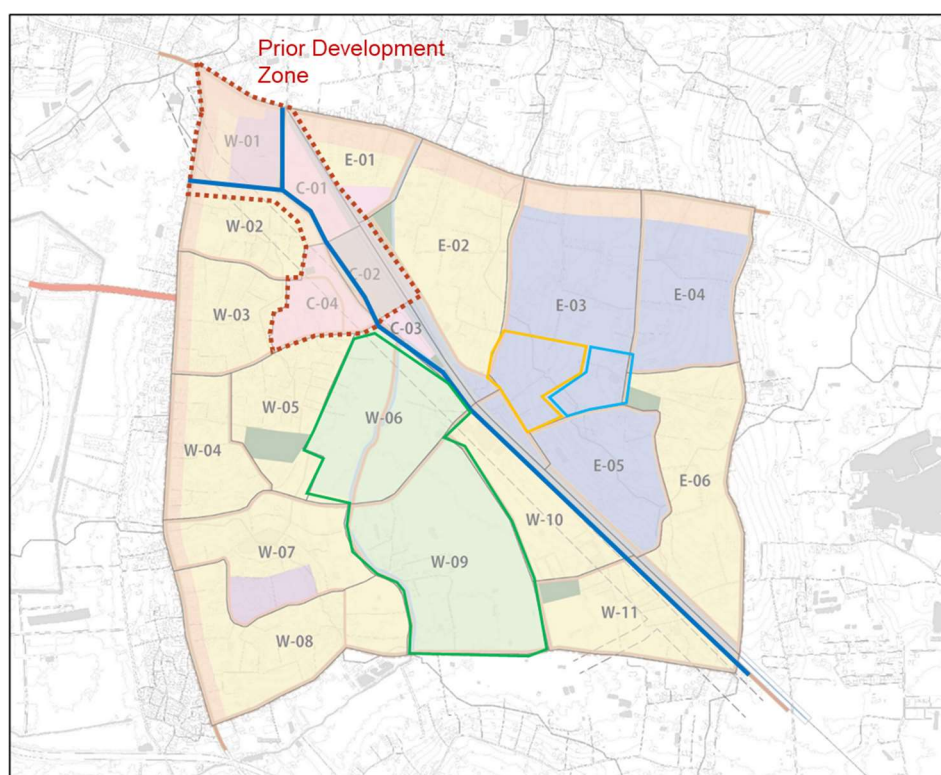
Figure 06-1: Map of Project Components [Multi-purpose use/ Agricultural area]

07. Service and Operation

Table 07-1: List of Project Components [Service and Operation]

Category	Legend	ID	Type of Project
Projects in Prior Development Zone		SO-N-001	Parking ban management
		SO-N-002	Landscape design guideline
		SO-N-003	Tourism promotion event
Projects for whole pilot area	-	SO-N-004	Garbage management
	-	SO-N-005	Community cleanliness event
	-	SO-N-006	CCTV security management
	-	SO-N-007	GIS-platform operation (information sharing)
Projects for specific site		SO-N-008	Extension of Bus Service Line
		SO-N-009	Added-value local product development
		SO-N-010	Health care service business
		SO-N-011	Health/sport event
		SO-N-012	Vocational training business

Source: CDUDCP



Source: CDUDCP

Figure 07-1: Map of Project Components [Service and Operation]

Annex

11-2

ໂຄງການສ້າງຂີດຄວາມສາມາດ
ໃນການຄວບຄຸມ ແລະ ສົ່ງເສີມການພັດທະນາຕົວເມືອງ (CDUDCP) ຢູ່ ສປປ ລາວ

ບົດລາຍງານ
ແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ
(ເຂດສະຖານີຄໍາສະຫວາດ ເມືອງໄຊເສດຖາ)

ມິຖຸນາ 2024

Urban Promotion Working Team of CDUDCP
Nippon Koei Urban Space Co., Ltd.
Nippon Koei Co., Ltd.

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ເອກະສານຊ້ອນທ້າຍ:

1. ບັນຊີອົງປະກອບຂອງໂຄງການ

ອັດຕາແລກປ່ຽນ: LAK 1 = JPY 0.00278 (ອັດຕາແລກປ່ຽນໄຈກາ ເດືອນເມສາ 2024)

USD 1 = JPY 151.37 (ອັດຕາແລກປ່ຽນໄຈກາ ເດືອນເມສາ 2024)

ລາຍການຕາຕະລາງ

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C/P	ຄະນະວິຊາການໂຄງການຝ່າຍລາວ
DHUP	ກົມເຄຫາ ແລະ ຜັງເມືອງ
DONRE	ພະແນກ ຊັບພະຍາກອນທຳມະຊາດ ແລະ ສິ່ງແວດລ້ອມ
DPWT	ພະແນກ ໂຍທາທິການ ແລະ ຂົນສົ່ງ
DUP	ແຜນຜັງເມືອງລະອຽດ
GIS	ລະບົບຂໍ້ມູນຂ່າວສານທາງພູມສາດ
GUP	ແຜນຜັງເມືອງລວມ
MOF	ກະຊວງ ການເງິນ
MONRE	ກະຊວງ ຊັບພະຍາກອນທຳມະຊາດ ແລະ ສິ່ງແວດລ້ອມ
M/P	ແຜນແມ່ບົດ
MPI	ກະຊວງ ແຜນການ ແລະ ການລົງທຶນ
MPWT	ກະຊວງ ໂຍທາທິການ ແລະ ຂົນສົ່ງ
OPWT	ຫ້ອງການ ໂຍທາ ແລະ ຂົນສົ່ງ ເມືອງ
Lao PDR	ສາທາລະນະ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ
LRT	ລັດວິສາຫະກິດທາງລົດໄຟ ລາວ-ໄທ
PPP	ການຮ່ວມມືລະຫວ່າງພາກລັດ ແລະ ເອກະຊົນ
PTI	ສະຖາບັນ ໂຍທາທິການ ແລະ ຂົນສົ່ງ
SEZ	ເຂດເສດຖະກິດພິເສດ/ ເຂດເສດຖະກິດສະເພາະ

ພາກທີ 1. ບົດນຳສະເໜີ

1.1 ຄວາມເປັນມາ

ໂຄງການສ້າງຂີດຄວາມສາມາດໃນການຄວບຄຸມ ແລະ ສົ່ງເສີມການພັດທະນາຕົວເມືອງ ຢູ່ ສປປ ລາວ (CDUDCP) ທີ່ໄດ້ຮັບການຊ່ວຍເຫຼືອດ້ານວິຊາການຈາກອົງການຮ່ວມມືສາກົນຍີ່ປຸ່ນ (JICA) ໄດ້ເລີ່ມຈັດຕັ້ງປະຕິບັດແຕ່ເດືອນ ກໍລະກົດ 2021 ຫາ ເດືອນ ກໍລະກົດ 2024 ແລະ ມີຈຸດປະສົງໃນການສ້າງຄວາມເຂັ້ມແຂງໃຫ້ແກ່ຄະນະວິຊາການຝ່າຍລາວ (ກົມເຄຫາ ແລະ ຜັງເມືອງ/ກຄຜ, ກະຊວງ ໂຍທາທິການ ແລະ ຂົນສົ່ງ/ ກະຊວງ ຍທຂ, ສະຖາບັນ ໂຍທາທິການ ແລະ ຂົນສົ່ງ (ສຍຂ) ແລະ ພະແນກ ໂຍທາທິການ ແລະ ຂົນສົ່ງ ນະຄອນຫຼວງວຽງຈັນ (ພະແນກ ຍທຂ ນວ)) ເພື່ອຄວບຄຸມ ແລະ ສົ່ງເສີມການພັດທະນາຕົວເມືອງຂອງນະຄອນຫຼວງວຽງຈັນ. ໂຄງຮ່າງຂອງໂຄງການແມ່ນສະແດງຢູ່ໃນ ຕາຕະລາງ 1-1.

ຕາຕະລາງ 1-1: ໂຄງຮ່າງຂອງໂຄງການ CDUDCP

ຊື່ໂຄງການ	ໂຄງການສ້າງຂີດຄວາມສາມາດໃນການຄວບຄຸມ ແລະ ສົ່ງເສີມການພັດທະນາຕົວເມືອງ
ເປົ້າໝາຍລວມ	ຄວບຄຸມ ແລະ ສົ່ງເສີມການພັດທະນາຕົວເມືອງ ອີງຕາມ ແຜນຜັງເມືອງ
ຈຸດປະສົງຂອງໂຄງການ	ເສີມສ້າງຄວາມເຂັ້ມແຂງຂອງການຄວບຄຸມ ແລະ ສົ່ງເສີມການພັດທະນາຕົວເມືອງອີງຕາມແຜນຜັງເມືອງ
ໝາກຜົນຂອງໂຄງການ	[ໝາກຜົນ 1]: ສ້າງກົນໄກໃນການປຶກສາຫາລື ແລະ ແລກປ່ຽນຄວາມເຫັນກ່ຽວກັບນະໂຍບາຍ ແລະ ບັນຫາທີ່ຕິດພັນກັບການພັດທະນາຕົວເມືອງ. [ໝາກຜົນ 2]: ເສີມສ້າງຄວາມເຂັ້ມແຂງໃນການຄຸ້ມຄອງການພັດທະນາຕົວເມືອງ. [ໝາກຜົນ 3]: ເສີມສ້າງຄວາມເຂັ້ມແຂງໃນການສົ່ງເສີມບັນດາໂຄງການພັດທະນາຕົວເມືອງ. [ໝາກຜົນ 4]: ເສີມສ້າງຄວາມເຂັ້ມແຂງໃນການຄວບຄຸມການປຸກສ້າງອາຄານ.

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

1.2 ຈຸດປະສົງຂອງການວາງແຜນຜັງແນວຄວາມຄິດພື້ນທີ່ ພາຍໃຕ້ ໂຄງການ CDUDCP

ໃນ CDUDUP, ໝາກຜົນທີ 3 ຂອງໂຄງການ ແມ່ນມີຈຸດປະສົງເພື່ອເສີມສ້າງຄວາມສາມາດຂອງ C/P ໃນການຊຸກຍູ້ສົ່ງເສີມໂຄງການພັດທະນາຕົວເມືອງໂດຍຜ່ານການສ້າງຜົນໄດ້ຮັບຕໍ່ໄປນີ້:

- ສ້າງຮ່າງແຜນຜັງພື້ນທີ່/Area Plan ແລະ ຈຳແນກໃຫ້ເຫັນເຖິງຂໍ້ຄົງຄ້າງຂອງຂະແໜງການທີ່ກ່ຽວຂ້ອງໃນການຈັດຕັ້ງປະຕິບັດແຜນດັ່ງກ່າວນັ້ນ.
- ສ້າງ ປຶ້ມຄູ່ມື/ Guideline ໃນການສົ່ງເສີມບັນດາໂຄງການພັດທະນາຕົວເມືອງແບບມີສ່ວນຮ່ວມ.

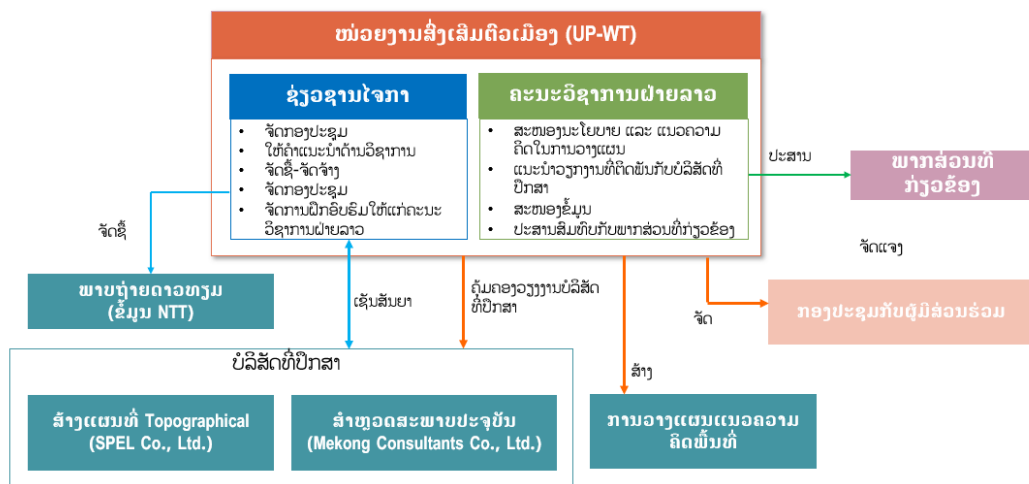
ແຜນແນວຄວາມຄິດພື້ນທີ່ ແລະ ການສ້າງບັນດາກິດຈະກຳຕ່າງໆ ແມ່ນສຸມໃສ່:

- ການສົ່ງເສີມບັນດາກິດຈະກຳການຮ່ວມມືຈັດຕັ້ງລະຫວ່າງ ພາກສ່ວນລັດ-ເອກະຊົນ (ຫົວໜ່ວຍທຸລະກິດທ້ອງຖິ່ນ)- ຊຸມຊົນ ພ້ອມທັງການສ້າງຄວາມເຂັ້ມແຂງຂອງວຽກງານນັ້ນໆ
- ການເສີມສ້າງຄວາມເຂັ້ມແຂງດ້ານເຕັກນິກ-ວິຊາການໃນການວາງແຜນພັດທະນາຕົວເມືອງ ໂດຍຜ່ານການຈັດຕັ້ງບັນດາກິດຈະກຳການວາງແຜນຕ່າງໆ
- ການເສີມສ້າງຄວາມເຂັ້ມແຂງໃນການປະສານງານກັບພາກສ່ວນທີ່ກ່ຽວຂ້ອງ ເພື່ອ ການສ້າງຄວາມເປັນເອກະພາບກັນກັບພາກສ່ວນ/ຜູ້ທີ່ມີສ່ວນຮ່ວມ
- ການນຳເອົາຜົນໄດ້ຮັບ ແລະ ປະສົບການໃນການຈັດຕັ້ງກິດຈະກຳຕ່າງໆ ປະກອບເຂົ້າໃນການສ້າງປຶ້ມຄູ່ມື ເພື່ອ ການເຜີຍແຜ່ໃນການອະນາຄົດ

ສໍາລັບກິດຈະກຳດັ່ງກ່າວນັ້ນ, CDUDCP ໄດ້ເລືອກເອົາ ສະຖານີລົດໄຟລາວ-ໄທ ຄຳສະຫວາດ ຢູ່ ເມືອງໄຊເສດຖາ ນະຄອນຫຼວງວຽງຈັນ ເປັນພື້ນທີ່ທົດລອງສຶກສາ. ນັບແຕ່ເດືອນມິຖຸນາ 2022 ຫາ ມິຖຸນາ 2024 ກໍ່ໄດ້ເລີ່ມຈັດຕັ້ງບັນດາກິດຈະກຳການສ້າງແຜນແນວຄວາມຄິດພື້ນທີ່ ລວມທັງການຈັດການສໍາຫຼວດພື້ນຖານແຜນທີ່ພູມສັນຖານ ແລະ ກິດຈະກຳກອງປະຊຸມ ໂດຍຄະນະວິຊາການຝ່າຍລາວ ແລະ ທີມງານຊ່ຽວຊານຂອງອົງການໄຈກາ.

1.3 ໜ່ວຍງານຮັບຜິດຊອບການສ້າງແຜນແນວຄວາມຄິດພື້ນທີ່

ການສ້າງແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບແມ່ນດໍາເນີນໂດຍໜ່ວຍງານສົ່ງເສີມຕົວເມືອງ (UP-WT) ທີ່ປະກອບມີວິຊາການ ຈາກ ກຄຜ, ສຍຂ , ພະແນກ ຍທຂ ນວ ແລະ ຫ້ອງການ ຍທຂ ເມືອງໄຊເສດຖາ ແລະ ຊ່ຽວຊານໄຈກາ. ໂຄງຮ່າງການຈັດຕັ້ງ ແລະ ໜ່ວຍງານຮັບຜິດຊອບ ແມ່ນສະແດງ ຢູ່ ຕາຕະລາງ 1-2 ແລະ ຮູບ 1-1.



ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 1-1: ໂຄງຮ່າງການຈັດຕັ້ງກິດຈະກຳວາງແຜນຜັງແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ

ຕາຕະລາງ 1-2: ລາຍຊື່ໜ່ວຍງານ UP-WT

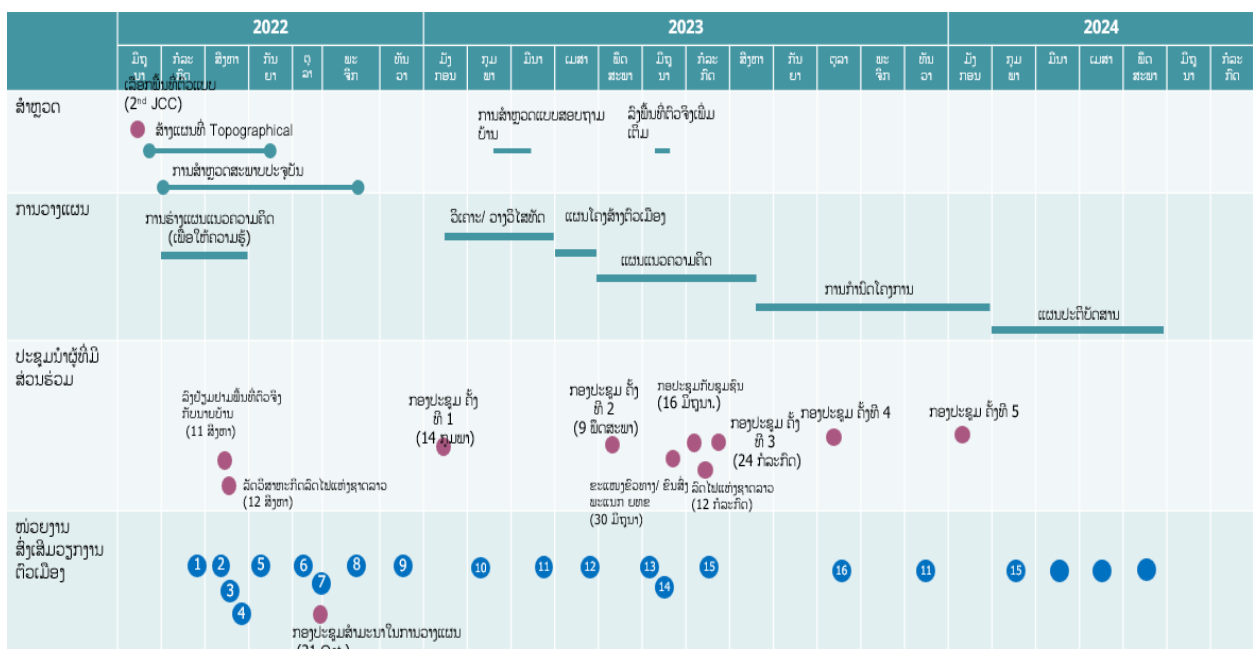
ພາກສ່ວນ	ຊື່ ແລະ ນາມສະກຸນ	ຫົວໜ້າໜ່ວຍງານ/ ຜູ້ປະສານງານ
ກຄຜ	ທ່ານ ວາຊາລີ ສີສະຫວັດ, ພະແນກ ຜັງເມືອງ	ຮອງຫົວໜ້າ ໜ່ວຍງານ/ ຜູ້ປະສານງານ
	ທ່ານ ສຸລິກອນ ໄຊຊະນະ, ພະແນກ ພັດທະນາຕົວເມືອງ	
	ທ່ານ ໄພບຸນ ສຸນາເຄນ, ພະແນກ ຄວບຄຸມການປຸກສ້າງ	
ສຍຂ	ທ່ານ ສິມຈິດ ເຈີຊິວທ໌	ຫົວໜ້າໜ່ວຍງານ
	ທ່ານ ບຸນປອນ ສີສະຫວັດ	
	ທ່ານ ສິນນະກອນ ດວງປັນຍາ	
ພະແນກ ຍທຂ	ທ່ານ ສອນປະເສີດ ໂພທິສາ, ຂະແໜງ ເຄຫາ ແລະ ຜັງເມືອງ	
	ທ່ານ ຫວຽນຕິຫານ ບານທອງໄຊ, ຂະແໜງ ເຄຫາ ແລະ ຜັງເມືອງ	
ຫ້ອງການ ຍທຂ ເມືອງໄຊເສດຖາ	ທ່ານ ເດຊາ ພິມມະສັກ, ຮອງຫົວໜ້າຫ້ອງການ	
ທີມງານໂຄງການໄຈກາ	Ms. Tomoko YAMAMOTO	
	Mr. Minoru MATSUI	

	Mr. Chikara UCHIDA	
	Mr. Akihito MUTO	
	ນາງ ທິດສະຄອນ ຣາຊມຸນຕຣີ, ຜູ້ຊ່ວຍໂຄງການ	
	Mr. Chayyang Chuvea, JICA Project Assistant	

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

1.4 ກິດຈະກຳດ້ານການວາງແຜນ

ຕາຕະລາງການຈັດຕັ້ງກິດຈະກຳດ້ານການວາງແຜນ ຢູ່ CDUDCP ແມ່ນສະແດງໃນ ຮູບ 1-2. ກິດຈະກຳດັ່ງກ່າວໄດ້ເລີ່ມຈາກການຄັດເລືອກເຂດຕົວແບບໃນເດືອນມິຖຸນາ 2022. ໜ່ວຍງານ UP-WT ໄດ້ດຳເນີນການສ້າງແຜນທີ່ພູມສັນຖານ, ການສຳຫຼວດສະພາບໃນປະຈຸບັນ ແລະ ການວາງແຜນແນວຄວາມຄິດເຂດພື້ນທີ່ຕົວແບບ ໂດຍຜ່ານການປຶກສາຫາລືໃນກອງປະຊຸມຜູ້ມີສ່ວນຮ່ວມ ເຊິ່ງເປັນວິທີການມີສ່ວນຮ່ວມຂອງຊຸມຊົນ.



ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 1-2: ຕາຕະລາງກິດຈະກຳການວາງແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ

1.5 ຈຸດປະສົງຂອງບົດລາຍງານສະບັບນີ້

ບົດລາຍງານ ສະບັບນີ້ແມ່ນ ເອກະສານທີ່ມີສົມບູນດ້ານເນື້ອໃນ ທີ່ໄດ້ລວບລວມເອົາຜົນໄດ້ຮັບ ແລະ ຜົນການຈັດຕັ້ງກິດຈະກຳການວາງແຜນແນວຄວາມຄິດພື້ນທີ່ ພາຍໃຕ້ໂຄງການ CDUDCP, ແລະ ບົດລາຍງານນີ້ແມ່ນເປັນແຜນເຄິ່ງ-ທາງການ ໂດຍຄວາມເຫັນດີເປັນເອກະພາບກັນກັບ C/Ps. ສຳລັບການສົ່ງເສີມ ແລະ ການຈັດຕັ້ງປະຕິບັດການພັດທະນາຕົວເມືອງໃນເຂດທົດລອງ, ແລະ ຄາດວ່າ C/Ps ຈະດຳເນີນການກະກຽມ ແລະ ວາງແຜນທີ່ຈຳເປັນໂດຍອີງໃສ່ແຜນແນວຄວາມຄິດເຂດພື້ນທີ່ຕົວແບບໃນບົດລາຍງານສະບັບນີ້.

ພາກທີ 2. ຂອບເຂດແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ

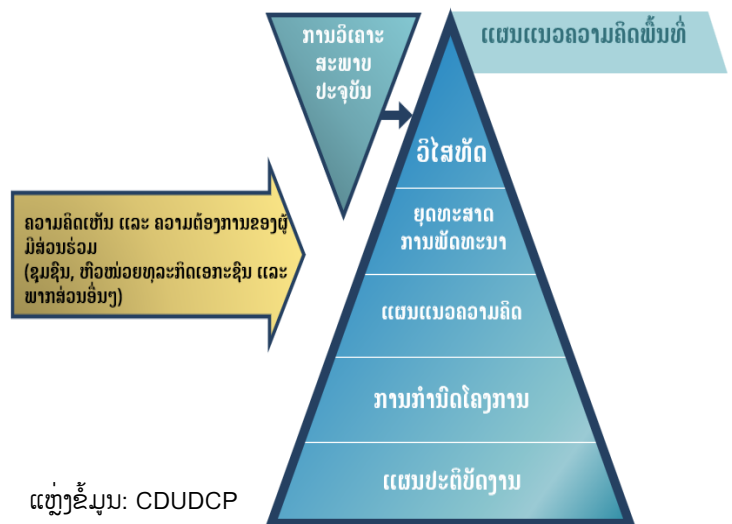
2.1 ຈຸດປະສົງຂອງແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ

ການວາງແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ ພາຍໃຕ້ CDUDCP ແມ່ນມີຈຸດປະສົງເພື່ອປະຕິບັດຕາມໃນເງື່ອນໄຂຂອງການຍົກລະດັບຄວາມສາມາດຂອງຄະນະວິຊາການຝ່າຍລາວດັ່ງລຸ່ມນີ້:

- ການສົ່ງເສີມບັນດາກິດຈະກຳການຮ່ວມມືຈັດຕັ້ງລະຫວ່າງ ພາກສ່ວນລັດ-ເອກະຊົນ (ຫົວໜ່ວຍທຸລະກິດທ້ອງຖິ່ນ)- ຊຸມຊົນ ພ້ອມທັງການສ້າງຄວາມເຂັ້ມແຂງຂອງວຽກງານນັ້ນໆ
- ການເສີມສ້າງຄວາມເຂັ້ມແຂງດ້ານເຕັກນິກ-ວິຊາການໃນການວາງແຜນພັດທະນາຕົວເມືອງ ໂດຍຜ່ານການຈັດຕັ້ງບັນດາກິດຈະກຳການວາງແຜນຕ່າງໆ
- ການເສີມສ້າງຄວາມເຂັ້ມແຂງໃນການປະສານງານກັບພາກສ່ວນທີ່ກ່ຽວຂ້ອງ ເພື່ອ ການສ້າງຄວາມເປັນເອກະພາບກັນກັບພາກສ່ວນ/ຜູ້ທີ່ມີສ່ວນຮ່ວມ
- ການນຳເອົາຜົນໄດ້ຮັບ ແລະ ປະສົບການໃນການຈັດຕັ້ງກິດຈະກຳຕ່າງໆ ປະກອບເຂົ້າໃນການສ້າງປຶ້ມຄູ່ມື ເພື່ອ ການເຜີຍແຜ່ໃນການອະນາຄົດ

ຮູບ 2-1 ສະແດງເຖິງ ຂອບເຂດຂອງການວາງແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ ເຊິ່ງປະກອບມີ ຫົກ (6) ອົງປະກອບຄື a) ການວິເຄາະສະພາບປະຈຸບັນ, b) ການວາງວິໄສທັດ, c) ຍຸດທະສາດການພັດທະນາ, d) ການວາງແຜນແນວຄວາມຄິດ, e) ການກຳນົດໂຄງການ ແລະ f) ການວາງແຜນການປະຕິບັດງານ.

ໃນວິທີການວາງແຜນແບບມີສ່ວນຮ່ວມ, ໜ່ວຍງານ UP-WT ໄດ້ດຳເນີນກອງປະຊຸມຜູ້ມີສ່ວນຮ່ວມທີ່ກ່ຽວຂ້ອງກັບອົງການທີ່ກ່ຽວຂ້ອງອື່ນໆ, ຫົວໜ່ວຍທຸລະກິດເອກະຊົນ ແລະ ຊຸມຊົນໃນເຂດທົດລອງເພື່ອບັນລຸຄວາມເປັນເອກະພາບກັນໃນ ແຜນແນວຄວາມຄິດຂອງພື້ນທີ່ຕົວແບບ.

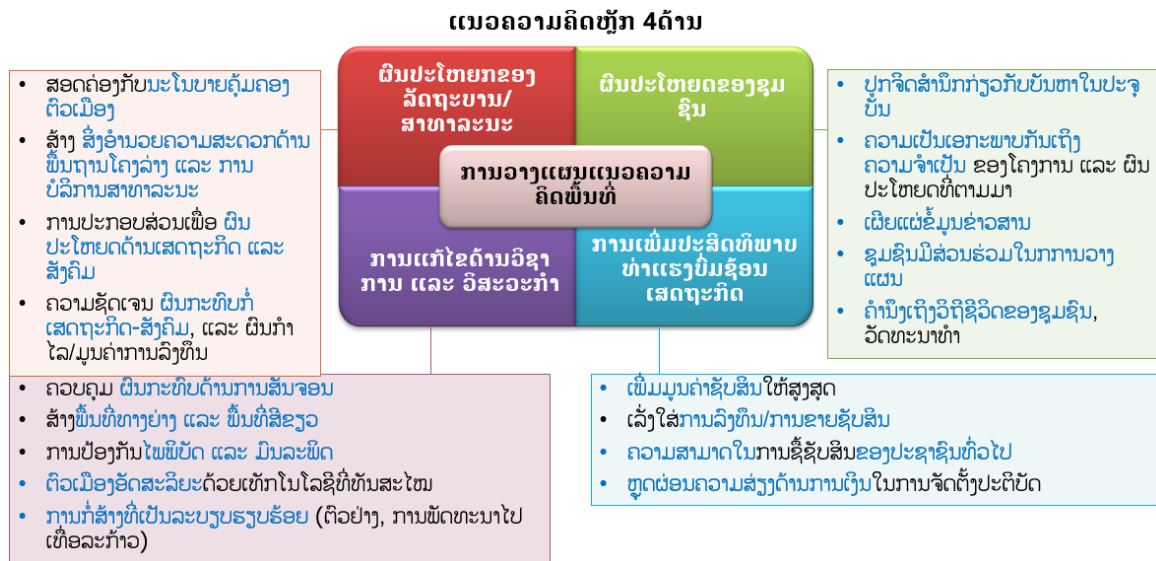


ຮູບ 2-1: ຂອບເຂດການວາງແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ

2.2 ແນວຄວາມຄິດຫຼັກ ຂອງ ແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ

ແນວຄວາມຄິດຫຼັກ ຂອງການວາງແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ ແມ່ນ ສະແດງໃນ ຮູບ 2-2. ການວາງແຜນຕ້ອງພິຈາລະນາຜົນສະທ້ອນ ແລະ ຜົນກະທົບຂອງສີ່ປະເພດຄື a) ຜົນປະໂຫຍດຂອງລັດຖະບານ ແລະ ສາທາລະນະ, b) ຜົນປະໂຫຍດຂອງຊຸມຊົນ, c) ການແກ້ໄຂດ້ານວິຊາການ ແລະ ວິສະວະກຳ ແລະ d) ການເພີ່ມປະສິດທິພາບທ່າແຮງບົ່ມຊ້ອນ ເສດຖະກິດ ໃນ ເຂດວາງແຜນ ແລະ ເຂດອ້ອມຮອບ.

ທັດສະນະເຫຼົ່ານີ້ເຮັດໃຫ້ມີການສ້າງແຜນການທີ່ສົ່ງຜົນປະໂຫຍດໃຫ້ແກ່ ເສດຖະກິດ ແລະ ສັງຄົມ ແລະ ຄວາມເປັນໄປໄດ້ດ້ານການເງິນ ແລະ ການລົງທຶນ.



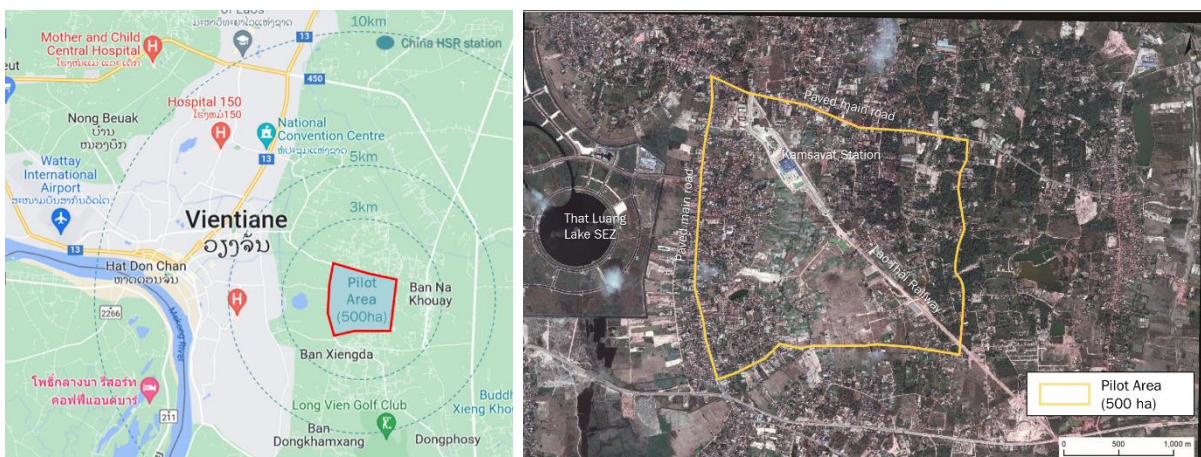
ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 2-2: ແນວຄວາມຄິດຫຼັກ ໃນການວາງແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ

2.3 ທີ່ຕັ້ງຂອງພື້ນທີ່ຕົວແບບ

ພື້ນທີ່ຕົວແບບ ແມ່ນ ຖືກຄັດເລືອກ ໂດຍຜ່ານການວິເຄາະແບບສົມທຽບກັບບັນດາພື້ນທີ່ຕົວແບບທີ່ເປັນທາງເລືອກ. ຜົນຂອງການຄັດເລືອກແມ່ນໄດ້ຕົກລົງເຫັນດີໃນກອງປະຊຸມຄະນະຊີ້ນຳໂຄງການ (JCC) ຄັ້ງທີ 2 ຂອງ CDUDCP ທີ່ຈັດຂຶ້ນໃນວັນທີ 14 ມິຖຸນາ 2022. ທີ່ຕັ້ງຂອງພື້ນທີ່ຕົວແບບທີ່ໄດ້ຖືກຄັດເລືອກ ແມ່ນສະແດງໃນ ຮູບ 2-3.

ເຂດພື້ນທີ່ຕົວແບບ ແມ່ນ ຕັ້ງຢູ່ຫ່າງຈາກເຂດໃຈກາງຕົວເມືອງນະຄອນຫຼວງວຽງຈັນ ໄປທາງທິດຕາເວັນອອກ ປະມານ 7 km ແລະ ຕິດກັບເຂດເສດຖະກິດພິເສດບຶງທາດຫຼວງ ເຊິ່ງ ກວມເອົາເນື້ອທີ່ປະມານ 500 ຮຕ.



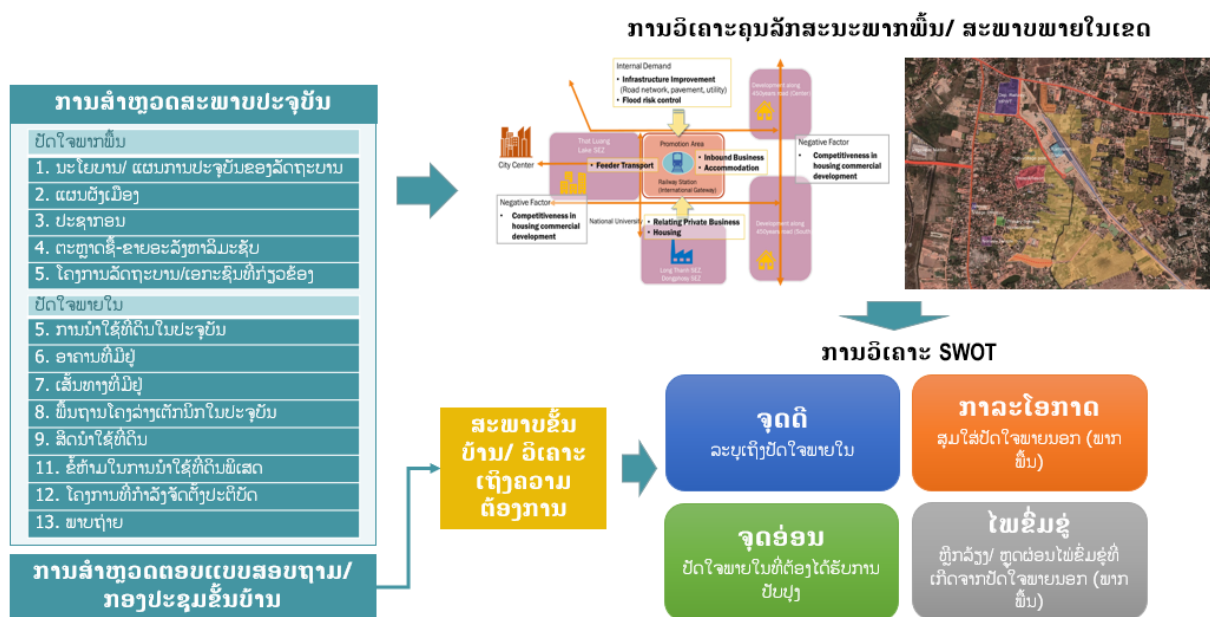
ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 2-3: ທີ່ຕັ້ງເຂດພື້ນທີ່ຕົວແບບ

ພາກທີ 3. ການວິເຄາະສະພາບປະຈຸບັນຂອງເຂດພື້ນທີ່ຕົວແບບ

3.1 ຈຸດປະສົງຂອງການສຳຫຼວດ ແລະ ວິເຄາະສະພາບປະຈຸບັນຂອງພື້ນທີ່ຕົວແບບ

ການສຳຫຼວດສະພາບປະຈຸບັນຂອງພື້ນທີ່ຕົວແບບ ແມ່ນມີຈຸດປະສົງເພື່ອຈຳແນກໃຫ້ເຖິງຄຸນລັກສະນະພາກພື້ນ ແລະ ປັດໃຈ ພາຍໃນ ແລະ ພາກພື້ນ ຂອງພື້ນທີ່ຕົວແບບ ທີ່ຈະພິຈາລະນາເຂົ້າໃນການວາງແຜນແນວຄວາມຄິດພື້ນທີ່. ການສຳຫຼວດໄດ້ດຳເນີນໂດຍການຈັດການສຳຫຼວດພາກສະໜາມ ແລະ ການວິເຄາະຂໍ້ມູນດິຈິຕອນ. ເພື່ອນຳຕ້ອງການຂອງຊຸມຊົນເຂົ້າໃນແຜນແນວຄວາມຄິດພື້ນທີ່ ແມ່ນໄດ້ເກັບກຳຄວາມຄິດເຫັນຂອງຊຸມຊົນໂດຍຜ່ານການສຳຫຼວດແບບສອບຖາມ ແລະ ປຶກສາຫາລືກັນໃນກອງປະຊຸມ. ກອບວຽກລວມຂອງການສຳຫຼວດສະພາບໃນປະຈຸບັນແມ່ນສະແດງຢູ່ໃນ ຮູບ 3-1.



ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 3-1: ກອບວຽກລວມຂອງການວິເຄາະສະພາບປະຈຸບັນ ເພື່ອ ການວາງແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ

ສຳລັບການວິເຄາະສະພາບປະຈຸບັນຂອງພື້ນທີ່ຕົວແບບ ແມ່ນໃຊ້ວິທີການວິເຄາະ SWOT (ຈຸດດີ, ຈຸດອ່ອນ, ກາລະໂອກາດ ແລະ ໄພຂົ່ມຂູ່) ເພື່ອປະເມີນສະພາບພື້ນທີ່ຕົວແບບ ແລະ ທຳແຮງປົ່ມຊ້ອນທີ່ຈະໄດ້ຮັບການປັບປຸງ ຫຼື ປັບປຸງໂດຍການການພັດທະນາຕົວເມືອງ. ໂຄງຮ່າງຂອງວິທີການວິເຄາະ SWOT ແມ່ນສະແດງດັ່ງຕໍ່ໄປນີ້:

ການວິເຄາະ SWOT:

ການວິເຄາະ SWOT ແມ່ນກອບວຽກທີ່ໃຊ້ເຂົ້າໃນການປະເມີນທີ່ຕັ້ງ ແລະ/ຫຼື ເພື່ອການວາງແຜນຍຸດທະສາດ. ການວິເຄາະ SWOT ແມ່ນປະເມີນປັດໃຈພາຍໃນ ແລະ ພາຍນອກ ລວມໄປເຖິງ ທຳແຮງປົ່ມຊ້ອນ ໃນປະຈຸບັນ ແລະ ອະນາຄົດ. ນອກນັ້ນ, ມັນຊ່ວຍໃຈແຍກໃຫ້ເຫັນ ຈຸດດີ, ຈຸດອ່ອນ, ກາລະໂອກາດ, ແລະ ໄພຂົ່ມຂູ່ດັ່ງຕໍ່ໄປນີ້.

- ຈຸດດີ (Strengths “S”): ລັກສະນະພາຍໃນ ຕົວຢ່າງປະກອບມີຄວາມເຂັ້ມແຂງດ້ານວິຊາການ, ຄວາມຮູ້ທີ່ຄົບຖ້ວນ ຫຼື ຖານລູກຄ້າຂະໜາດໃຫຍ່.
- ຈຸດອ່ອນ (Weaknesses “W”): ປັດໃຈພາຍໃນມີລັກສະນະຂາດເຫຼືອ. ອາດຈະເປັນພື້ນທີ່ທີ່ບໍ່ມີການນຳໃຊ້ເທົ່າທີ່ຄວນ, ມີຄ່າໃຊ້ຈ່າຍທີ່ສູງໃນການພັດທະນາ ຫຼື ລະບົບທີ່ລ້າສະໄໝ.

- ກາລະໂອກາດ (Opportunities “O”): ທີ່ເກີດຈາກປັດໄຈພາຍນອກ ທີ່ສາມາດເສີມສ້າງທີ່ຕັ້ງຂອງພື້ນທີ່ຕົວແບບໄດ້. ອາດຈະປະກອບມີ ຊ່ອງຫວ່າງດ້ານການຕະຫຼາດ ຫຼື ພື້ນທີ່ ທີ່ຍັງບໍ່ທັນໄດ້ສຶກສາລະອຽດ.
- ໄພຂົ່ມຂູ່ (Threats “T”): ປັດໄຈພາຍນອກ ທີ່ສາມາດກໍ່ໃຫ້ເກີດບັນຫາ ແຕ່ບໍ່ຄືກັນກັບຈຸດອ່ອນ (ທີ່ເກີດຈາກປັດໄຈພາຍໃນ), ໄພຂົ່ມຂູ່ແມ່ນສິ່ງທີ່ບໍ່ສາມາດຄວບຄຸມໄດ້.

3.2 ປັດໄຈພາກພື້ນ

(1) ວິທີການເກັບກຳຂໍ້ມູນປັດໄຈພາກພື້ນ

ການເກັບກຳຂໍ້ມູນປັດໄຈພາກພື້ນສ່ວນໃຫຍ່ແມ່ນການສຳຫຼວດບັນດາຂໍ້ມູນກ່ຽວກັບນະໂຍບາຍຂອງລັດ, ແຜນການ ແລະ ລະບຽບການຂອງພະແນກ ແລະ ກະຊວງຂອງລັດຖະບານ ສປປລາວ. ນອກຈາກນີ້, ຍັງມີຂໍ້ມູນສະຖິຕິປະຊາກອນ ແລະ ຕະຫຼາດອະສັງຫາລິມະຊັບ ແລະ ການລົງທຶນຂອງນະຄອນຫຼວງວຽງຈັນ ແລະ ພາກພື້ນອີກດ້ວຍ. ຂໍ້ມູນທີ່ເກັບກຳແມ່ນມີດັ່ງລຸ່ມນີ້:

[ນະໂຍບາຍ ແລະ ແຜນການຂອງລັດຖະບານ]

- ແຜນພັດທະນາເສດຖະກິດ-ສັງຄົມແຫ່ງຊາດ 5 ປີ ຄັ້ງທີ 9 (2021-2025)
- ແຜນພັດທະນາ 5 ປີ ຂອງ ກະຊວງ ໂຍທາທິການ ແລະ ຂົນສົ່ງ (2021-2025)
- ແຜນພັດທະນາ 5 ປີ ຂອງ ພະແນກ ແຜນການ ແລະ ການລົງທຶນ (2021-2025)
- ແຜນພັດທະນາ 5 ປີ ຂອງ ພະແນກ ຊັບພະຍາກອນທຳມະຊາດ ແລະ ສິ່ງແວດລ້ອມ (2021-2025)
- ແຜນພັດທະນາ 5 ປີ ຂອງ ພະແນກ ຖະແຫຼງຂ່າວ, ວັດທະນາທຳ ແລະ ທ່ອງທ່ຽວ (2021-2025)
- ແຜນພັດທະນາ 5 ປີ ຂອງ ພະແນກ ກະສິກຳ ແລະ ປ່າໄມ້ (2021-2025)

[ແຜນຜັງເມືອງ ແລະ ລະບຽບການນຳໃຊ້ທີ່ດິນ]

- ລະບຽບການນຳໃຊ້ທີ່ດິນ ຂອງ ກະຊວງ ຊັບພະຍາກອນທຳມະຊາດ ແລະ ສິ່ງແວດລ້ອມ
- ລະບຽບການນຳໃຊ້ທີ່ດິນ ຂອງ ກະຊວງ ໂຍທາທິການ ແລະ ຂົນສົ່ງ

[ປະຊາກອນ]

- ຂໍ້ມູນປະຊາກອນ ແລະ ຄົວເຮືອນ ຂອງ ນະຄອນຫຼວງວຽງຈັນ

[ລາຄາ/ ຕະຫຼາດ ອະສັງຫາລິມະຊັບ]

- ຄົ້ນຄວ້າເບິ່ງຂໍ້ມູນປະກາດຊື້-ຂາຍອະສັງຫາລິມະຊັບ

[ໂຄງການລົງທຶນ]

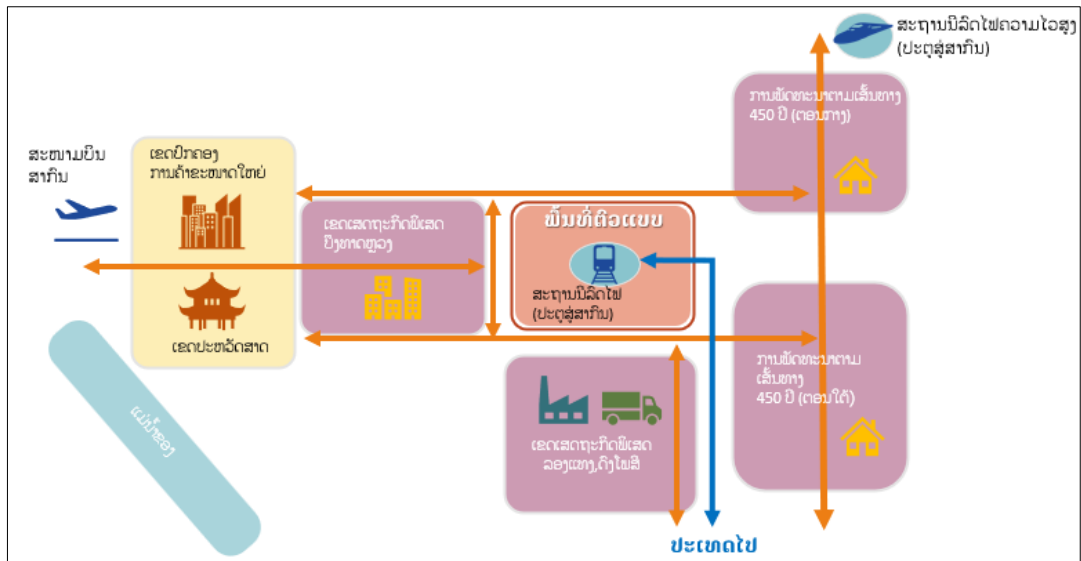
- ໂຄງການລົງທຶນແຫ່ງຊາດ ຢູ່ ນວ

[ການຂົນສົ່ງສາທາລະນະ]

- ຂໍ້ມູນກ່ຽວກັບທາງລົດໄຟ, ລົດເມ ແລະ ສະໜາມບິນ

(2) ທີ່ຕັ້ງຂອງພື້ນທີ່ຕົວແບບໃນພາກພື້ນ

ຮູບ 3-2 ສະແດງໃຫ້ເຫັນຮູບແບບ schematic ຂອງທີ່ຕັ້ງພື້ນທີ່ຕົວແບບໃນພາກພື້ນ. ພື້ນທີ່ຕົວແບບແມ່ນຕັ້ງຢູ່ລະຫວ່າງເຈາງເມືອງ ແລະ ເຂດພັດທະນາຂະໜາດໃຫຍ່ໃນນະຄອນຫຼວງວຽງຈັນ, ຫ່າງຈາກເຈາງເມືອງ 7 ກິໂລແມັດ. ສະຖານີລົດໄຟ ລາວ-ໄທ ຄຳສະຫວາດ ກໍ່ຕັ້ງຢູ່ພາຍໃນພື້ນທີ່ຕົວແບບ ເຊິ່ງເຮັດໃຫ້ເປັນເຂດສູນກາງການຂົນສົ່ງສຳລັບການເດີນທາງລະຫວ່າງປະເທດ ຈາກ/ໄປ ປະເທດໄທ. ເຂດພັດທະນາຂະໜາດໃຫຍ່ທີ່ຢູ່ອ້ອມຂ້າງ ເຊັ່ນ: SEZ ຈະຊຸກຍູ້ໃຫ້ມີທ່າແຮງດ້ານເສດຖະກິດການທ່ອງທ່ຽວ, ອຸດສາຫະກຳ ແລະ ທີ່ຢູ່ອາໄສ.



ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 3-2: ໂມເດລ Schematic ທີ່ຕັ້ງພື້ນທີ່ຕົວແບບໃນພາກພື້ນ

(3) ນະໂຍບາຍ ແລະ ແຜນການຂອງລັດຖະບານ

ອົງປະກອບສຳຄັນຂອງນະໂຍບາຍ ແລະ ແຜນການຂອງລັດຖະບານແຫ່ງຊາດ ແລະ ຂອງນະຄອນຫຼວງວຽງຈັນ ເພື່ອການພັດທະນາຕົວເມືອງ ແມ່ນໄດ້ສະຫຼຸບໃນ ຕາຕະລາງ 3-1. ແຜນແນວຄວາມຄິດພື້ນທີ່ ຕ້ອງການສະໜັບສະໜູນ ແລະ ສົມທົບກັບອົງປະກອບເຫຼົ່ານີ້ ເພື່ອໃຫ້ມີບູລິມະສິດຂອງການພັດທະນາຕົວເມືອງ.

ຕາຕະລາງ 3-1: ນະໂຍບາຍ ແລະ ແຜນການລັດຖະບານ ທີ່ຕິດພັນກັບເຂດພື້ນທີ່ຕົວແບບ

ລາຍການ	ອົງປະກອບຫຼັກ ຂອງ ນະໂຍບາຍ ແລະ ແຜນການລັດຖະບານ
ນະໂຍບາຍລັດຖະບານແຫ່ງຊາດ	
ນະໂຍບາຍຫຼັກຂອງການພັດທະນາຕົວເມືອງ	- ພັດທະນາຕົວເມືອງແບບຍືນຍົງ/ ພື້ນຖານໂຄງລ່າງທີ່ທົນທານ - ສົ່ງເສີມການລົງທຶນ, ການຄ້າ ແລະ ການທ່ອງທ່ຽວ - ສ້າງກາລະໂອກາດໃນການຊອກວຽກເຮັດງານທຳ ແລະ ລາຍຮັບ - ຫຼຸດຜ່ອນຊ່ອງຫວ່າງໃນການພັດທະນາ ລະຫວ່າງຕົວເມືອງ ແລະ ຊົນນະບົດ - ສ້າງຕົວແບບຂອງເມືອງອັດສະລິຍະ
ນະໂຍບາຍ ຂອງ ຂະແໜງການ ຢູ່ ນວ	
ການພັດທະນາຕົວເມືອງ	- ສົ່ງເສີມການນຳໃຊ້ເຕັກນິກທີ່ທັນສະໄໝ - ປົກປັກຮັກສາ/ປັບປຸງສະພາບແວດລ້ອມຂອງຕົວເມືອງ - ຊຸກຍູ້ໃຫ້ມີທີ່ຢູ່ອາໄສຕາມມາດຕະຖານການເຕີບໂຕສີຂຽວ - ປັບປຸງທັດສະນີຍະພາບຂອງເສັ້ນທາງຫຼັກ - ຂະຫຍາຍການສະໜອງສາທາລະນະບໍລິໂພກ
ການຂົນສົ່ງ	- ປັບປຸງຕາໜ່າງເສັ້ນທາງ ແລະ ພື້ນທີ່ຄົນຍ່າງ - ປັບປຸງລະບົບການຂົນສົ່ງສາທາລະນະໃຫ້ທັນສະໄໝ - ການຂົນສົ່ງໃນຕົວເມືອງແບບຍືນຍົງ (ລົດເມດ່ວນ BRT) - ລົດໄຟຟ້າ (ລວມທັງສະຖານີສາກໄຟ ແລະ ອຸດສາຫະກຳຜູ້ສະໜອງ) - ການຄຸ້ມຄອງບ່ອນຈອດລົດແຄມທາງ
ວັດທະນະທຳ ແລະ ການທ່ອງທ່ຽວ	- ພັດທະນາການທ່ອງທ່ຽວເພື່ອສົ່ງເສີມການທ່ອງທ່ຽວທຳມະຊາດ, ວັດທະນະທຳ ແລະ ປະຫວັດສາດ - ຈັດເທດສະການທ່ອງທ່ຽວ ເພື່ອດຶງດູດນັກທ່ອງທ່ຽວພາຍໃນ ແລະ ຕ່າງປະເທດ - ຍົກລະດັບການຄຸ້ມຄອງການທ່ອງທ່ຽວ ແລະ ທັກສະພາສາຕ່າງປະເທດ
ການລົງທຶນ	ຂະຫຍາຍນະຄອນຫຼວງວຽງຈັນໃຫ້ເປັນເມືອງຂະໜາດກາງທີ່ມີປະຊາກອນ 2 ລ້ານຄົນໃນປີ

ລາຍການ	ອົງປະກອບຫຼັກ ຂອງ ນະໂຍບາຍ ແລະ ແຜນການລັດຖະບານ
	2030 - ສົ່ງເສີມການລົງທຶນ, ການຄ້າ ແລະ ການທ່ອງທ່ຽວ - ສ້າງວຽກເຮັດງານທຳເພື່ອສ້າງລາຍຮັບ - ປັບປຸງລະບົບບຳບັດສິ່ງເສດເຫຼືອ ແລະ ການປົກປັກຮັກສາສິ່ງແວດລ້ອມ
ຊັບພະຍາກອນທຳມະຊາດ ແລະ ສິ່ງແວດລ້ອມ	- ສ້າງນະຄອນຫຼວງວຽງຈັນໃຫ້ເປັນເມືອງສີຂຽວ-ສະອາດ-ສວຍງາມ-ຍືນຍົງ - ຮັບປະກັນການນຳໃຊ້, ຄຸ້ມຄອງ ແລະ ປົກປັກຮັກສາຊັບພະຍາກອນທຳມະຊາດແບບຍືນຍົງ - ສ້າງຄວາມເຂັ້ມແຂງໃນການຮັບມືກັບການປ່ຽນແປງດິນຟ້າອາກາດ ແລະ ໄພພິບັດທຳມະຊາດ - ປັບປຸງລະບົບການຄຸ້ມຄອງທີ່ດິນ
ກະສິກຳ	- ຮັບປະກັນການເຕີບໂຕທາງດ້ານເສດຖະກິດທີ່ໝັ້ນຄົງ, ຄວາມປອດໄພດ້ານສະບຽງອາຫານ ແລະ ຄຸນນະພາບ - ສ້າງວຽກເຮັດງານທຳ ແລະ ສ້າງລາຍຮັບໃຫ້ແກ່ປະຊາຊົນ - ຫຼຸດຜ່ອນໄລຍະການເດີນທາງລະຫວ່າງຕົວເມືອງ ແລະ ຊົນນະບົດ - ປົກປັກຮັກສາເອກະລັກວັດທະນະທຳຂອງຊົນເຜົ່າລາວ

ແຫຼ່ງຂໍ້ມູນ: ແຜນພັດທະນາເສດຖະກິດ-ສັງຄົມແຫ່ງຊາດ 5 ປີ ຄັ້ງທີ 9 (2021-2025)

ແຜນພັດທະນາ 5 ປີ ຂອງ ກະຊວງ ໂຍທທາທິການ ແລະ ຂົນສົ່ງ (2021-2025)

ແຜນພັດທະນາ 5 ປີ ຂອງ ພະແນກ ແຜນການ ແລະ ການລົງທຶນ (2021-2025)

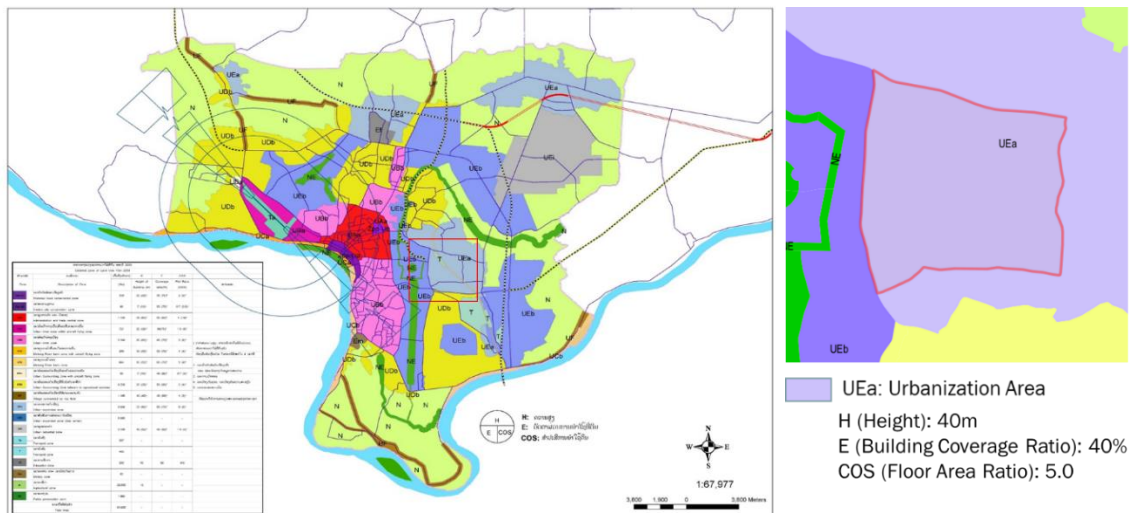
ແຜນພັດທະນາ 5 ປີ ຂອງ ພະແນກ ຊັບພະຍາກອນທຳມະຊາດ ແລະ ສິ່ງແວດລ້ອມ (2021-2025)

ແຜນພັດທະນາ 5 ປີ ຂອງ ພະແນກ ຖະແຫຼງຂ່າວ, ວັດທະນາທຳ ແລະ ທ່ອງທ່ຽວ (2021-2025)

ແຜນພັດທະນາ 5 ປີ ຂອງ ພະແນກ ກະສິກຳ ແລະ ປ່າໄມ້ (2021-2025)

(4) ແຜນຜັງເມືອງ

ອີງຕາມ ແຜນຜັງການນຳໃຊ້ທີ່ດິນລວມ ຂອງ ນະຄອນຫຼວງວຽງຈັນ ທີ່ຮັບຮອງໂດຍ ສະພາແຫ່ງຊາດ ໃນເດືອນພະຈິກ 2020 (ເບິ່ງ ຮູບ 3-3), ພື້ນທີ່ຕົວແບບຕັ້ງຢູ່ເຂດ UEa (ເຂດຫັນເປັນຕົວເມືອງ) ທີ່ຖືກກຳນົດເປັນເຂດສົ່ງເສີມການພັດທະນາຕົວເມືອງ. ເຂດ UEa ມີການຄວບຄຸມການນຳໃຊ້ທີ່ດິນ ຄວາມສູງອາຄານສູງສຸດ ແມ່ນ 40ແມັດ, ອັດຕາສ່ວນການນຳໃຊ້ທີ່ດິນ 40% ແລະ ສຳປະສິດການນຳໃຊ້ທີ່ດິນແມ່ນ 5.0 . ກົດລະບຽບການນຳໃຊ້ທີ່ດິນ ລະບຸໃນ ແຜນຜັງການນຳໃຊ້ທີ່ດິນລວມ ແມ່ນຍັງຢູ່ໃນການປັບປຸງໂດຍນະຄອນຫຼວງວຽງຈັນ.



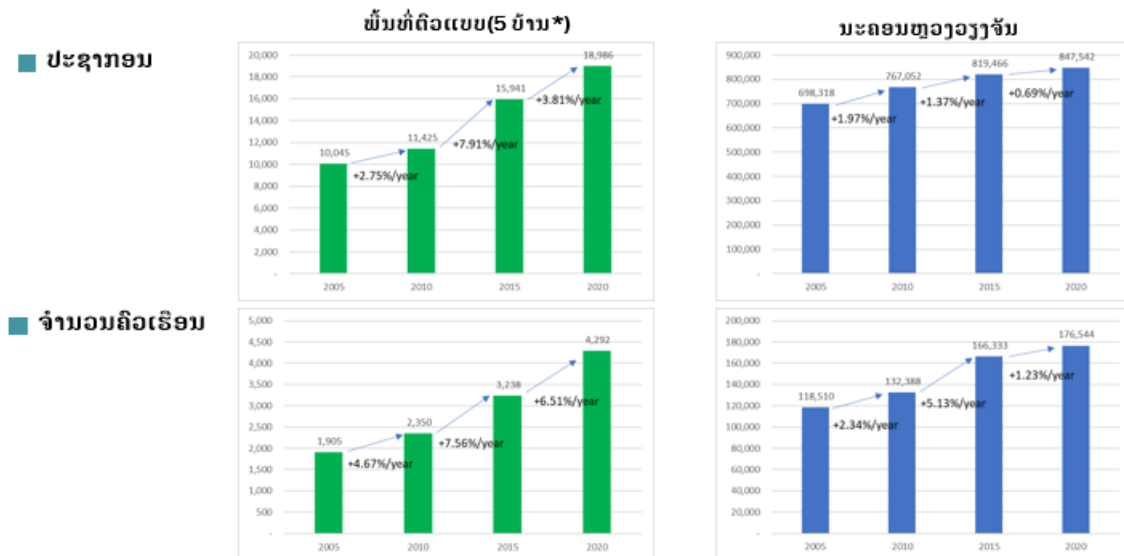
ແຫຼ່ງຂໍ້ມູນ: ກົມເຄຫາ ແລະ ຜັງເມືອງ, ກະຊວງ ຍທຂ

ຮູບ 3-3: ແຜນຜັງນຳໃຊ້ທີ່ດິນລວມ ຢູ່ ນະຄອນຫຼວງວຽງຈັນ

(5) ປະຊາກອນ

ຂໍ້ມູນຈຳນວນປະຊາກອນແຕ່ປີ 2005 ຫາ 2020 ທົ່ວນະຄອນຫຼວງວຽງຈັນ ແມ່ນເກັບກຳມາຈາກສູນສະຖິຕິແຫ່ງຊາດ ກະຊວງ ແຜນການ ແລະ ການລົງທຶນ. ຂໍ້ມູນປະຊາກອນນີ້ແມ່ນຈຳນວນປະຊາກອນ ຕາມເມືອງ ແລະ ບ້ານ. ການປ່ຽນແປງຂອງປະຊາກອນ ແລະ ຈຳນວນຄົວເຮືອນໃນເຂດພື້ນທີ່ຕົວແບບ ແລະ ນະຄອນຫຼວງວຽງຈັນທັງໝົດ ແມ່ນສະແດງຢູ່ໃນ ຮູບ 3-4.

ຈຳນວນປະຊາກອນ ແລະ ຄົວເຮືອນໃນເຂດພື້ນທີ່ຕົວແບບແມ່ນເພີ່ມຂຶ້ນຢ່າງໄວວາ ເມື່ອສົມທຽບກັບນະຄອນຫຼວງວຽງຈັນທັງໝົດ ເຊິ່ງຊີ້ໃຫ້ເຫັນເຖິງຄວາມຕ້ອງການດ້ານທີ່ຢູ່ອາໄສທີ່ສູງຂຶ້ນໃນພື້ນທີ່ທົດລອງ.



ຈຳນວນ 5ບ້ານ:ບ້ານຄຳສະຫວາດ, ບ້ານໂນນຫວາຍ, ບ້ານເມືອງນ້ອຍ, ບ້ານຊຽງດາ ແລະ ບ້ານສົມສະຫງ່າ
ແຫຼ່ງຂໍ້ມູນ: ປຶ້ມຂໍ້ມູນສະຖິຕິຈຳນວນປະຊາກອນ ປີ 2005-2020, ສູນຂໍ້ມູນແຫ່ງຊາດ, ກະຊວງ ແຜນການ ແລະ ການລົງທຶນ

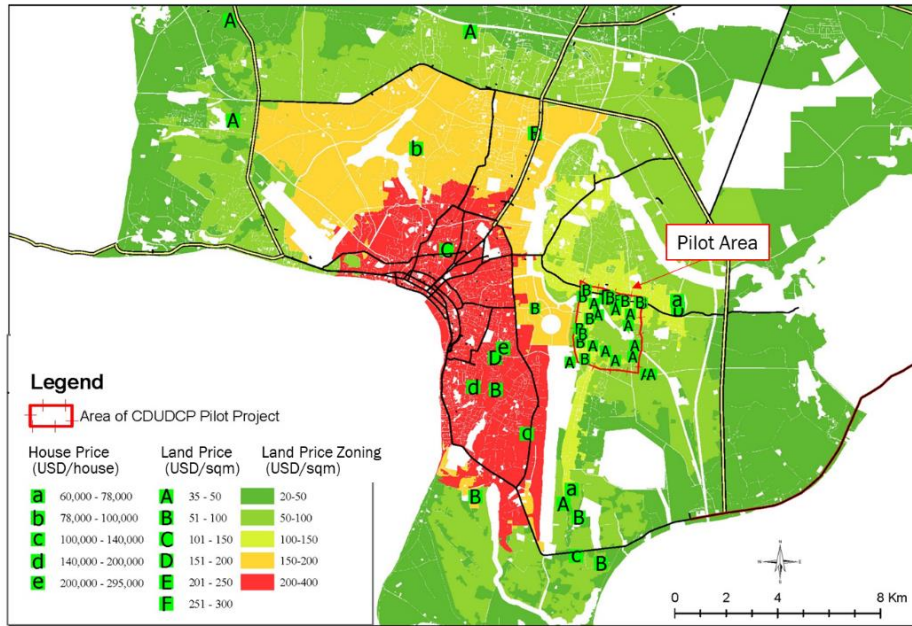
ຮູບ 3-4: ຈຳນວນປະຊາກອນ ແລະ ຄົວເຮືອນໃນເຂດພື້ນທີ່ຕົວແບບ ແລະ ນະຄອນຫຼວງວຽງຈັນ

(6) ຕະຫຼາດອະສັງຫາລິມະຊັບ

ຂໍ້ມູນລາຄາອະສັງຫາລິມະຊັບ (ຊື້-ຂາຍ) ແມ່ນເກັບກຳມາຈາກຂໍ້ມູນປະກາດຊື້-ຂາຍທາງອອນລາຍ ໃນ ນວ ແລະ ພື້ນທີ່ຕົວແບບ. ສະຖານທີ່ອະສັງຫາລິມະຊັບທີ່ມີ ລະດັບລາຄາຂາຍ ແລະ ລາຄາຕະຫຼາດທີ່ຕີນຕາມເຂດ ທີ່ໄດ້ກັບກຳມາແມ່ນສະແດງຢູ່ໃນ ຮູບ 3-5. ລາຄາທີ່ຕີນໃນເຂດພື້ນທີ່ຕົວແບບ ແລະ ນອກເຂດແມ່ນມີການຈັດປະເພດດັ່ງນີ້:

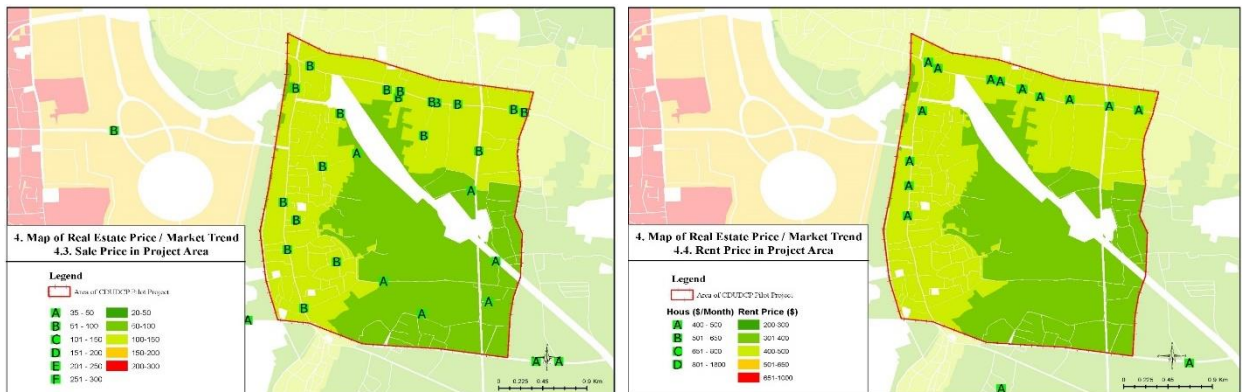
- ເຂດພື້ນທີ່ຕົວແບບ: 50 - 100 ໂດລາ/ຕາແມັດ
- ເຂດ SEZ ບຶງທາດຫຼວງ: 150 - 200 ໂດລາ/ ຕາແມັດ
- ເຂດໃຈກາງຕົວເມືອງນະຄອນຫຼວງວຽງຈັນ: 200 - 400 ໂດລາ/ ຕາແມັດ

ໃນປະຈຸບັນນີ້, ລາຄາດິນຢູ່ເຂດພື້ນທີ່ຕົວແບບ ແມ່ນ ຢູ່ໃນລະດັບແຕ່ 50 – 100 ໂດລາ/ຕາແມັດ ເຊິ່ງເຫັນໄດ້ຢ່າງຊັດເຈນວ່າ ມີ ລາຄາທີ່ຕ່ຳກວ່າເຂດທີ່ຖືກພັດທະນາແລ້ວ ທີ່ຢູ່ ນອກເຂດພື້ນທີ່ຕົວແບບ ເນື່ອງຈາກເຂດພື້ນທີ່ຕົວແບບ ຂາດພື້ນຖານໂຄງລ່າງ.



ແຫຼ່ງຂໍ້ມູນ: ການຄົ້ນຄວ້າຕະຫຼາດທີ່ດິນ ແລະ ການສຳຫຼວດພາກສະໜາມ ໂດຍ ໂຄງການ CDUDCP

ຮູບ 3-5: ແຜນທີ່ລາຄາຕອນດິນຕາມເຂດ ໃນ ນະຄອນຫຼວງວຽງຈັນ



ແຫຼ່ງຂໍ້ມູນ: ການຄົ້ນຄວ້າຕະຫຼາດທີ່ດິນ ແລະ ການສຳຫຼວດພາກສະໜາມ ໂດຍ ໂຄງການ CDUDCP

ຮູບ 3-6: ລາຄາ ຊື້-ຂາຍ-ເຊົ່າ ອະລັງຫາລິມະຊັບ ຢູ່ ເຂດພື້ນທີ່ຕົວແບບ

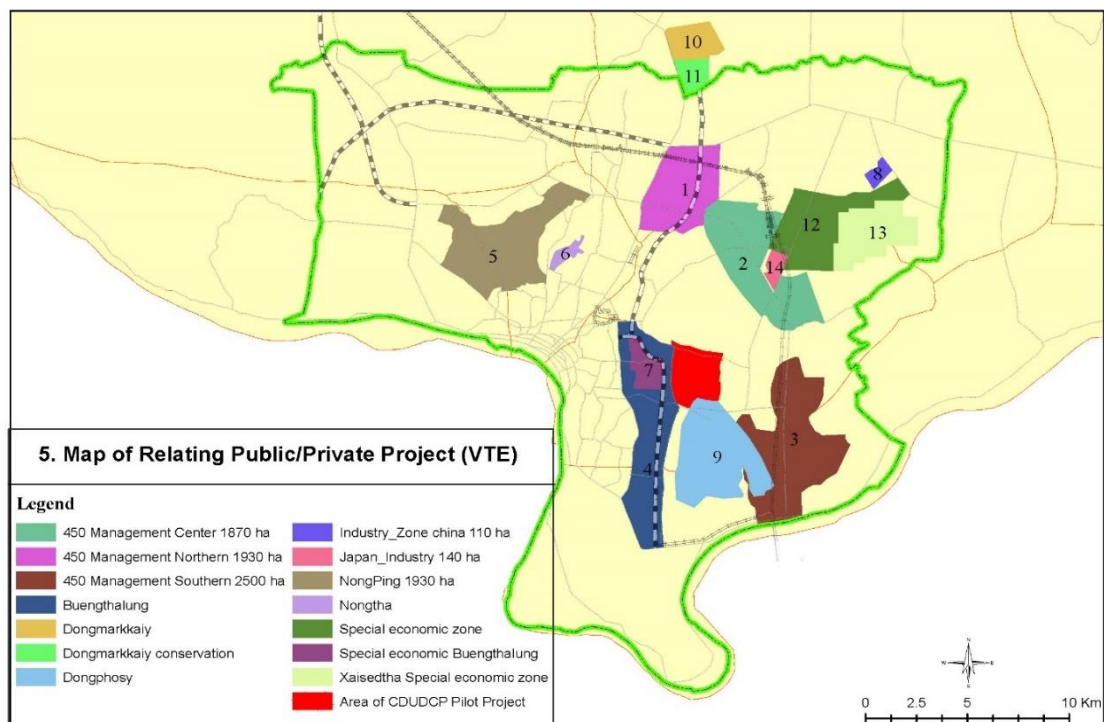
(7) ໂຄງການລົງທຶນ

ໂຄງການລົງທຶນຂະໜາດໃຫຍ່ຢູ່ນະຄອນຫຼວງວຽງຈັນ, ບັນດາໂຄງການ SEZ ທີ່ຕັ້ງຢູ່ 10ຈຸດ ແມ່ນກຳລັງຈັດຕັ້ງປະຕິບັດ ແລະ ວາງແຜນໄວ້ແລ້ວ. ຕາຕະລາງ 3-2 ແລະ ຮູບ 3-7 ແມ່ນໄດ້ສະຫຼຸບເນື້ອໃນໂຄງການລົງທຶນ ແລະ ທີ່ຕັ້ງຂອງໂຄງການ

ຕາຕະລາງ 3-2: ເນື້ອໃນໂຄງການລົງທຶນຂະໜາດໃຫຍ່ ຢູ່ ນະຄອນຫຼວງວຽງຈັນ

No.	Description	Investment Type	Value	Area (Ha)	Commencement Year	Concession Period
I.	Investment in Vientiane Capital					
1	Nongping Development SEZ Project	Urban & Housing Estate				
2	Nongtha Development SEZ Project	Urban & Housing Estate				
3	North 450 Year-old Road Development SEZ Project	Logistics and Warehouse				
4	Central 450 Year-old Road Development SEZ Project	Logistics and Warehouse				
5	South 450 Year-old Road Development SEZ Project	Logistics and Warehouse				
6	Thatluang Lake Development SEZ Project	Commercial Building	1,600,000 USD	365 Ha	2011	99 Years
7	Dongphosy Development SEZ Project	Commercial Building	50,000,000 USD	53.94 Ha	2009	50 Years
8	Xaysettha Development SEZ Project	Industrial Factory	128,000,000 USD	1,000 Ha	2011	50 Years
9	Vientiane Industry Trade Area Development SEZ Project	Industrial Factory	43,000,000 USD	110 Ha	2009	75 Years
10	Longhang Vientiane Development SEZ Project	Golf, Hotel & Resort	1,000,000,000 USD	557.75 Ha	2012	50 Years

ແຫຼ່ງຂໍ້ມູນ: ກົມເຄສາ ແລະ ຜັງເມືອງ, ກະຊວງ ຍທຂ ແລະ ຫ້ອງການຄຸ້ມຄອງເຂດເສດຖະກິດພິເສດ ນະຄອນຫຼວງວຽງຈັນ



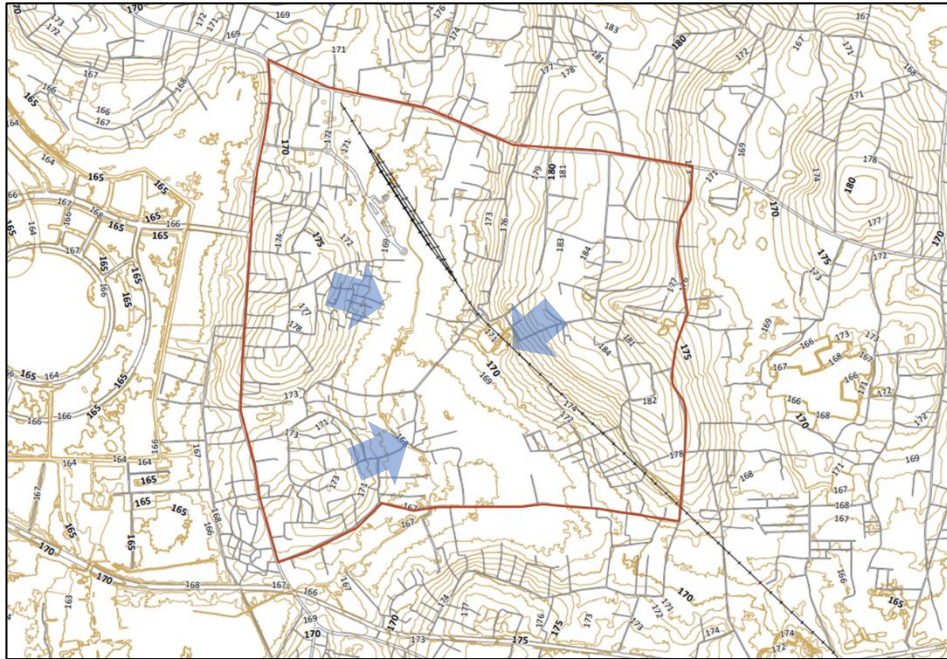
ແຫຼ່ງຂໍ້ມູນ: ພະແນກ ໂຍທາທິການ ແລະ ຂົນສົ່ງ ນະຄອນຫຼວງວຽງຈັນ

ຮູບ 3-7: ທີ່ຕັ້ງໂຄງການລົງທຶນຂະໜາດໃຫຍ່ ຢູ່ ນະຄອນຫຼວງວຽງຈັນ

3.3 ປັດໃຈພາຍໃນ

(1) ສະພາບພູມສັນຖານ

ຮູບ 3-8 ສະແດງໃຫ້ເຫັນສະພາບພູມສັນຖານຂອງພື້ນທີ່ທີ່ກຳນົດ. ພື້ນທີ່ທີ່ກຳນົດຕັ້ງຢູ່ລະດັບຄວາມສູງ 167 ຫາ 184 ແມັດ. ສ່ວນຕ່ຳສຸດແມ່ນພື້ນທີ່ລຽບຕາມຄອງທີ່ມີຢູ່ ທີ່ ໄຫຼ່ຈາກເໜືອໄປເຂດໃຕ້ ຂອງເຂດໃຈກາງພື້ນທີ່ຕົວແບບ.

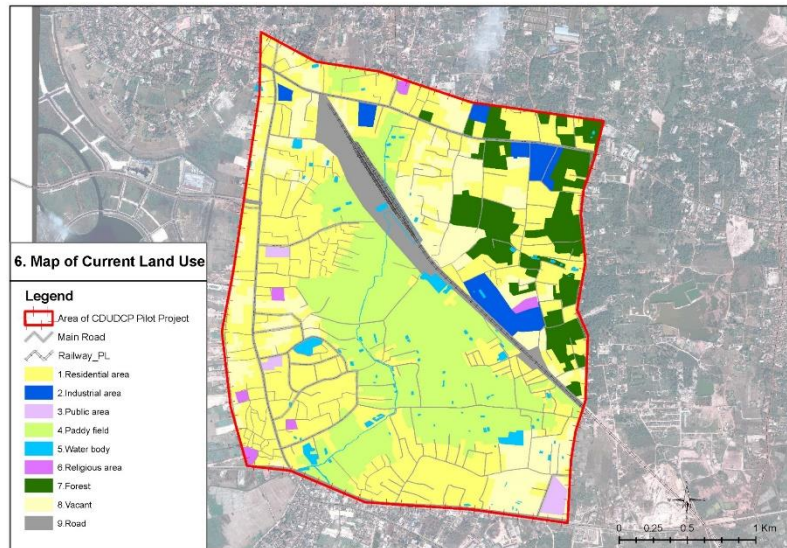


ແຫຼ່ງຂໍ້ມູນ: ແຜນທີ່ພູມສັນຖານ Topographical Map ໂດຍ CDUDCP

ຮູບ 3-8: ສະພາບພູມສັນຖານຂອງພື້ນທີ່ຕົວແບບ

(2) ການນຳໃຊ້ທີ່ດິນໃນປະຈຸບັນ

ຮູບ 3-9 ແລະ ຕາຕະລາງ 3-3 ແມ່ນການນຳໃຊ້ທີ່ດິນໃນປະຈຸບັນ ຂອງ ພື້ນທີ່ຕົວແບບ. ປະຈຸບັນນີ້, 51% ຂອງເນື້ອທີ່ດິນໃນພື້ນທີ່ຕົວແບບ ແມ່ນໃຊ້ເປັນດິນໃນຕົວເມືອງເຊັ່ນ: ດິນທີ່ຢູ່ອາໄສ, ດິນອຸດສາຫະກຳ ແລະ ພື້ນຖານໂຄງລ່າງ. ການນຳໃຊ້ທີ່ດິນໃນຕົວເມືອງເຫຼົ່ານີ້ສ່ວນຫຼາຍຕັ້ງຢູ່ຕາມເສັ້ນທາງຍຸດທະສາດ ແລະ ທາງຮ່ອມ ທີ່ຢູ່ ນອກເຂດພື້ນທີ່ຕົວແບບ. ເນື້ອທີ່ດິນທີ່ຍັງເຫຼືອ 49% ແມ່ນດິນການກະສິກຳ ແລະ ດິນເປົ່າວ່າງ ເຊິ່ງມີທ່າແຮງໃນການພັດທະນາ. ແນວໃດກໍ່ຕາມ, ປະຈຸບັນນີ້, ທີ່ດິນເຫຼົ່ານີ້ແມ່ນເຂົ້າເຖິງພື້ນຖານໂຄງລ່າງໄດ້ໜ້ອຍ.



ແຫຼ່ງຂໍ້ມູນ: ແຜນທີ່ພູມສັນຖານ ແລະ ການສຳຫຼວດພື້ນທີ່ຕົວຈິງ ໂດຍ CDUDCP

ຮູບ 3-9: ການນຳໃຊ້ທີ່ດິນໃນປະຈຸບັນ ຢູ່ ພື້ນທີ່ຕົວແບບ

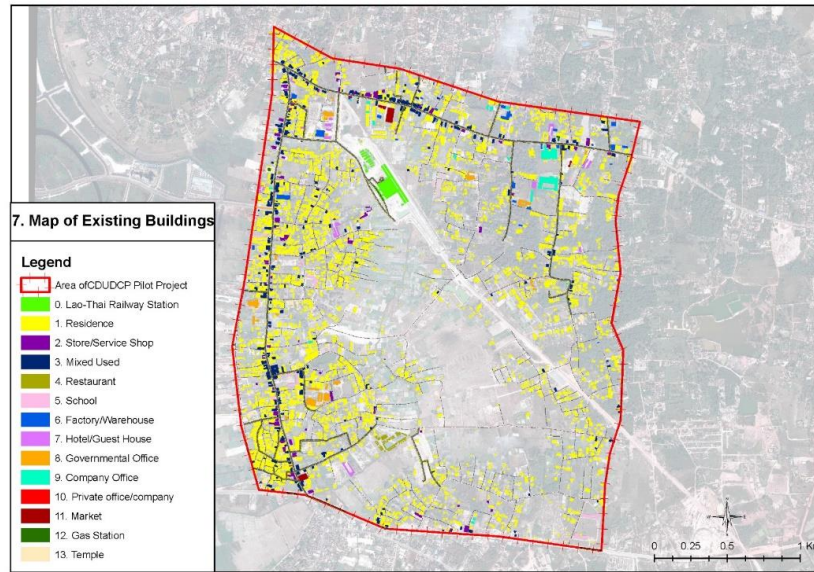
ຕາຕະລາງ 3-3: ສະຫຼຸບການນຳໃຊ້ທີ່ດິນໃນປະຈຸບັນ ຢູ່ ພື້ນທີ່ຕົວແບບ

ປະເພດການນຳໃຊ້ທີ່ດິນ	ເນື້ອທີ່ (ຕາແມັດ)	%
ເຂດນຳໃຊ້ທີ່ດິນໃນຕົວເມືອງ		
ເຂດທີ່ພັກອາໄສ	2,826,618	37%
ເຂດອຸສາຫະກຳ	223,235	3%
ເຂດສາທາລະນະ	60,015	1%
ເຂດວັດວາອາຮາມ	51,987	1%
ເຂດເສັ້ນທາງ ແລະ ທາງລົດໄຟ	770,579	10%
ລວມ	3,932,434	51%
ດິນກະສິກຳ ແລະ ເປົ່າຫວ່າງ		
ທີ່ງາມ	1,863,726	24%
ປ່າໄມ້	610,550	8%
ແຫຼ່ງນ້ຳ	128,477	2%
ດິນເປົ່າຫວ່າງ	1,117,358	15%
ລວມ	3,720,110	49%
ລວມທັງໝົດ	7,652,545	100%

ແຫຼ່ງຂໍ້ມູນ: ແຜນທີ່ພູມສັນຖານ ແລະ ການສຳຫຼວດພື້ນທີ່ຕົວຈິງ ໂດຍ CDUDCP

(3) ອາຄານທີ່ມີຢູ່

ຮູບ 3-10 ແລະ ຕາຕະລາງ 3-4 ສະແດງໃຫ້ເຫັນອາຄານທີ່ມີຢູ່ ໃນ ເຂດພື້ນທີ່ຕົວແບບ, ມີອາຄານທັງໝົດ 3,751 ຫຼັງ ໃນນັ້ນ 87% ຂອງອາຄານທັງໝົດ ແມ່ນໃຊ້ເປັນບ່ອນຢູ່ອາໄສທີ່ ແລະ ສ່ວນໃຫຍ່ແມ່ນຕັ້ງຢູ່ລຽບຕາມແຄມທາງ-ທາງຮ່ອມ. ການນຳໃຊ້ອາຄານອື່ນໆ ເຊັ່ນ: ການນຳໃຊ້ອາຄານເພື່ອຈຸດປະສົງການຄ້າ, ອຸດສາຫະກຳ ແລະ ສຳນັກງານລັດຖະບານ ແມ່ນຕັ້ງຢູ່ຕາມຖະໜົນສາຍທາງນອກທີ່ມີຢູ່ແລ້ວ.



ແຫຼ່ງຂໍ້ມູນ: ແຜນທີ່ພູມສັນຖານ ແລະ ການສຳຫຼວດພື້ນທີ່ຕົວຈິງ ໂດຍ CDUDCP

ຮູບ 3-10: ອາຄານທີ່ມີຢູ່ໃນເຂດພື້ນທີ່ຕົວແບບ

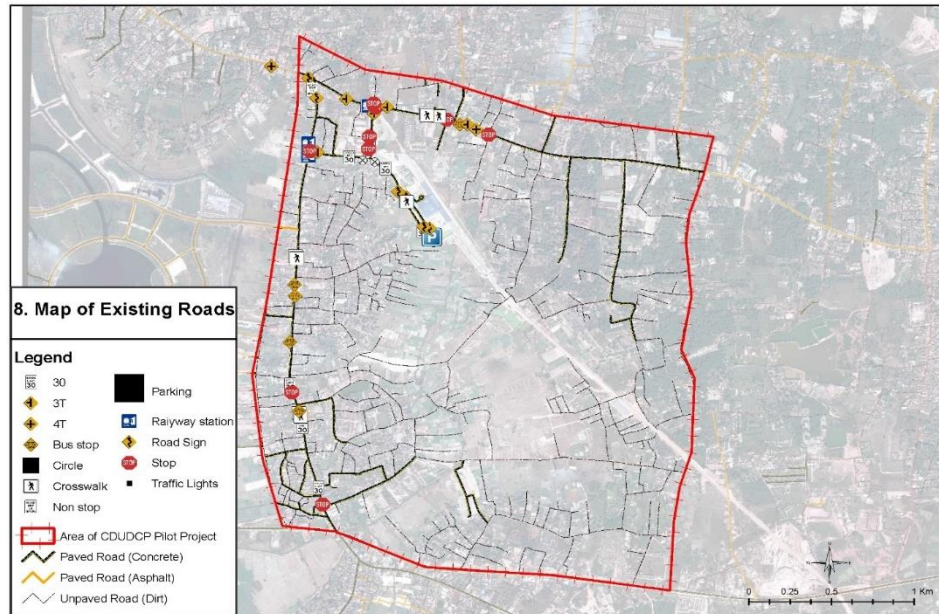
ຕາຕະລາງ 3-4: ຕາຕະລາງສະຫຼຸບອາຄານທີ່ມີຢູ່ ໃນ ເຂດພື້ນທີ່ຕົວແບບ

ປະເພດ		ຈຳນວນຫຼັງ
ເຮືອນ	ທີ່ຢູ່ອາໄສ	2,910
	ການນຳໃຊ້ທີ່ປະສົມປະສານ	365
	ລວມ	3,275
ການຄ້າ	ຕະຫຼາດ	4
	ຫ້າງຮ້ານ/ ບໍລິການ	115
	ຮ້ານອາຫານ	95
	ໂຮງແຮມ/ ເຮືອນພັກ	46
	ລວມ	260
ອຸດສາຫະກຳ	ຫ້ອງການ	30
	ໂຮງງານ	59
	ບຳນຳມັນ	2
	ລວມ	91
ການບໍລິຫານ ສາທາລະນະ	ຫ້ອງການລັດຖະບານ	36
	ສະຖານີລົດໄຟ ແລະ ສິ່ງອຳນວຍຄວາມ	
	ສະດວກ	22
	ໂຮງຮຽນ	25
	ວັດວາອາຮາມ	42
	ລວມ	125
ລວມທັງໝົດ		3,751

ແຫຼ່ງຂໍ້ມູນ: ແຜນທີ່ພູມສັນຖານ ແລະ ການສຳຫຼວດພື້ນທີ່ຕົວຈິງ ໂດຍ CDUDCP

(4) ເສັ້ນທາງທີ່ມີຢູ່

ຮູບ 3-11 ແລະ ຕາຕະລາງ 3-5 ແມ່ນສະແດງໃຫ້ເຫັນບັນດາເສັ້ນທາງທີ່ມີຢູ່ໃນເຂດພື້ນທີ່ຕົວແບບ. 76% ຂອງ ຄວາມຍາວທັງໝົດຂອງເສັ້ນທາງ ຢູ່ ເຂດພື້ນທີ່ຕົວແບບ ແມ່ນເປັນທາງຮ່ອມທີ່ຍັງບໍ່ທັນປຸງຢາງ. ເສັ້ນທາງທີ່ປຸງຢາງແລ້ວ ແມ່ນ ເສັ້ນທາງສາຍຫຼັກທີ່ຢູ່ນອກເຂດພື້ນທີ່ຕົວແບບ ທີ່ຜ່ານ ເຂດຕອນເໜືອ ແລະ ຕາເວັນຕົກຂອງພື້ນທີ່ຕົວແບບ, ທາງເຂົ້າ ສະຖານີລົດໄຟລາວ-ໄທ ແລະ ທາງຮ່ອມຫຼາຍເສັ້ນ.



ແຫຼ່ງຂໍ້ມູນ: ແຜນທີ່ພູມສັນຖານ ແລະ ການສຳຫຼວດພື້ນທີ່ຕົວຈິງ ໂດຍ CDUDCP

ຮູບ 3-11: ເສັ້ນທາງທີ່ມີຢູ່ ໃນ ເຂດພື້ນທີ່ຕົວແບບ

ຕາຕະລາງ 3-5: ຕາຕະລາງສະຫຼຸບເສັ້ນທາງທີ່ມີຢູ່ ໃນ ເຂດພື້ນທີ່ຕົວແບບ

ປະເພດເສັ້ນທາງ	ຄວາມຍາວ (ແມັດ)
ທາງປູຢາງ (ອັດສະພານ)	123.73
ທາງປູຢາງ (ຄອນກຣີດ)	15,812.36
ທາງບໍ່ທັນປູຢາງ (ທາງດິນແດງ)	51,062.10
ລວມທັງໝົດ	66,998.20

ແຫຼ່ງຂໍ້ມູນ: ແຜນທີ່ພູມສັນຖານ ແລະ ການສຳຫຼວດພື້ນທີ່ຕົວຈິງ ໂດຍ CDUDCP



ທາງປູຢາງຄອນກຣີດ (ເສັ້ນທາງສາຍຫຼັກຮອບນອກ)

ແຫຼ່ງຂໍ້ມູນ: ສຳຫຼວດພື້ນທີ່ຕົວຈິງ ໂດຍ CDUDCP

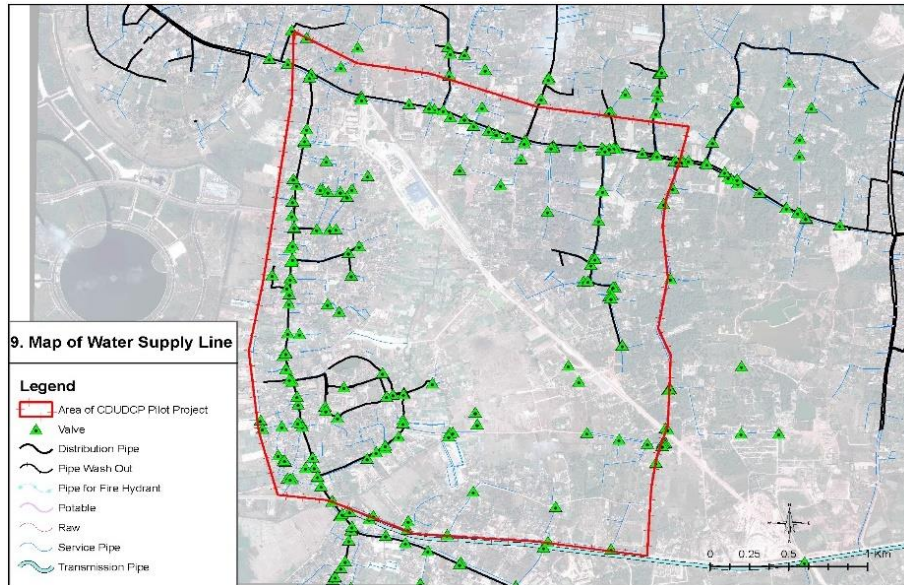


ທາງບໍ່ທັນປູຢາງ

ຮູບ 3-12: ເສັ້ນທາງທີ່ມີຢູ່ໃນເຂດພື້ນທີ່ຕົວແບບ

(5) ນ້ຳປະປາ

ຮູບ 3-13 ແມ່ນການບໍລິການນ້ຳປະປາທີ່ມີຢູ່ ເຂດພື້ນທີ່ຕົວແບບ. ຕາໜ່າງການບໍລິການນ້ຳປະປາບໍ່ໄດ້ກວມເອົາຕອນດິນທັງໝົດໃນເຂດພື້ນທີ່ຕົວແບບ ແລະ ໃຫ້ບໍລິການພຽງແຕ່ຕອນດິນລຽບຕາມເສັ້ນທາງສາຍຫຼັກຮອບນອກ ແລະ ທາງຮ່ອມສາຍຫຼັກ.

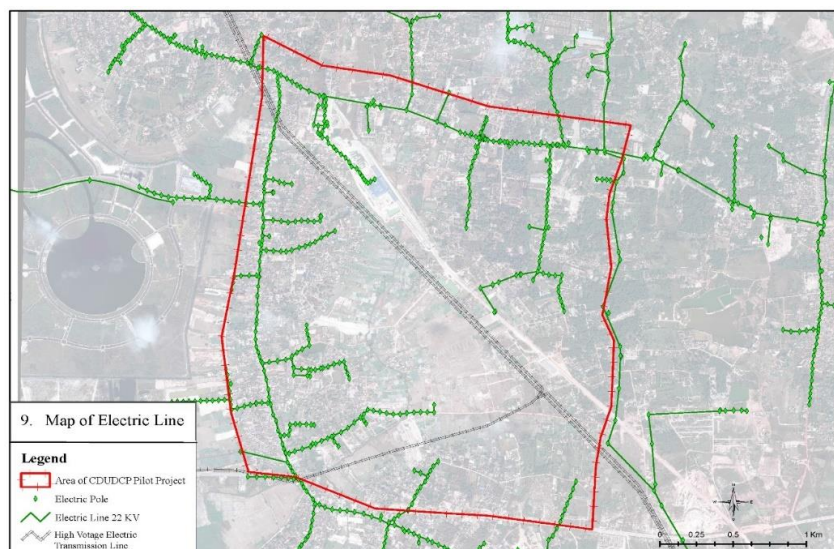


ແຫຼ່ງຂໍ້ມູນ: ລັດວິສາຫະກິດນ້ຳປະປານະຄອນຫຼວງວຽງຈັນ, 2021

ຮູບ 3-13: ການບໍລິການນ້ຳປະປາ ຢູ່ ເຂດພື້ນທີ່ຕົວແບບ

(6) ສາຍໄຟຟ້າ

ຮູບ 3-14 ສະແດງໃຫ້ເຫັນສາຍໄຟຟ້າທີ່ມີຢູ່ ໃນ ເຂດພື້ນທີ່ຕົວແບບ. ຕາໜ່າງໄຟຟ້າສຳລັບການນຳໃຊ້ທົ່ວໄປທີ່ມີກຳລັງໄຟ 22 KV ບໍ່ໄດ້ກວມເອົາຕອນດິນທັງໝົດໃນພື້ນທີ່ຕົວແບບ ແລະ ໃຫ້ບໍລິການພຽງແຕ່ຕອນດິນລຽບຕາມເສັ້ນທາງສາຍຫຼັກຮອບນອກ ແລະ ບັນດາທາງຮ່ອມສາຍຫຼັກ. ນອກຈາກນີ້, ຍັງມີສາຍສົ່ງໄຟຟ້າແຮງສູງ 2 ສາຍແມ່ນຕາມເສັ້ນທາງລົດໄຟ ແລະ ຕອນໃຕ້ຂອງເຂດພື້ນທີ່ຕົວແບບ.



ແຫຼ່ງຂໍ້ມູນ: ລັດວິສາຫະກິດໄຟຟ້າລາວ Électricité du Laos (2021)

ຮູບ 3-14: ສາຍໄຟຟ້າ ຢູ່ ເຂດພື້ນທີ່ຕົວແບບ



ສາຍໄຟຟ້າ 22 KV



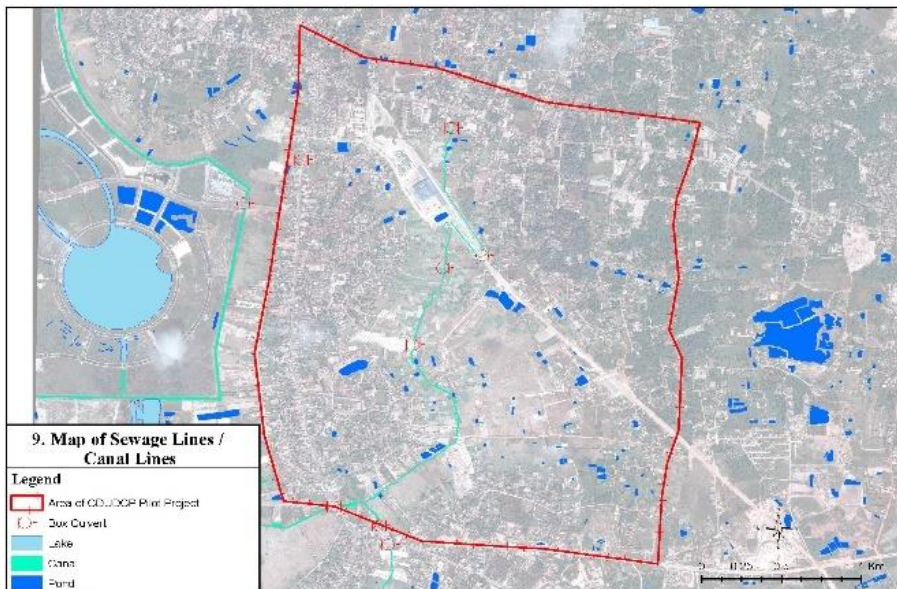
ສາຍສົ່ງໄຟຟ້າແຮງສູງ

ແຫຼ່ງຂໍ້ມູນ: ສຳຫຼວດພື້ນທີ່ຕົວຈິງ ໂດຍ CDUDCP

ຮູບ 3-15: ສາຍໄຟຟ້າທີ່ມີຢູ່ ໃນ ເຂດພື້ນທີ່ຕົວແບບ

(7) ແຫຼ່ງນ້ຳ

ຮູບ 3-16 ສະແດງໃຫ້ເຫັນເຖິງ ຄ່ອງນ້ຳ ແລະ ໜອງນ້ຳ ທີ່ມີຢູ່ ໃນເຂດພື້ນທີ່ຕົວແບບ. ມີຄ່ອງນ້ຳ ໄຫຼຈາກທິດເໜືອ ຫາ ທິດໃຕ້ຂອງ ເຂດພື້ນທີ່ຕົວແບບ ແລະ ໄຫຼຜ່ານທາງລົດໄຟລາວ-ໄທ. ຕອນໃຕ້ຂອງຂອງຄ່ອງນ້ຳແມ່ນນ້ຳທຳມະຊາດ. ໜອງນ້ຳແມ່ນຢູ່ເປັນ ກະແຈກກະຈາຍຢູ່ພາຍໃນພື້ນທີ່ຕົວແບບ



ແຫຼ່ງຂໍ້ມູນ: ແຜນທີ່ພູມສັນຖານ ແລະ ການສຳຫຼວດພື້ນທີ່ຕົວຈິງ ໂດຍ CDUDCP

ຮູບ 3-16: ຄ່ອງນ້ຳ ແລະ ໜອງນ້ຳ ຢູ່ ເຂດພື້ນທີ່ຕົວແບບ

ຕາຕະລາງ 3-6: ຕາຕະລາງສະຫຼຸບຄ່ອງນ້ຳ ແລະ ໜອງນ້ຳ ໃນ ເຂດພື້ນທີ່ຕົວແບບ

ປະເພດ	ຄວາມຍາວ (ແມັດ)	ເນື້ອທີ່ (ຕາແມັດ)
ຄ່ອງນ້ຳ	4,620	24,296
ໜອງນ້ຳ	-	128,477

ແຫຼ່ງຂໍ້ມູນ: ແຜນທີ່ພູມສັນຖານ ແລະ ການສຳຫຼວດພື້ນທີ່ຕົວຈິງ ໂດຍ CDUDCP



ຄ່ອງນ້ຳ



ໜອງນ້ຳ

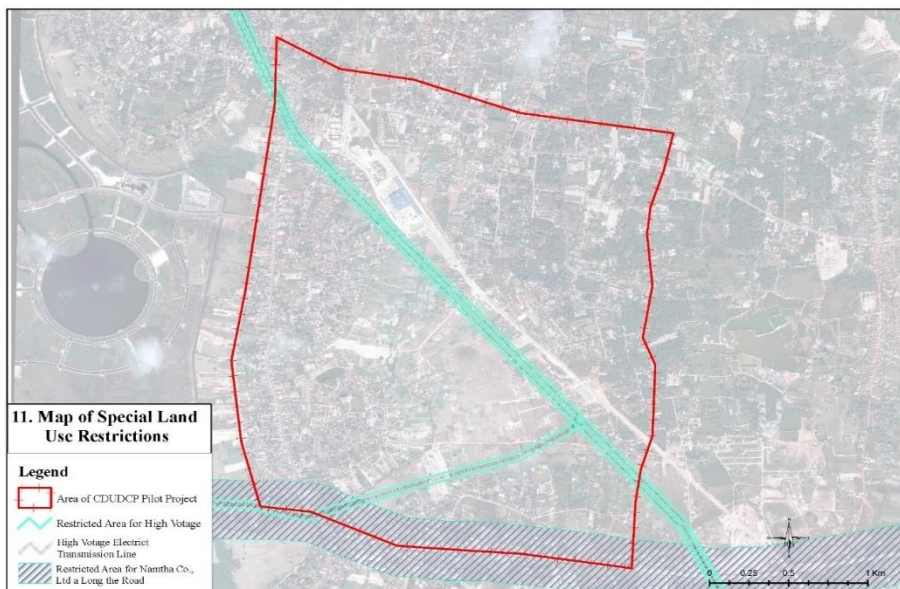
ແຫຼ່ງຂໍ້ມູນ: ສຳຫຼວດພື້ນທີ່ຕົວຈິງ ໂດຍ CDUDCP

ຮູບ 3-17: ຄ່ອງນ້ຳ ແລະ ໜອງນ້ຳ ທີ່ມີຢູ່ ໃນເຂດພື້ນທີ່ຕົວແບບ

(8) ເຂດຫ້າມໃນການນຳໃຊ້ທີ່ດິນສະເພາະ

ຮູບ 3-18 ສະແດງໃຫ້ເຫັນເຖິງເຂດຫ້າມການນຳໃຊ້ທີ່ດິນ ໃນ ເຂດພື້ນທີ່ຕົວແບບ. ພື້ນທີ່ເຂດ 25 ແມັດ ຂອງ ສອງຝາກທາງນັບຈາກ ເຂດໃຈກາງສາຍສົ່ງໄຟຟ້າແຮງສູງ ແມ່ນ ເຂດຫ້າມນຳໃຊ້ທີ່ດິນ. ເຖິງວ່າຢ່າງໃດກໍ່ຕາມ, ເຂດດັ່ງກ່າວນັ້ນ ກໍ່ຍັງມີການນຳໃຊ້ທີ່ດິນທີ່ຢູ່ອາໄສ.

ໃນຂະນະດຽວກັນນັ້ນ, ການນຳໃຊ້ທີ່ດິນໃນເຂດຕອນໃຕ້ຂອງການພັດທະນາເສັ້ນທາງໃໝ່ ແມ່ນ ຄວບຄຸມໂດຍ ບໍລິສັດ ນ້ຳທາແລະ ຫ້າມມີການນຳໃຊ້ທີ່ດິນ ໃນເຂດ 200ແມັດຂອງສອງຝາກທາງ ນັບຈາກ ຈຸດໃຈກາງເສັ້ນທາງໃໝ່.

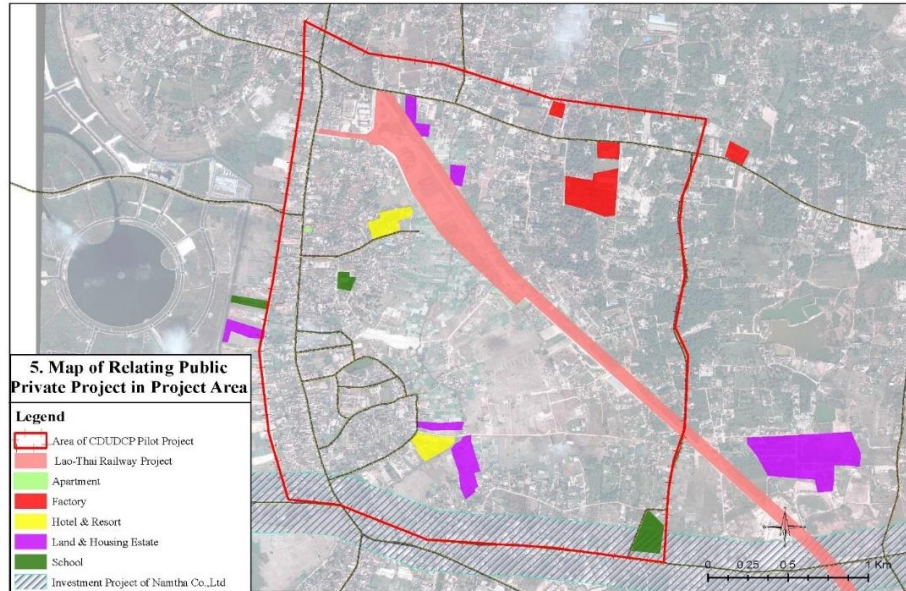


ແຫຼ່ງຂໍ້ມູນ: ຫ້ອງການ ຍທຂ ເມືອງໄຊເສດຖາ

ຮູບ 3-18: ເຂດຫ້າມການນຳໃຊ້ທີ່ດິນສະເພາະ ໃນ ພື້ນທີ່ຕົວແບບ

(9) ໂຄງການທີ່ກຳລັງຈັດຕັ້ງປະຕິບັດ

ຮູບ 3-19 ແມ່ນສະແດງໃຫ້ເຫັນໂຄງການພັດທະນາທີ່ກຳລັງຈັດຕັ້ງປະຕິບັດ ຢູ່ ເຂດພື້ນທີ່ຕົວແບບ, ຕາຕະລາງ 3-7 ແລະ ຮູບ 3-18 ແມ່ນໂຄງການພັດທະນາທີ່ກຳລັງຈັດຕັ້ງປະຕິບັດໂດຍພາກສ່ວນເອກະຊົນ ຢູ່ ເຂດພື້ນທີ່ຕົວແບບ.



ແຫຼ່ງຂໍ້ມູນ: ສຳຫຼວດພື້ນທີ່ຕົວຈິງ ໂດຍ CDUDCP

ຮູບ 3-19: ທີ່ຕັ້ງບັນດາໂຄງການພັດທະນາທີ່ມີຢູ່ ໃນ ເຂດພື້ນທີ່ຕົວແບບ

ຕາຕະລາງ 3-7: ຕາຕະລາງສະຫຼຸບໂຄງການພັດທະນາທີ່ມີຢູ່ໂດຍພາກສ່ວນເອກະຊົນ ຢູ່ ເຂດພື້ນທີ່ຕົວແບບ

No.	Description	Investment Type	Village	Area (m2)	Coordinate Point	
					X	Y
II.	Investment in Project Area					
1	STX Apartment	Apartment	Noneway Village, Xaysettha District	463	102.6671858	17.95473473
2	Vangview Hotel & Resort	Hotel & Resort	Noneway Village, Xaysettha District	16,209	102.6725429	17.95551922
3	Vanlao daokham Restaurant & Resort	Hotel & Resort	Meuangnoy Village, Xaysettha District	27,693	102.6746654	17.94190559
4	Land & Housing Estate	Land & Housing Estate	Khamsavat Village, Xaysettha District	28,423	102.6732597	17.9611306
5	Land Estate	Land & Housing Estate	Meuangnoy Village, Xaysettha District	38,889	102.6767162	17.94068851
6	Land Estate	Land & Housing Estate	Meuangnoy Village, Xaysettha District	13,941	102.6752544	17.94302227
7	Land Estate	Land & Housing Estate	Khamsavat Village, Xaysettha District	10,762	102.6759755	17.95821991
8	Land Estate	Land & Housing Estate	Meuangnoy Village, Xaysettha District	31,921	102.6635459	17.94781282
9	Land Estate	Land & Housing Estate	Nakhouay Village, Xaysettha District	42,514	102.696169	17.94129451
10	Daokham Concrete Co., Ltd.	Pre-cast concrete	Somsanga Village, Xaysettha District	12,410	102.6926145	17.95950681
11	Aishin Lao Co., Ltd.	Product for women's health	Somsanga Village, Xaysettha District	17,783	102.6848165	17.95773511
12	J-Family Trading Co., Ltd.	Raw Plastic Material	Somsanga Village, Xaysettha District	6,818	102.6850796	17.95962548
13	Issarapon International School	School	Noneway Village, Xaysettha District	11,357	102.6644652	17.95019771
14	Soochow University	School	Xiengda Village, Xaysettha District	35,811	102.6875639	17.93647118
15	Vixaythad Infant Care - Kindergarten - Primary School	School	Noneway Village, Xaysettha District	7,380	102.6696403	17.95162026
16	Khungloulod Logistics Co., Ltd.	Warehouse/Logistics	Somsanga Village, Xaysettha District	7,117	102.6818725	17.96206947

ແຫຼ່ງຂໍ້ມູນ: ສຳຫຼວດພື້ນທີ່ຕົວຈິງ ໂດຍ CDUDCP

(10) ການຂົນສົ່ງສາທາລະນະ

ພື້ນທີ່ຕົວແບບ ຕັ້ງຢູ່ຫ່າງຈາກສະໜາມບິນສາກົນວັດໄຕ 13 ກິໂລແມັດ ແລະ ຫ່າງຈາກສະຖານີລົດໄຟຄວາມໄວສູງ ລາວ-ຈີນ 15 ກິໂລແມັດ ແຕ່ບໍ່ມີສາຍທາງບໍລິການລົດເມສາທາລະນະທີ່ເຊື່ອມຕໍ່ກັບພື້ນທີ່ຕົວແບບ.

ສະຖານີລົດໄຟລາວ-ໄທ ຄຳສະຫວາດ ແມ່ນຕັ້ງຢູ່ໃນພື້ນທີ່ຕົວແບບ. ສະຖານີດັ່ງກ່າວໄດ້ຖືກສ້າງຂຶ້ນມາໃໝ່ ເພື່ອ ຂະຫຍາຍການບໍລິການທາງລົດໄຟ ແລະ ຈະເປີດບໍລິການໃນເດືອນເມສາ 2024. ສະພາບປະຈຸບັນຂອງພື້ນທີ່ສະຖານີລົດໄຟ ແມ່ນສະແດງໃນ ຮູບ 3-20. ການກໍ່ສ້າງສະຖານີ ແລະ ເຂົ້າ-ອອກສະຖານີ ແມ່ນສຳເລັດແລ້ວ. ໃນເຂດນັ້ນແມ່ນມີໜ້າດິນທີ່ຕ່າງລະດັບກັນ ເຖິງ 3 ແມັດ ລະຫວ່າງພື້ນທີ່ສະຖານີ ແລະ ດິນກະສິກຳທີ່ມີຢູ່ແລ້ວ ຢູ່ເຂດດ້ານໜ້າຂອງສະຖານີ. ອີງຕາມ ລັດວິສາຫະກິດທາງລົດໄຟແຫ່ງຊາດ, ຍ້ອນນະໂຍບາຍການຄວບຄຸມການສັນຈອນ ແມ່ນຫ້າມການເຊື່ອມຕໍ່ໂດຍກົງຈາກດິນສ່ວນຕົວອ້ອມຂ້າງ ໄປສູ່ ທາງເຂົ້າຫຼັກໜ້າສະຖານີ.



ແຫຼ່ງຂໍ້ມູນ: ສຳຫຼວດພື້ນທີ່ຕົວຈິງ ໂດຍ CDUDCP

ຮູບ 3-20: ສະພາບປະຈຸບັນໃນເຂດສະຖານີລົດໄຟຄຳສະຫວາດ

3.4 ການວິເຄາະ SWOT

ອີງຕາມການເກັບກຳຂໍ້ມູນ ແລະ ຂໍ້ມູນປັດໄຈພາກພື້ນ ແລະ ພາຍໃນຂອງເຂດພື້ນທີ່ຕົວແບບ ແລະ ການຮັບຮູ້ຂອງຊຸມຊົນຕໍ່ກັບສະພາບປັດຈຸບັນ ແມ່ນໄດ້ສະຫຼຸບໃນ ຕາຕະລາງ 4-3 ຂອງ ພາກທີ 4, ຄຸນລັກສະນະພາກພື້ນ ແລະ ພາຍໃນຂອງພື້ນທີ່ຕົວແບບໄດ້ຖືກວິເຄາະດ້ວຍ SWOT ດັ່ງທີ່ສະແດງຢູ່ໃນ ຕາຕະລາງ 3-8.

ຕາຕະລາງ 3-8: ຜົນການວິເຄາະ SWOT ໃນພື້ນທີ່ຕົວແບບ

ດ້ານ	ປັດໃຈພາກພື້ນ	
	ກາລະໂອກາດ	ໄພຂົ່ມຂູ່
ຜົນປະໂຫຍດຂອງລັດຖະບານ/ສາທາລະນະ	- ກຳນົດໃຫ້ເປັນເຂດສົ່ງເສີມການຫັນເປັນຕົວເມືອງ - ສົ່ງເສີມເທັກໂນໂລຢີນະວັດຕະກຳ (ເມືອງອິດສະລິຍະ/ພະລັງງານທົດແທນ/EV) - ຫັນທຸລະກິດກະສິກຳໄປສູ່ຜະລິດຕະພັນທີ່ມີມູນຄ່າສູງ - ສົ່ງເສີມອຸດສາຫະກຳການທ່ອງທ່ຽວ/ທຸລະກິດຂາເຂົ້າ	ງົບປະມານທີ່ຈຳກັດຂອງລັດຖະບານໃນການພັດທະນາ
ການແກ້ໄຂດ້ານເຕັກນິກ	- ຂະຫຍາຍ ຕາໜ່າງບໍລິການ ລົດເມໄປຫາສະຖານີລົດໄຟ - ລະບົບໂຄງສ້າງພື້ນຖານດ້ານວິຊາການ	ຜົນກະທົບດ້ານສິ່ງແວດລ້ອມ (ມົນລະພິດທາງອາກາດ)
ຜົນປະໂຫຍດຂອງຊຸມຊົນ	ດຶງດູດການລົງທຶນ	- ການລົງທຶນຂອງເອກະຊົນທີ່ບໍ່ມີການວາງແຜນ - ອຸປະສັກ ແລະ ອຸບັດເຫດຈາກທາງລົດໄຟ ລາວ-ໄທ - ຖ້າບໍ່ມີການວາງແຜນທີ່ດີ ຈະມີຄຳຕຳນິຈາກສັງຄົມ
ການເສີມສ້າງທ່າແຮງບົ່ມຊ້ອນດ້ານເສດຖະກິດ	- ປະຕູສາກົນສຳລັບນັກທ່ອງທ່ຽວ (900 ຄົນ/ມື້ໃນປີ 2030) - ຄວາມຕ້ອງການປະຊາກອນ ແລະທີ່ຢູ່ອາໄສສູງຂຶ້ນ - ຄວາມຕ້ອງການດ້ານການຄ້າ/ທີ່ຢູ່ອາໄສຂອງຊາວ/ຜູ້ອອກແຮງງານຈາກເຂດພັດທະນາຂະໜາດໃຫຍ່ອ້ອມຂ້າງ - ການເຂົ້າເຖິງເຂດໃຈກາງຕົວເມືອງ /ເຂດຕົວເມືອງຍ່ອຍ ຢູ່ນວ	- ຄວາມສາມາດໃນການແຂ່ງຂັນກັບເຂດພັດທະນາອ້ອມຂ້າງ - ຄວາມຕ້ອງການທີ່ພັກອາໄສສູງທີ່ເຮັດໃຫ້ເກີດຄວາມບໍ່ເປັນລະບຽບໃນການພັດທະນາທີ່ຢູ່ອາໄສ
ດ້ານ	ປັດໃຈພາຍໃນ	
	ຈຸດດີ	ຈຸດອ່ອນ
ຜົນປະໂຫຍດຂອງລັດຖະບານ/ສາທາລະນະ	- ຫ້ອງການບໍລິຫານ (ກົມທາງລົດໄຟ, ກະຊວງ ຍທຂ) - ສະຖາບັນການສຶກສາ - ສະຖານີລົດໄຟ ລາວ-ໄທ	- ບໍ່ມີການອອກແບບລະອຽດ - ການກໍ່ສ້າງ ແລະ ການຖິ້ມດິນ ທີ່ບໍ່ເປັນລະບຽບ - ຂາດການຄຸ້ມຄອງການນຳໃຊ້ທີ່ດິນ
ການແກ້ໄຂດ້ານເຕັກນິກ	- ເສັ້ນທາງເຂົ້າເຖິງພື້ນທີ່ສະຖານີ - ເສັ້ນທາງປຸງຢາງຮອບນອກ ທີ່ມີຢູ່ແລ້ວ - ການລະບາຍນ້ຳທຳມະຊາດ	- ສະພາບເສັ້ນທາງເຊື່ອມຕໍ່ ແລະ ບ້ານຕ່າງໆ ທີ່ບໍ່ດີ - ພື້ນທີ່ແບ່ງຕາມທາງລົດໄຟ (ຂາດການເຊື່ອມຕໍ່ລະຫວ່າງຕາເວັນອອກ ແລະ ຕາເວັນຕົກ) - ຄວາມສ່ຽງໄພນ້ຳຖ້ວມ - ຫ້າມເຊື່ອມຕໍ່ເສັ້ນທາງເຂົ້າສະຖານີ - ຂໍ້ຈຳກັດການນຳໃຊ້ທີ່ດິນ ຢູ່ ກ້ອງ ສາຍສົ່ງໄຟຟ້າແຮງສູງ - ບໍ່ມີການຂົນສົ່ງສາທາລະນະໄປຫາໃຈກາງເມືອງ
ຜົນປະໂຫຍດຂອງຊຸມຊົນ	- ມີຄວາມເຕັມໃຈໃນການ ມີສ່ວນຮ່ວມ - ປະຊາກອນໄວໜຸ່ມນ້ອຍ - ພື້ນທີ່ກະສິກຳ ທີ່ສາມາດພັດທະນາເປັນການນຳໃຊ້ດ້ານຕົວເມືອງ	- ສືບຕໍ່ນຳໃຊ້ດິນປະຈຸບັນ (ບໍ່ຢາກຫັນເປັນດິນພັດທະນາ) - ຂາດກາລະໂອກາດໃນການຊອກວຽກເຮັດງານທຳ ແລະ ກາລະໂອກາດທາງທຸລະກິດ - ປະຊາຊົນ ຂາດຄວາມຮູ້ກ່ຽວກັບການຫັນເປັນຕົວເມືອງ
ການເສີມສ້າງທ່າແຮງບົ່ມຊ້ອນດ້ານເສດຖະກິດ	- ນັກທ່ອງທ່ຽວຈາກ/ໄປສະຖານີລົດໄຟ - ທີ່ດິນເປົ່າຫວ່າງໃນເຂດສະຖານີ - ເນື້ອທີ່ກະສິກຳ ແລະ ດິນເປົ່າຫວ່າງ ຂະໜາດໃຫຍ່ - ຮິສອດໂຮງແຮມທີ່ມີຢູ່ - ສະຖາບັນການສຶກສາທີ່ມີຢູ່	- ຂາດພື້ນຖານໂຄງລ່າງ (ເສັ້ນທາງ, ສາທາລະນະອຸປະໂພກ) - ການນຳໃຊ້ທີ່ດິນທາງການຄ້າໜ້ອຍລົງ - ຂາດການດຶງດູດຂອງນັກທ່ອງທ່ຽວ - ມູນຄ່າທີ່ດິນຫຼຸດລົງ

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

3.5 ການພິຈາລະນາທີ່ສຳຄັນໃນການວາງແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ

ການພິຈາລະນາທີ່ສຳຄັນສຳລັບການວາງແຜນແນວຄວາມຄິດພື້ນ ແມ່ນໄດ້ອະທິບາຍຢ່າງລະອຽດຈາກຜົນຂອງການວິເຄາະ SWOT ເຊິ່ງສະຫຼຸບໃນ ຕາຕະລາງ 3-9 ແລະ ຕາຕະລາງ 3-10.

ໃນນະໂຍບາຍການວາງແຜນພື້ນຖານ, ປັດໃຈດ້ານກາລະໂອກາດ ແລະ ຈຸດດີ ແມ່ນຈະຖືກນຳໄປໃຊ້ ແລະ ເສີມຂະຫຍາຍເພື່ອການຫັນເປັນຕົວເມືອງຂອງເຂດພື້ນທີ່ຕົວແບບ. ພ້ອມກັນນັ້ນ, ບັນດາປັດໃຈໄພຂົ່ມຂູ່ ແລະ ຈຸດອ່ອນກໍ່ຕ້ອງໄດ້ຮັບການຫຼຸດຜ່ອນ ແລະ ປັບປຸງ.

ຕາຕະລາງ 3-9: ການພິຈາລະນາທີ່ສຳຄັນ ຈາກ ປັດໃຈພາກພື້ນ

ປັດໃຈພາກພື້ນ	ກາລະໂອກາດ	ໄພຂົ່ມຂູ່
	- ປະຕູອອກສູ່ສາກົນສຳລັບນັກທ່ອງທ່ຽວ - ກຳນົດເປັນເຂດສິ່ງເສີມການຫັນເປັນຕົວເມືອງ - ທ່າແຮງດ້ານທຸລະກິດການທ່ອງທ່ຽວ (ປະຕູສູ່ສາກົນ) - ປະຊາກອນເພີ່ມຂຶ້ນ - ຄວາມຕ້ອງການທີ່ຢູ່ອາໄສຈາກ ເຂດຂົນສົ່ງສິນຄ້າວຽງຈັນ Vientiane Logistic Park ແລະ ເຂດພັດທະນາຂະໜາດໃຫຍ່ອື່ນໆ - ນະໂຍບາຍຂອງລັດຖະບານກ່ຽວກັບ EV ແລະ ເມືອງອັດສະລິຍະ	- ງົບປະມານຂອງລັດຖະບານທີ່ຈຳກັດເພື່ອການພັດທະນາ - ການລົງທຶນຂອງເອກະຊົນທີ່ບໍ່ມີການ ວາງແຜນ - ອຸປະສັກ ແລະ ອຸບັດເຫດທາງລົດໄຟ ລາວ-ໄທ - ຄວາມສາມາດໃນການແຂ່ງຂັນກັບເຂດພັດທະນາອ້ອມຂ້າງ
ການພິຈາລະນາຫຼັກ ສຳລັບ ແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ	ນຳໃຊ້/ເສີມຂະຫຍາຍກາລະໂອກາດທາງທຸລະກິດການທ່ອງທ່ຽວ/ ຄວາມຕ້ອງການດ້ານທີ່ຢູ່ອາໄສ/ EV ແລະ ເມືອງອັດສະລິຍະ	- ຍາດແຍ່ງການລົງທຶນຂອງພາກສ່ວນເອກະຊົນ ໂດຍຄຳນຶງເຖິງງົບປະມານໜ້ອຍຂອງລັດຖະບານ - ສິ່ງເສີມລັກສະນະພິເສດ ແລະ ການແຂ່ງຂັນ

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຕາຕະລາງ 3-10: ການພິຈາລະນາທີ່ສຳຄັນ ຈາກ ປັດໃຈພາຍໃນ

ປັດໃຈພາຍໃນ	ຈຸດດີ	ຈຸດອ່ອນ
	- ນັກທ່ອງທ່ຽວເດີນທາງຈາກ/ໄປສະຖານີລົດໄຟໃໝ່ (ປະຕູອອກສູ່ສາກົນ) - ມີພື້ນຖານໂຄງລ່າງທີ່ດີຢູ່ອ້ອມຮອບສະຖານີ - ຄວາມເປັນໄປໄດ້ໃນການນຳໃຊ້ທີ່ດິນເພື່ອການຄ້າໃນເຂດສະຖານີ - ທີ່ດິນກະສິກຳ ແລະ ທີ່ດິນເປົ່າວ່າງ ເພື່ອພັດທະນາການນຳໃຊ້ທີ່ດິນໃນຕົວເມືອງ - ສະຖາບັນການສຶກສາທີ່ມີຢູ່	- ຂາດການເຂົ້າເຖິງພື້ນຖານໂຄງລ່າງພາຍໃນບ້ານ - ຄວາມສ່ຽງໄພນ້ຳຖ້ວມ - ສືບຕໍ່ນຳໃຊ້ດິນເປັນດິນປູກຝັງໃນປະຈຸບັນ (ບໍ່ຢາກຫັນປ່ຽນເປັນດິນພັດທະນາ) - ຂາດກາລະໂອກາດໃນການຊອກວຽກ ເຮັດງານທຳ ແລະ ກາລະໂອກາດທາງທຸລະກິດ - ມູນຄ່າຕອນດິນຫຼຸດລົງ
ການພິຈາລະນາຫຼັກ ສຳລັບ ແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ	- ນຳໃຊ້ເປັນສູນກາງປ່ຽນຖ່າຍຜູ້ໂດຍສານສຳລັບການຂົນສົ່ງສາທາລະນະ - ສິ່ງເສີມການນຳໃຊ້ທີ່ດິນເປົ່າຫວ່າງ ເພື່ອຈຸດປະສົງທາງການຄ້າ - ຮ່ວມມືກັບສະຖາບັນການສຶກສາ	- ພັດທະນາ/ປັບປຸງພື້ນຖານໂຄງລ່າງ - ຄວາມຕ້ອງການສິ່ງເສີມການນຳໃຊ້ທີ່ດິນຂອງຊຸມຊົນ ແລະ ທຸລະກິດ - ຄວາມຕ້ອງການດ້ານສິ່ງອຳນວຍຄວາມສະດວກທີ່ສຳຄັນເພື່ອເພີ່ມມູນຄ່າທີ່ດິນ

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ພາກທີ 4. ການປຶກສາຫາລືກັບຊຸມຊົນພາຍໃນເຂດ

4.1 ຈຸດປະສົງ

ເພື່ອເສີມຂະຫຍາຍຄວາມເຂົ້າໃຈ ແລະ ການຮ່ວມມື ຂອງຊຸມຊົນ ໃນການວາງແຜນນະໂຍບາຍເຂດພື້ນທີ່ຕົວແບບ ແມ່ນໄດ້ຈັດຕັ້ງ
ບັນດາກິດຈະກຳທີ່ຕິດພັນກັບການປຶກສາຫາລືຂອງຊຸມຊົນໃນເຂດພື້ນທີ່ຕົວແບບ ດ້ວຍ ວິທີການວາງແຜນແບບມີສ່ວນຮ່ວມ. ກິດ
ຈະກຳດັ່ງກ່າວປະກອບດ້ວຍ ການສຳຫຼວດຕອບແບບສອບຖາມ, ສຳຫຼວດພາກສະໜາມ ແລະ ກອງປະຊຸມສຳມະນາ ໂດຍມີຜູ້ຕາງ
ໜ້າຈາກບ້ານ ແລະ ຫົວໜ່ວຍທຸລະກິດເອກະຊົນເຂົ້າຮ່ວມ.

4.2 ເນື້ອໃນກິດຈະກຳທີ່ຕິດພັນກັບການປຶກສາຫາລືກັບຊຸມຊົນ

ບັນດາກິດຈະກຳປຶກສາຫາລືກັບຊຸມຊົນ ໃນ ເຂດພື້ນທີ່ຕົວແບບ ແມ່ນໄດ້ສະຫຼຸບໃນ ຕາຕະລາງ 4-1. ກິດຈະກຳດັ່ງກ່າວລວມມີ ກອງ
ປະຊຸມຜູ້ມີສ່ວນຮ່ວມ ຄັ້ງທີ 1 ແລະ ຄັ້ງທີ 2, ມີວາລະກອງປະຊຸມໃນການເຮັດວຽກເປັນກຸ່ມເພື່ອຍາດແຍ່ງການມີສ່ວນຮ່ວມຂອງຜູ້
ເຂົ້າຮ່ວມ. ຜ່ານການເຮັດວຽກເປັນກຸ່ມ ແມ່ນສາມາດເສີມສ້າງການຮັບຮູ້ຂອງຊຸມຊົນກ່ຽວກັບບັນຫາຂອງຕົວເມືອງໃນປະຈຸບັນ ແລະ
ຄວາມຈຳເປັນຂອງການພັດທະນາຕົວເມືອງ ພ້ອມທັງໄດ້ເກັບກຳຄຳຄິດເຫັນຂອງຊຸມຊົນເຂົ້າໃນແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ
ອີກດ້ວຍ.

ຕາຕະລາງ 4-1: ຕາຕະລາງສະຫຼຸບກິດຈະກຳການປຶກສາຫາລືກັບຊຸມຊົນ

ຫົວຂໍ້/ ວັນທີ	ຈຸດປະສົງ	ຜູ້ເຂົ້າຮ່ວມ	ຜົນໄດ້ຮັບ
ກອງປະຊຸມຜູ້ມີສ່ວນຮ່ວມ ຄັ້ງທີ 1 (14 ກຸມພາ 2023)	- ເພື່ອສ້າງເສີມຄວາມເຂົ້າໃຈ ຮ່ວມກັນກ່ຽວກັບບັນຫາຕົວ ເມືອງ - ເພື່ອເກັບກຳຄວາມເຫັນ ແລະ ຄວາມຕ້ອງການຂອງຜູ້ມີສ່ວນ ຮ່ວມ	10ທ່ານ ຕາງໜ້າຈາກ 5 ບ້ານ	ບັນລຸຄວາມເຂົ້າໃຈຮ່ວມກ່ຽວກັບ ບັນຫາປະຈຸບັນ ແລະ ຄວາມ ຕ້ອງການພັດທະນາໃນເຂດຕົວ ແບບ
ການສຳຫຼວດຕອບແບບສອບ ຖາມຂັ້ນຊຸມຊົນ (14-28 ກຸມພາ 2023)	ເພື່ອເກັບກຳຂໍ້ມູນແລະຄວາມຄິດ ເຫັນຈາກຊຸມຊົນໃນເຂດຕົວແບບ	165 ຄົວເຮືອນ	- ເຂົ້າໃຈກ່ຽວກັບບັນຫາຕົວ ເມືອງໃນປະຈຸບັນ - ແນວຄວາມຄິດ / ຄວາມຄິດ ເຫັນຂອງການນຳໃຊ້ທີ່ດິນໃນ ອະນາຄົດ (ສະຫຼຸບຜົນການສຳຫຼວດ ແມ່ນ ຄັດຕິດເປັນເອກະສານຊ້ອນທ້າຍ 1)
ກອງປະຊຸມຜູ້ມີສ່ວນຮ່ວມ ຄັ້ງທີ 2 (9 ພຶດສະພາ 2023)	- ເພື່ອເຂົ້າໃຈສະພາບປະຈຸບັນ ແລະ ຜົນຂອງການສຳຫຼວດ ຄວາມຄິດເຫັນຂອງຊຸມຊົນໃນ ເຂດພື້ນທີ່ຕົວແບບ - ສ້າງຮ່າງວິໄສທັດ ແລະ ແຜນ ແນວຄວາມຄິດເຂດພື້ນທີ່ຕົວ ແບບ	16ທ່ານ ຕາງໜ້າຈາກ 4ບ້ານ	ໄດ້ລວບລວມແນວຄວາມຄິດຂອງ ຊຸມຊົນສຳລັບວິໄສທັດແລະ ແຜນການແນວຄວາມຄິດໂດຍ ຜ່ານການເຮັດວຽກເປັນກຸ່ມ
ກອງປະຊຸມປຶກສາຫາລືກັບຊຸມ ຊົນ (16 ມິຖຸນາ 2023)	ປຶກສາຫາລືກ່ຽວກັບຮ່າງແຜນ ແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ (ວິໄສທັດ ສະບັບປັບປຸງ ໂດຍອີງ	8ທ່ານ ຕາງໜ້າຈາກ 4ບ້ານ	ຊຸມຊົນມີຄວາມເປັນເອກະພາບ ກັນຕໍ່ກັບຮ່າງແຜນແນວຄວາມຄິດ ພື້ນທີ່ຕົວແບບ

ຫົວຂໍ້/ ວັນທີ	ຈຸດປະສົງ	ຜູ້ເຂົ້າຮ່ວມ	ຜົນໄດ້ຮັບ
	ຕາມຜົນຂອງກອງປະຊຸມຜູ້ມີສ່ວນຮ່ວມ ຄັ້ງທີ 2)		
ການສຳຫຼວດພື້ນທີ່ຕົວຈິງກັບບັນດາບ້ານ (21-22 ມິຖຸນາ 2023)	ສຳພາດຜູ້ຕາງໜ້າບ້ານເພື່ອຢັ້ງຢືນຂອບເຂດບ້ານຂອງຕົນ ແລະ ປຶກສາຫາລືກ່ຽວກັບແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ	ຜູ້ຕາງໜ້າຈາກ 4 ບ້ານ	ຢັ້ງຢືນຂອບເຂດບ້ານໃນເຂດພື້ນທີ່ຕົວແບບ ໂດຍ ຄະນະວິຊາການຝ່າຍລາວ
ກອງປະຊຸມຜູ້ມີສ່ວນຮ່ວມ ຄັ້ງທີ 3 (24 ກໍລະກົດ 2023)	ປຶກສາຫາລືກັບຜູ້ທີ່ມີສ່ວນຮ່ວມກ່ຽວກັບ ຮ່າງແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ	• 5ທ່ານ ຕາງໜ້າ ຈາກ 4ບ້ານ • ເຈົ້າຂອງຕອນດິນ ຢູ່ ເຂດຕົວແບບ 3 ທ່ານ • ຫົວໜ່ວຍ ທຸລະກິດ ຢູ່ ເຂດຕົວແບບ ຈຳນວນ 2 ຫົວໜ່ວຍ • ລັດວິສາຫະກິດທາງລົດໄຟແຫ່ງຊາດລາວ • ຂະແໜງຂົວທາງ, ຂະແໜງຂົນສົ່ງ/ ພະແນກ ຍທຂ ນວ • ບັນດາ ຫ້ອງການ ເມືອງໄຊເສດຖາ	ຜູ້ມີສ່ວນຮ່ວມມີຄວາມເປັນເອກະພາບກັນຕໍ່ກັບຮ່າງແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຕາຕະລາງ 4-2: ການເຮັດວຽກເປັນກຸ່ມ ໃນ ກອງປະຊຸມຜູ້ມີສ່ວນຮ່ວມ ຄັ້ງທີ 1 ແລະ ຄັ້ງທີ 2

ລາຍການ	ການເຮັດວຽກເປັນກຸ່ມ
ກອງປະຊຸມຜູ້ມີສ່ວນຮ່ວມ ຄັ້ງທີ 1 (14 ກຸມພາ 2023)	ກຳນົດບັນຫາປະຈຸບັນ ແລະ ຄວາມຕ້ອງການໃນອະນາຄົດ ໃນເຂດພື້ນທີ່ຕົວແບບ ໂດຍຜ່ານການປຶກສາຫາລືລະຫວ່າງບັນດາຜູ້ຕາງໜ້າບ້ານ.
ກອງປະຊຸມຜູ້ມີສ່ວນຮ່ວມ ຄັ້ງທີ 2 (9 ພຶດສະພາ 2023)	ສ້າງຮ່າງວິໄສທັດ ແລະ ໂຄງສ້າງຕົວເມືອງ ຂອງ ແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ ແລະ ນຳສະເໜີແຜນການ ໂດຍ ຜູ້ຕາງໜ້າຈາກບ້ານ

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

4.3 ຄວາມຮັບຮູ້ຂອງຊຸມຊົນຕໍ່ກັບສະພາບປະຈຸບັນຂອງເຂດ ແລະ ການຫັນເປັນຕົວເມືອງ

ອີງຕາມການປຶກສາຫາລືໃນ ກອງປະຊຸມຜູ້ມີສ່ວນຮ່ວມ ຄັ້ງທີ 1 ແລະ ການສຳຫຼວດແບບສອບຖາມ, ການຮັບຮູ້ຂອງຊຸມຊົນກ່ຽວກັບ ສະພາບການປະຈຸບັນ ແລະ ຄວາມເຫັນກ່ຽວກັບການຫັນເປັນຕົວເມືອງຂອງເຂດພື້ນທີ່ຕົວແບບ ໃນອະນາຄົດແມ່ນໄດ້ສັງລວມໃນ ຕາຕະລາງ 4-3 ແລະ ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຕາຕະລາງ 4-4.

ຕາຕະລາງ 4-3: ຄວາມຮັບຮູ້ຂອງຊຸມຊົນຕໍ່ກັບສະພາບປະຈຸບັນຂອງເຂດພື້ນທີ່ຕົວແບບ

	ຈຸດດີ	ຂໍ້ຄົງຄ້າງ
ການນຳໃຊ້ທີ່ດິນ	- ຫ້າງຮ້ານ, ຕະຫຼາດ ແລະ ຮ້ານອາຫານລຽບຕາມເສັ້ນທາງຫຼັກ ແມ່ນ ເປັນຫົວໜ່ວຍສະໜອງວັດຖຸດິບ ແລະ ອາຫານປະຈຳວັນ - ຫ້ອງການລັດຖະບານເພື່ອຄວາມປອດໄພ ແລະ ຄວາມສະດວກຂອງເຂດອ້ອມຮອບ - ສະຖານີລົດໄຟຈະສ້າງກາລະໂອກາດໃນການຊອກວຽກເຮັດງານທຳ ແລະ ສ້າງຄວາມສະດວກໃນການເດີນທາງ - ດິນເປົາຫວ່າງຂະໜາດໃຫຍ່ແມ່ນມີໂອກາດພັດທະນາ - ທຶນາເພື່ອການຜະລິດສະບຽງອາຫານ	- ສະຖານທີ່ບັນເທີງກາງຄືນ/ ຮ້ານກິນດື່ມ ຕາມແຄມຖະໜົນເຮັດໃຫ້ການສັນຈອນຕິດຂັດ - ສຽງດັງຈາກສະຖານທີ່ບັນເທີງກາງຄືນ (ເປີດເກີນໂມງທີ່ກຳນົດໄວ້) - ດິນມີການເຊາະເຈື່ອນຍ້ອນການຂຸດເລິກ ສຳລັບການກໍ່ສ້າງທາງລົດໄຟ
ພື້ນຖານໂຄງລ່າງ	ບາງເຂດມີການພັດທະນາພື້ນຖານໂຄງລ່າງ	- ເສັ້ນທາງແຄບ ແລະ ບໍ່ປຸຢາງ - ຖະໜົນມີການເຊື່ອມຈອດກັນທີ່ໜ້ອຍ - ການລະບາຍນ້ຳບໍ່ພຽງພໍ (ເກີດນ້ຳຖ້ວມທາງເປັນປະຈຳ) - ການສະໜອງໄຟຟ້າທີ່ບໍ່ພຽງພໍ - ການຖິ້ມຂີ້ເຫຍື້ອທີ່ບໍ່ເປັນລະບຽບຮຽບຮ້ອຍ

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຕາຕະລາງ 4-4: ຄວາມຄິດເຫັນຂອງຊຸມຊົນ ກ່ຽວກັບ ການຫັນເປັນຕົວເມືອງໃນອະນາຄົດ ຂອງ ເຂດພື້ນທີ່ຕົວແບບ

	ຄວາມຕ້ອງການນຳໃຊ້ທີ່ດິນ	ການນຳໃຊ້ທີ່ດິນທີ່ບໍ່ຕ້ອງການ
ການນຳໃຊ້ທີ່ດິນ	- ປົກປັກຮັກສາສິ່ງອຳນວຍຄວາມສະດວກດ້ານສາສະໜາ (ວັດວາອາຮາມ) - ປົກປັກຮັກສາດິນກະສິກຳ. - ສະຖານີລົດໄຟ ຕ້ອງສອດຄ່ອງກັບ ການພັດທະນາໃນອະນາຄົດ. - ຈຳເປັນຕ້ອງມີອາຄານສູງ ແລະ ແຫຼ່ງທ່ອງທ່ຽວໃຫ້ແກ່ຜູ້ຄົນ. - ໂຮງຮຽນອະນຸບານ ຮອດ ຊັ້ນ ມັດທະຍົມຕອນຕົ້ນ. - ມີ ຮິສອດ, ໂຮງແຮມ, ຮ້ານອາຫານ ແລະ ຫ້າງຊັບພະສິນຄ້າ. - ຈັດສັນເຂດສີຂຽວ ແລະ ເຂດເພື່ອການຜະລິດດ້ານກະສິກຳ	ບໍ່ໃຫ້ມີສະຖານທີ່ບັນເທີງກາງຄືນ
ພື້ນຖານໂຄງລ່າງ	- ສະໜອງທາງປຸຢາງຄອນກິດ ແລະ ຮ່ອງລະບາຍນ້ຳ. - ປັບປຸງເສັ້ນທາງຮອບໃນທີ່ເຊື່ອມຈອດກັບສະຖານີລົດໄຟ. - ປັບປຸງເສັ້ນທາງຫຼັກ - ທາງຄອນກຣີດລຽບຕາມທາງລົດໄຟ	

	ການສະໜອງນ້ຳປະປາ ແລະ ໄຟຟ້າທີ່ພຽງພໍ.	
ອື່ນໆ	- ເພີ່ມກາລະໂອກາດໃນການຊອກວຽກເຮັດງານທຳ - ການປະກອບສ່ວນຂອງຊຸມຊົນ	

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

4.4 ແນວຄວາມຄິດຂອງຊຸມຊົນຕໍ່ກັບແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ

(1) ວິໄສທັດຂອງພື້ນທີ່ຕົວແບບ

ໂດຍຜ່ານການເຮັດວຽກເປັນກຸ່ມ ໃນກອງປະຊຸມຜູ້ມີສ່ວນຮ່ວມ ຄັ້ງທີ 2, ປະຊາຊົນໃນຊຸມຊົນ ກໍ່ໄດ້ສະເໜີແນວຄວາມຄິດ ແລະ ຄຳສັບທີ່ສຳຄັນ ໃນການວາງວິໄສທັດຂອງເຂດພື້ນທີ່ຕົວແບບ. ແນວຄວາມຄິດແມ່ນສະແດງຢູ່ໃນ ຕາຕະລາງ 4-5. ນອກນັ້ນ, ແນວຄວາມຄິດດັ່ງກ່າວກໍ່ຍັງປະກອບເຂົ້າໃນວິໄສທັດຂອງເຂດພື້ນທີ່ຕົວແບບອີກດ້ວຍ.

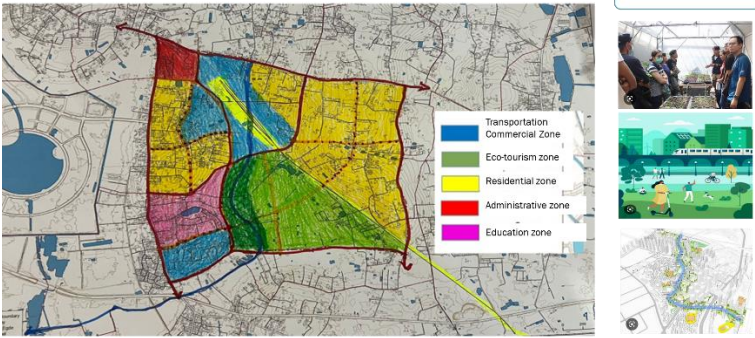
ຕາຕະລາງ 4-5: ແນວຄວາມຄິດຂອງຊຸມຊົນ ຕໍ່ ກັບວິໄສທັດເຂດພື້ນທີ່ຕົວແບບ (ຜົນການຈັດຕັ້ງກອງປະຊຸມຜູ້ມີສ່ວນຮ່ວມ ຄັ້ງທີ 2)

ປະເພດ	ແນວຄວາມຄິດ
ຄຳສັບທີ່ສຳຄັນ	ຄວາມສະຫວ່າງ/ Brightness
ເສດຖະກິດ	- ທຸລະກິດດ້ານການທ່ອງທ່ຽວ (ດຶງດູດນັກທ່ອງທ່ຽວທັງພາຍໃນ ແລະ ຕ່າງປະເທດ) - ສູນກາງການຄ້າຂະໜາດໃຫຍ່ - ຕະຫຼາດ/ ສາງສິນຄ້າ
ພື້ນທີ່ພັກຢູ່/ ທຶນທານຕໍ່ກັບການປ່ຽນແປງດິນຟ້າອາກາດ	- ພື້ນຖານໂຄງລ່າງ (ປູທາງຢາງ, ຮ່ອງລະບາຍນ້ຳ ແລະ ສາລະນຸປະໂພກ) - ການບໍລິການສາທາລະນະ (ການຂົນສົ່ງສາທາລະນະ, ສາທາລະນະສຸກ, ໂຮງໝໍ) - ປອດໄພ ແລະ ການຮັກສາຄວາມປອດໄພ (ໄຟທາງ, CCTV, ຮາວກັນທາງລົດໄຟ) - ອາຄານ ແລະ ສິ່ງອຳນວຍຄວາມສະດວກທີ່ເປັນລະບຽບຮຽບຮ້ອຍ - ກິດຈະກຳ/ ເທດສະການຊຸມຊົນ
ການສຶກສາ	- ການສຶກສາລະດັບສູງ - ສູນຝຶກອົບຮົມວິຊາຊີບ / ສູນຂໍ້ມູນຈັດຫາງານ
ສີຂຽວ	- ສະພາບແວດລ້ອມສີຂຽວ (ສວນສາທາລະນະສີຂຽວ/ ທາງຢ່າງສີຂຽວ/ ເຂດກະສິກຳ) - ເທັກໂນໂລຊີສີຂຽວ (ການຂົນສົ່ງສີຂຽວ, EV, ການຄຸ້ມຄອງສິ່ງເສດເຫຼືອ) - ທຸລະກິດສີຂຽວ (ຜະລິດຕະພັນການກະເສດ, ກະສິກຳປອດສານພິດ)

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

(2) ແນວຄວາມຄິດຕໍ່ກັບໂຄງສ້າງຕົວເມືອງຂອງເຂດພື້ນທີ່ຕົວແບບ

ໂດຍຜ່ານການເຮັດວຽກເປັນກຸ່ມ ໃນ ກອງປະຊຸມຜູ້ມີສ່ວນຮ່ວມຄັ້ງທີ 2 ແມ່ນ ໄດ້ສະເໜີຂໍ້ຄິດເຫັນກ່ຽວກັບໂຄງສ້າງຕົວເມືອງໃນເຂດພື້ນທີ່ຕົວແບບ ເຊິ່ງສະຫຼຸບໃນ ຮູບ 4-1. ການສະເໜີແຜນໂຄງສ້າງຕົວເມືອງນັ້ນ ແມ່ນໄດ້ພິຈາລະນາ ເຂົ້າໃນການສ້າງແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ.

ກຸ່ມ A	
ກຸ່ມ B	
ກຸ່ມ C	

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 4-1: ແຜນໂຄງສ້າງຕົວເມືອງຂອງເຂດພື້ນທີ່ຕົວແບບ ທີ່ສະເໜີໂດຍຊຸມຊົນ (ຜົນການຈັດຕັ້ງກອງປະຊຸມຜູ້ມີສ່ວນຮ່ວມ ຄັ້ງທີ 2)

ພາກທີ 5. ແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ

5.1 ວິໄສທັດ

ອີງຕາມຜົນຂອງການວິເຄາະສະພາບປະຈຸບັນຂອງເຂດພື້ນທີ່ຕົວແບບ ແລະ ແນວຄວາມຄິດຂອງຊຸມຊົນທີ່ໄດ້ສະເໜີໃນກອງປະຊຸມ ຜູ້ມີສ່ວນຮ່ວມ, ຮູບ 5-1 ສະແດງໃຫ້ເຫັນວິໄສທັດຂອງເຂດພື້ນທີ່ຕົວແບບ.

ຈຸດພື້ນເດັ່ນຂອງວິໄສທັດ ແມ່ນໄດ້ກຳນົດ 3 ເປົ້າໝາຍສຳຄັນ ຄື ຊີວິດທີ່ສິດໃສ, ເສດຖະກິດທີ່ສິດໃສ ແລະ ອະນາຄົດທີ່ສິດໃສ ເພື່ອ ຄຸນນະພາບຊີວິດທີ່ດີຂອງຊຸມຊົນ, ຊີວິດການເປັນຢູ່ທີ່ດີຂຶ້ນ ແລະ ມີກິດຈະກຳດ້ານການຄ້າ ແລະ ສະພາບແວດລ້ອມຕົວເມືອງທີ່ດີ ຂຶ້ນໃຫ້ແກ່ຜູ້ຄົນລຸ້ນຕໍ່ໄປ.

ເພື່ອບັນລຸບັນດາເປົ້າໝາຍສຳຄັນ ແມ່ນໄດ້ກຳນົດ 4 ເສົາຄໍ້າ ໃນການພັດທະນາ ຄື: ຊີວິດການເປັນຢູ່, ການທ່ອງທ່ຽວ, ສີຂຽວ ແລະ ການສຶກສາ ໂດຍພິຈາລະນາເຖິງ ການນຳໃຊ້ ແລະ ເສີມຂະຫຍາຍບັນດາປັດໃຈປະຈຸບັນ ໃຫ້ເປັນກາລະໂອກາດ ແລະ ກຳລັງແຮງ, ຫຼຸດຜ່ອນ ແລະ ປັບປຸງໄພຂົ່ມຂູ່ ແລະ ຈຸດອ່ອນຂອງເຂດພື້ນທີ່ຕົວແບບ.



ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 5-1: ວິໄສທັດຂອງການພັດທະນາຕົວເມືອງ ໃນ ເຂດພື້ນທີ່ຕົວແບບ

5.2 ແຜນໂຄງສ້າງຕົວເມືອງ

ແຜນໂຄງສ້າງຕົວເມືອງໃນເຂດພື້ນທີ່ຕົວແບບ ແມ່ນສະແດງໃນ ຮູບ 5-2 ເຊິ່ງປະກອບມີ 4 ເຂດຫຼັກຄື: ເຂດສູນກາງຂົນສົ່ງ ຜູ້ໂດຍສານ, ເຂດການທ່ອງທ່ຽວ ແລະ ການຄ້າ, ເຂດທຸລະກິດ-ການສຶກສາ ແລະ ເຂດຕົວເມືອງສີຂຽວ.

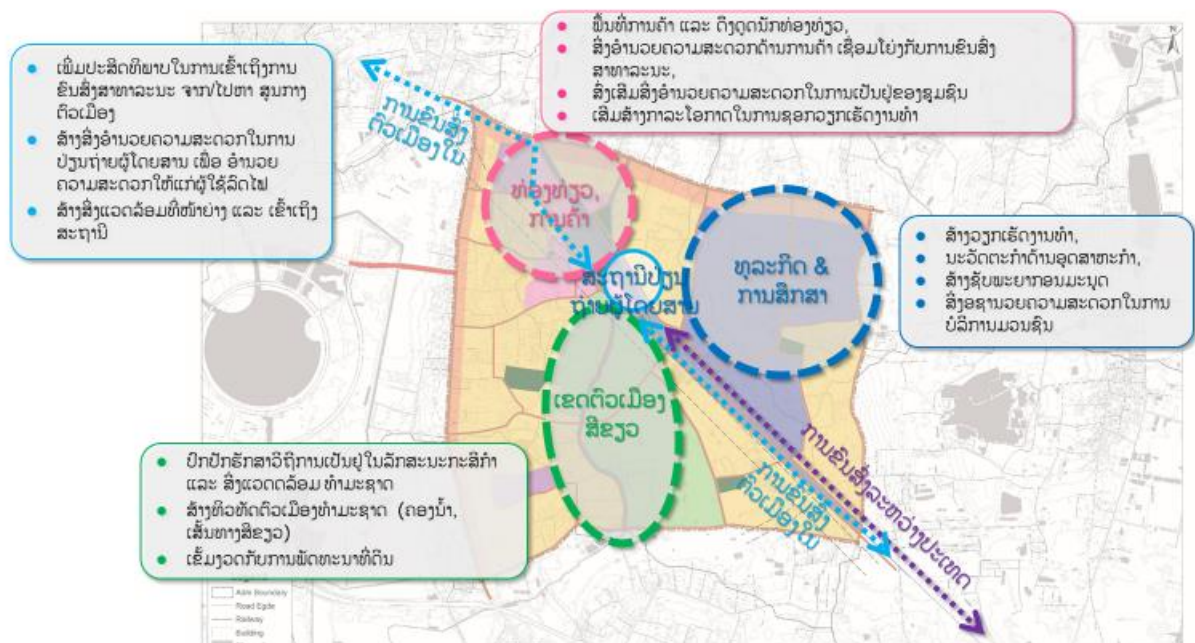
ເຂດສູນກາງການຂົນສົ່ງ ແມ່ນ ສູນກະຈາຍການຂົນສົ່ງສາທາລະນະ ກັບ ສະຖານີລົດໄຟ ລາວ-ໄທ ຄຳສະຫວາດ ແລະ ການຂົນສົ່ງ ລົດເມພາຍໃນຕົວເມືອງໃໝ່ ທີ່ຈະເຊື່ອມຈອດເຂດໃຈກາງເມືອງ ແລະ ເຂດຊານເມືອງຕອນໃຕ້. ເພື່ອເພີ່ມການເຊື່ອມຈອດລະຫວ່າງ ບັນດາການຂົນສົ່ງສາທາລະນະ ແມ່ນ ຈະໄດ້ສ້າງສະພາບແວດລ້ອມທີ່ໜ້າຍ່າງ ຢູ່ ເຂດອ້ອມຮອບສະຖານີລົດໄຟຄຳສະຫວາດ. ເຂດ

ນີ້ມີເປົ້າໝາຍເພື່ອອຳນວຍຄວາມສະດວກໃນການຂົນສົ່ງ ໃຫ້ແກ່ປະຊາຊົນອາໄສໃນເຂດພື້ນທີ່ຕົວແບບ ລວມໄປເຖິງນັກທ່ອງທ່ຽວ ທີ່ເດີນທາງດ້ວຍ ທາງລົດໄຟລາວ-ໄທ.

ເຂດທ່ອງທ່ຽວ ແລະ ການຄ້າ ແມ່ນ ເປັນແຫຼ່ງທ່ອງທ່ຽວ ແລະ ການຄ້າ ເພື່ອໃຫ້ບໍລິການແກ່ນັກທ່ອງທ່ຽວ ແລະ ອຳນວຍຄວາມສະດວກໃນການດຳລົງຊີວິດຂອງຊຸມຊົນ. ເຂດດັ່ງກ່າວແມ່ນມີຂໍ້ມູນຂ່າວສານດ້ານການທ່ອງທ່ຽວ, ການບັນເທີງ, ທີ່ພັກອາໄສ, ຂາຍຍ່ອຍ ແລະ ສິ່ງອຳນວຍຄວາມສະດວກ ທີ່ເປັນດັ່ງປະຕູອອກສູ່ສາກົນ. ການພັດທະນາທາງດ້ານການຄ້າເຫຼົ່ານີ້ຍັງສ້າງກາລະໂອກາດໃນການຊອກວຽກເຮັດງານທຳ ຢູ່ ໃນເຂດພື້ນທີ່ຕົວແບບອີກດ້ວຍ.

ເຂດທຸລະກິດ ແລະ ການສຶກສາ ແນໃສ່ການສ້າງກາລະໂອກາດໃນການຈ້າງງານໃຫ້ແກ່ຫົວໜ່ວຍທຸລະກິດອຸດສາຫະກຳ-ນະວັດຕະກຳ ໂດຍຜ່ານການພັດທະນາຊັບພະຍາກອນມະນຸດ. ເພື່ອປັບປຸງສະພາບແວດລ້ອມໃຫ້ແກ່ການດຳເນີນທຸລະກິດ, ສິ່ງອຳນວຍຄວາມສະດວກໃນການບໍລິການສາທາລະນະເຊັ່ນ: ການຝຶກອົບຮົມວິຊາຊີບ ແລະ ໂຮງໝໍ ແມ່ນຈະໄດ້ລວມເຂົ້າໃນການພັດທະນາ.

ເຂດຕົວເມືອງສີຂຽວ ແມ່ນເຂດອະນຸລັກສຳລັບການນຳໃຊ້ທີ່ດິນກະສິກຳທີ່ມີຢູ່. ການປົກປັກຮັກສານີ້ແມ່ນເພື່ອແນໃສ່ການປົກປັກຮັກສາການດຳລົງຊີວິດກະສິກຳທີ່ມີຢູ່ ແລະ ຫັດສະນີຍະພາບທຳມະຊາດ.

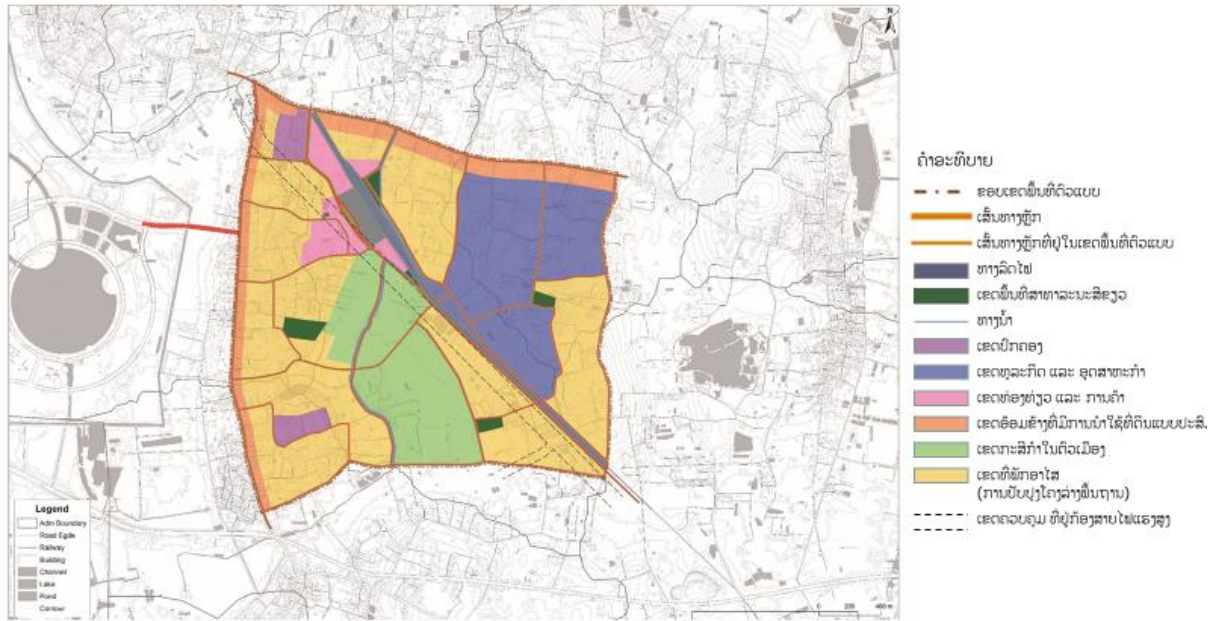


ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 5-2: ແຜນໂຄງສ້າງຕົວເມືອງຂອງເຂດພື້ນທີ່ຕົວແບບ

5.3 ແຜນຜັງການນຳໃຊ້ທີ່ດິນ

ໂດຍອີງໃສ່ວິໄສທັດ ແລະ ແຜນຜັງໂຄງສ້າງຕົວເມືອງ ແລະ ການພິຈາລະນາການນຳໃຊ້ທີ່ດິນໃນປະຈຸບັນ ແມ່ນໄດ້ສ້າງ ແຜນຜັງການນຳໃຊ້ທີ່ດິນຂອງເຂດພື້ນທີ່ຕົວແບບ ເຊິ່ງສະແດງໃນ ຮູບ 5-3 ແລະ ໄດ້ສະຫຼຸບການແບ່ງເຂດນຳໃຊ້ທີ່ດິນໃນ ຕາຕະລາງ 5-1.



ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 5-3: ແຜນຜັງການນຳໃຊ້ທີ່ດິນ ໃນ ເຂດພື້ນທີ່ຕົວແບບ

ຕາຕະລາງ 5-1: ຕາຕະລາງສະຫຼຸບການແບ່ງເຂດນຳໃຊ້ທີ່ດິນ ຢູ່ ເຂດພື້ນທີ່ຕົວແບບ

ປະເພດ	ເນື້ອທີ່ (ເຮັກຕາ)	%
ເສັ້ນທາງ	7.6	1.5%
ທາງລົດໄຟ	19.7	3.8%
ເຂດສີຂຽວ ແລະ ພື້ນທີ່ເປົ່າຫວ່າງ	6.5	1.2%
ຮ່ອງນ້ຳ	2.8	0.5%
ເຂດການປົກຄອງ	12.2	2.3%
ເຂດທຸລະກິດ ແລະ ອຸດສາຫະກຳ	98.2	18.8%
ເຂດການທ່ອງທ່ຽວ ແລະ ການຄ້າ	21.1	4.0%
ເຂດການນຳໃຊ້ທີ່ດິນແບບປະສົມປະສານ	39.7	7.6%
ເຂດກະສິກຳໃນຕົວເມືອງ	78.3	15.0%
ເຂດທີ່ຢູ່ອາໄສ	237.4	45.3%
ລວມທັງໝົດ	523.6	100.0%

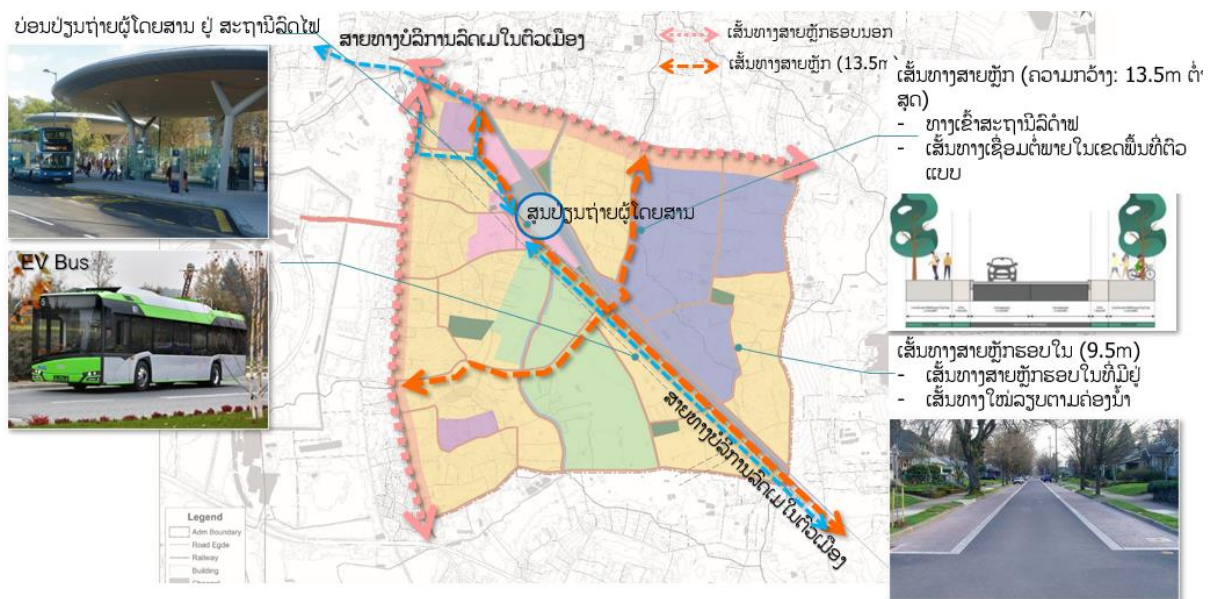
ໝາຍເຫດ: ເສັ້ນທາງ ໝາຍເຖິງ ເສັ້ນທາງຊຶມ ແລະ ເສັ້ນທາງຮອບໃນ ທີ່ບໍ່ໄດ້ລວມເອົາທາງຮ່ອມ
ແຫຼ່ງຂໍ້ມູນ: CDUDCP

5.4 ແຜນການຂອງຂະແໜງການ

(1) ຂະແໜງຂົວທາງ ແລະ ການຂົນສົ່ງສາທາລະນະ

ຮູບ 5-4 ສະແດງໃຫ້ເຫັນແຜນຕາໜ່າງເສັ້ນທາງ ແລະ ການຂົນສົ່ງສາທາລະນະ ຢູ່ ເຂດພື້ນທີ່ຕົວແບບ. ຕາໜ່າງເສັ້ນທາງ ປະກອບດ້ວຍ ເສັ້ນທາງສາຍຫຼັກຮອບນອກ ແລະ ເສັ້ນທາງຫຼັກ (ຄວາມກວ້າງ=13.5 m) ໃນ ເຂດພື້ນທີ່ຕົວແບບ. ເສັ້ນທາງສາຍຫຼັກ 2 ເສັ້ນນີ້ ຈະຮັບໃຊ້ການສັນຈອນ ທີ່ເຂົ້າເຖິງສະຖານີລົດໄຟ ແລະ ການຈະລາຈອນລະຫວ່າງກັນເມືອງ. ເສັ້ນທາງສາຍຫຼັກຮອບໃນ (ຄວາມກວ້າງ=9.5 m) ທີ່ໄດ້ຍົກລະດັບຈາກທາງຮ່ອມທີ່ມີຢູ່ ຈະຊ່ວຍຮອງຮັບເສັ້ນທາງສາຍຫຼັກໃນການເຂົ້າເຖິງທີ່ດິນແຕ່ລະບ່ອນ.

ຕິດພັນກັບການຂົນສົ່ງສາທາລະນະ, ເຂດສະຖານີຄຳສະຫວາດ ແມ່ນເຮັດໜ້າທີ່ເປັນສູນກາງດ້ານການຂົນສົ່ງ ທີ່ເຊື່ອມຈອດລະຫວ່າງທາງລົດໄຟລາວ-ໄທ ແລະ ສາຍທາງບໍລິການລົດເມໃນຕົວເມືອງສາຍໃໝ່. ໃນການເຮັດໜ້າທີ່ເປັນສູນກາງການຂົນສົ່ງຜູ້ໂດຍສານ ແມ່ນຈະຕ້ອງມີສິ່ງອຳນວຍໃນການປ່ຽນຖ່າຍຜູ້ໂດຍສານເຊັ່ນ: ບ່ອນລໍຖ້າລົດເມ ແລະ ບ່ອນຈອດລົດແທັກຊີ.

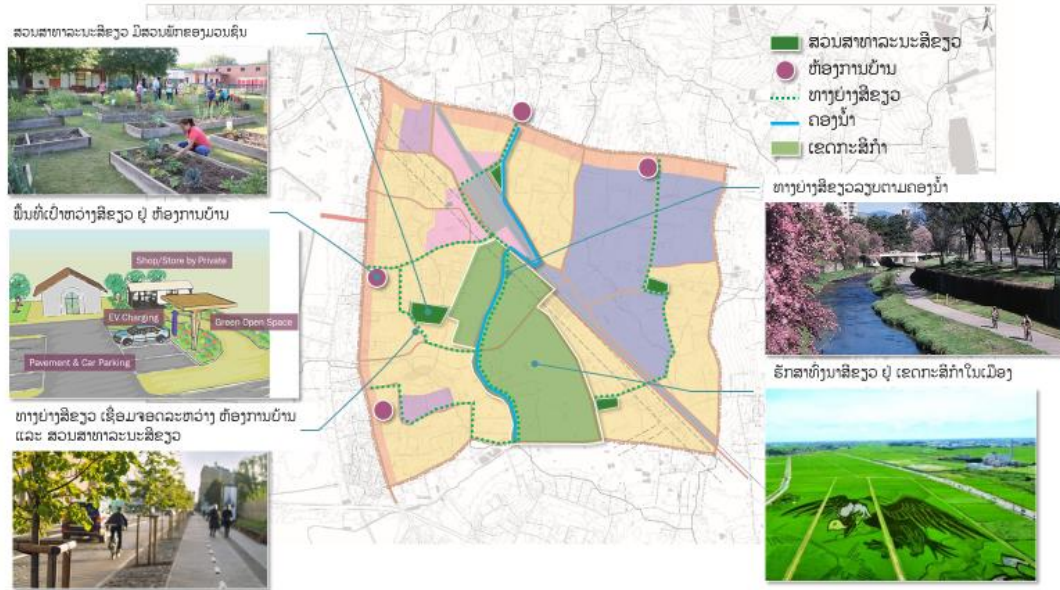


ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 5-4: ແຜນຕາໜ່າງເສັ້ນທາງ ແລະ ການຂົນສົ່ງສາທາລະນະ

(2) ເຂດສີຂຽວ ແລະ ພື້ນທີ່ເປົ່າຫວ່າງ

ຮູບ 5-5 ສະແດງໃຫ້ເຫັນແຜນເຂດສີຂຽວ ແລະ ພື້ນທີ່ເປົ່າຫວ່າງ ໃນ ເຂດພື້ນທີ່ຕົວແບບ. ສວນສາທາລະນະສີຂຽວ ແມ່ນຈັດສັນຢູ່4ຈຸດ ເພື່ອຄອບຄຸມການບໍລິການ ແລະ ຊົມໃຊ້ ຂອງຜູ້ພັກພາອາໄສທັງໝົດໃນເຂດພື້ນທີ່ຕົວແບບ. ຫ້ອງການບ້ານທີ່ມີຢູ່ ຈະໄດ້ຮັບການປັບປຸງໃຫ້ມີສວນດອກໄມ້ ເພື່ອສ້າງສິ່ງອຳນວຍຄວາມສະດວກໃຫ້ແກ່ນັກທ່ອງທ່ຽວ/ ຜູ້ທີ່ເຂົ້າມາຢ້ຽມຊົມ. ເຂດສີຂຽວເຫຼົ່ານີ້ ແມ່ນຈະເຊື່ອມຈອດໂດຍຕາໜ່າງຄົນຢ່າງສີຂຽວທີ່ປະກອບດ້ວຍເສັ້ນທາງສາຍຫຼັກຮອບໃນ ແລະ ທາງຢ່າງສີຂຽວລຽບຕາມຄ່ອງນ້ຳ.



ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 5-5: ແຜນການຈັດສັນເຂດສີຂຽວ ແລະ ພື້ນທີ່ເປົ່າຫວ່າງ

(3) ເຂດການຄ້າ ແລະ ທຸລະກິດ

ຮູບ 5-6 ສະແດງໃຫ້ເຫັນແຜນພັດທະນາເຂດການຄ້າ ແລະ ທຸລະກິດໃນເຂດພື້ນທີ່ຕົວແບບ. ເຂດເປົ່າຫວ່າງທີ່ມີຢູ່ ແລະ ມີເນື້ອທີ່ 7 ເຮັກຕາຢູ່ທາງທິດເໜືອຂອງສະຖານີຄຳສະຫວາດ ແມ່ນສະເໜີໃຫ້ເປັນສູນການທ່ອງທ່ຽວ, ສູນກາງການຄ້າ ແລະ ຖະໜົນຕະຫຼາດ ເພື່ອແນໃສ່ການດຶງດູດນັກທ່ອງທ່ຽວທັງພາຍໃນ ແລະ ຕ່າງປະເທດ. ເຂດກະສິກຳທີ່ມີຢູ່ທາງທິດຕາເວັນຕົກຂອງສະຖານີນີ້ ແມ່ນສະເໜີໃຫ້ເປັນເຂດເຮືອນພັກ/ໂຮງແຮມ ໂດຍຮ່ວມມືກັບພາກສ່ວນເອກະຊົນ. ຢູ່ທາງທິດຕາເວັນອອກສ່ຽງ ເໜືອ ແລະ ທິດໃຕ້, ຮ້ານຂາຍຍ່ອຍ ແລະ ຕະຫຼາດ ແມ່ນສະເໜີໃຫ້ເປັນເຂດຊຸມຊົນທ້ອງຖິ່ນໃນປະຈຳວັນ.

ໃນເຂດຕາເວັນອອກ ຂອງ ສະຖານີຄຳສະຫວາດ, ເຂດທຸລະກິດ ແລະ ອຸດສາຫະກຳ ແມ່ນສະເໜີໃຫ້ເປັນເຂດເພື່ອສົ່ງເສີມທຸລະກິດ ອຸດສາຫະກຳທີ່ມີນະວັດກຳ, ສະຖານທີ່ຝຶກອົບຮົມວິຊາຊີບ ແລະ ສະຖານທີ່ບໍລິການສາທາລະນະ.



ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 5-6: ແຜນຈັດສັນເຂດການຄ້າ ແລະ ທຸລະກິດ

(4) ເຂດທີ່ພັກອາໄສ

ຮູບ 5-7 ສະແດງໃຫ້ເຫັນແຜນການຈັດສັນເຂດທີ່ພັກອາໄສ ຢູ່ ພື້ນທີ່ຕົວແບບ. ພື້ນທີ່ ທີ່ຢູ່ອາໄສສ່ວນຫຼາຍແມ່ນຂາດພື້ນຖານໂຄງລ່າງ, ໂດຍສະເພາະແມ່ນການປູທາງຢ່າງທາງ ແລະ ລະບາຍນ້ຳຝົນ. ເຂດເຫຼົ່ານີ້ແມ່ນໄດ້ສະເໜີໃຫ້ເປັນເຂດປັບປຸງພື້ນຖານໂຄງລ່າງເພື່ອເຮືອນ ສູງ-ຕ່ຳ ໂດຍມີທາງປູຢາງ, ລະບາຍນ້ຳ, ໄຟທາງ ແລະ ທາງຢ່າງ.

ພື້ນທີ່ແຄມທາງລຽບຕາມເສັ້ນທາງຫຼັກຮອບນອກ ແມ່ນສະເໜີເປັນເຂດຄຸ້ມບ້ານທີ່ມີການນຳໃຊ້ອາຄານແບບປະສົມ ທີ່ມີອາຄານສູງ-ຕ່ຳ ຫຼື ສູງ-ປານກາງ ເພື່ອເປັນທີ່ຢູ່ອາໄສ ແລະ ການຄ້າ ໂດຍພິຈາລະນາເຖິງທ່າແຮງດ້ານເສດຖະກິດ ດ້ວຍການສັນຈອນຕາມເສັ້ນທາງສາຍຫຼັກຮອບນອກ ແລະ ເສັ້ນທາງເຂົ້າເຖິງສະຖານີລົດໄຟ ແລະ ເຂດທຸລະກິດ.



ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 5-7: ແຜນການຈັດສັນເຂດທີ່ພັກອາໄສ

ພາກທີ 6. ການກຳນົດໂຄງການ

6.1 ວິທີການກຳນົດ

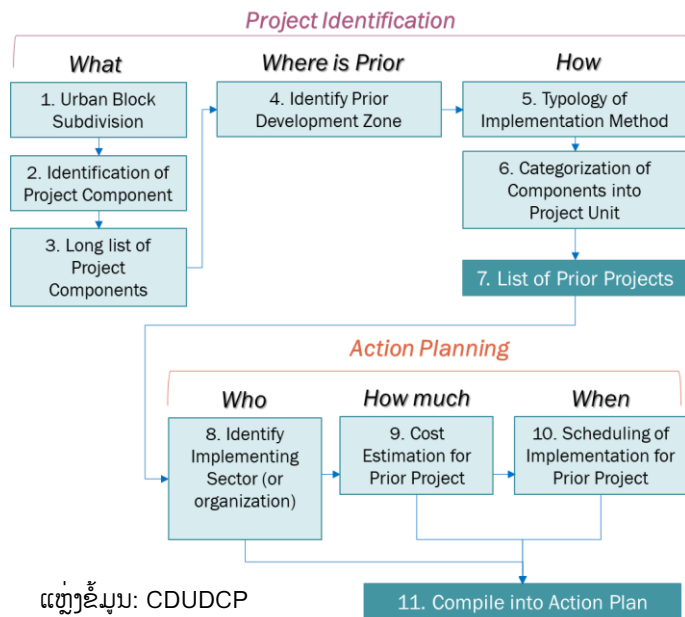
ການກຳນົດໂຄງການແມ່ນໜຶ່ງໃນວຽກງານການວາງແຜນເພື່ອຊື້ແຈງອົງປະກອບຂອງໂຄງການເພື່ອບັນລຸແຜນການພັດທະນາ. ຮູບ 6-1 ສະແດງໃຫ້ເຫັນໂຄງຮ່າງການກຳນົດໂຄງການ ແລະ ການວາງແຜນປະຕິບັດງານ.

ໃນການກຳນົດໂຄງການ ແມ່ນໄດ້ແບ່ງເຂດວາງແຜນ ເປັນບັນດາເຂດຍ່ອຍໃນຕົວເມືອງ ເປັນກະກຽມວຽກງານການກຳນົດໂຄງການ.

ອີງຕາມການແບ່ງເຂດຍ່ອຍ ແມ່ນໄດ້ກຳນົດອົງປະກອບຂອງໂຄງການ ຕາມຂະໜາດ ແລະ ປະເພດຂອງໂຄງການ. ຜົນໄດ້ຮັບຂອງການກຳນົດແມ່ນສັງລວມເຂົ້າໃນບັນຊີລາຍຊື່ໂຄງການ.

ເຂດບຸລິມະສິດໃນການພັດທະນາ ແມ່ນ ກຳນົດຈາກຜົນກະທົບດ້ານສັງຄົມ ແລະ ເສດຖະກິດ ລວມໄປເຖິງຄວາມງ່າຍດາຍໃນການຈັດຕັ້ງປະຕິບັດ ທີ່ກຳນົດໃນແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ. ການຈັດລຽງໂຄງການບຸລິມະສິດແມ່ນກຳນົດຈາກລາຍຊື່ໂຄງການ ໂດຍພິຈາລະນາເຖິງວິທີການຈັດຕັ້ງປະຕິບັດ.

ອີງຕາມລາຍຊື່ໂຄງການບຸລິມະສິດ ແມ່ນໄດ້ສ້າງແຜນປະຕິບັດງານ ເພື່ອ ການຈັດຕັ້ງປະຕິບັດໂຄງການ ເຊິ່ງ ໄດ້ລະບຸຂະແໜງການຈັດຕັ້ງປະຕິບັດ, ມູນຄ່າການພັດທະນາໂດຍປະເມີນ ແລະ ໄລຍະການຈັດຕັ້ງປະຕິບັດໂຄງການ.

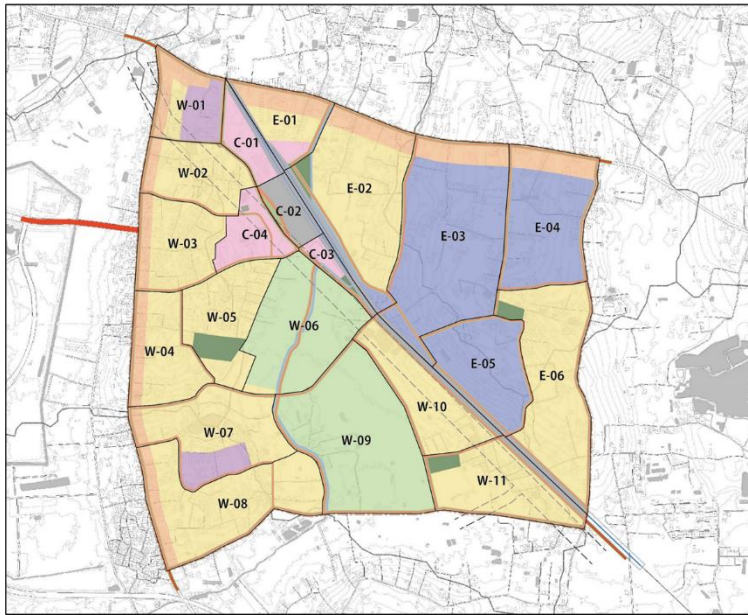


ຮູບ 6-1: ໂຄງຮ່າງການກຳນົດໂຄງການ ແລະ ການວາງແຜນປະຕິບັດງານ

6.2 ການກຳນົດໂຄງການ

(1) ການແບ່ງເຂດຍ່ອຍ

ຮູບ 6-2 ສະແດງໃຫ້ເຫັນເຂດຍ່ອຍ ຢູ່ ພື້ນທີ່ຕົວແບບ ເຊິ່ງ ການແບ່ງເຂດຍ່ອຍນີ້ ແມ່ນອີງໃສ່ສິ່ງອຳນວຍຄວາມສະດວກຫຼັກໃນຕົວເມືອງທີ່ມີຢູ່ ແລະ/ຫຼື ທີ່ໄດ້ວາງແຜນໄວ້ ເຊັ່ນ: ເສັ້ນທາງສາຍຫຼັກ ແລະ ທາງລົດໄຟ. ເນື້ອທີ່ເຂດພື້ນທີ່ຕົວແບບທັງໝົດ 523 ເຮັກຕາ ແລະ ແບ່ງອອກເປັນ 21 ເຂດຍ່ອຍ.



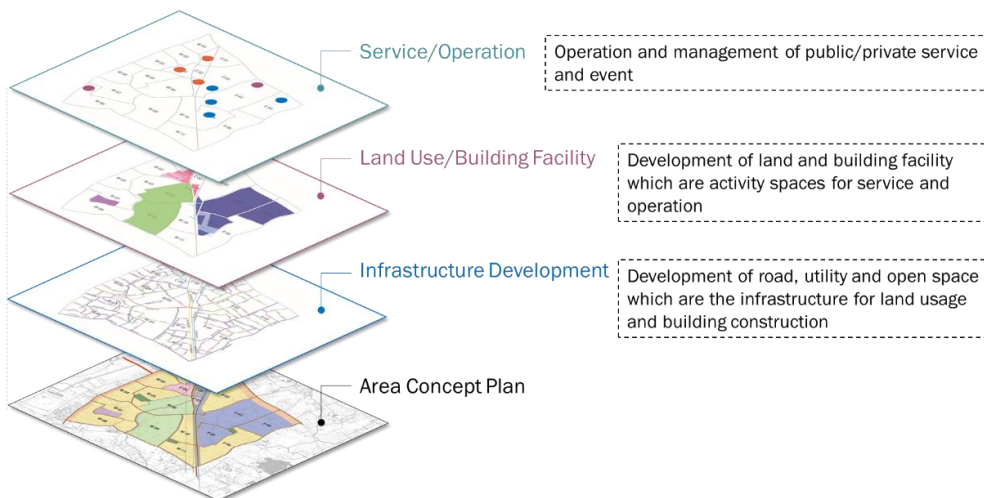
	Urban Blocks	Area (ha)
Center Zone	C-01	8.1
	C-02	6.8
	C-03	4.5
	C-04	10.6
West Zone	W-01	14.8
	W-02	17.8
	W-03	19.8
	W-04	19.3
	W-05	21.6
	W-06	32.1
	W-07	29.6
	W-08	36.0
	W-09	47.8
	W-10	22.4
	W-11	25.1
East Zone	E-01	14.2
	E-02	42.3
	E-03	56.4
	E-04	32.7
	E-05	23.5
	E-06	38.2
Total		523.6

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 6-2: ການແບ່ງເຂດຍ່ອຍ ເພື່ອ ກຳນົດໂຄງການ

(2) ການກຳນົດອົງປະກອບຂອງໂຄງການ

ຮູບ 6-3 ສະແດງໃຫ້ເຫັນ 3ໝວດສຳຄັນ ຂອງອົງປະກອບຂອງໂຄງການເພື່ອບັນລຸການຈັດຕັ້ງແຜນແນວຄວາມຄິດພື້ນທີ່. ໝວດການພັດທະນາພື້ນຖານໂຄງລ່າງ ປະກອບດ້ວຍສິ່ງອຳນວຍຄວາມສະດວກດ້ານພື້ນຖານໂຄງລ່າງເຊັ່ນ: ເສັ້ນທາງ, ສາທາລະນະພະໂພກ ແລະ ເຂດເປົ້າຫວ່າງ ເຊິ່ງມີຄວາມຈຳເປັນໃນການບັນລຸການຈັດຕັ້ງປະຕິບັດການນຳໃຊ້ທີ່ດິນ ແລະ ການກໍ່ສ້າງອາຄານ. ໝວດການນຳໃຊ້ທີ່ດິນ ແລະ ສິ່ງອຳນວຍຄວາມສະດວກໃນການກໍ່ສ້າງ ແມ່ນໝວດທີ່ສອງຂອງອົງປະກອບຂອງໂຄງການທີ່ຈະສະໜອງພື້ນທີ່ຂອງກິດຈະກຳສຳລັບການບໍລິການ ແລະ ການດຳເນີນງານຕ່າງໆ. ໝວດການບໍລິການ ແລະ ການດຳເນີນງານ ປະກອບດ້ວຍ ການຈັດຕັ້ງ ແລະ ຄຸ້ມຄອງໂຄງການ ໂດຍພາກລັດ ແລະ ເອກະຊົນ.



ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 6-3: ໝວດອົງປະກອບຂອງໂຄງການເພື່ອບັນລຸການຈັດຕັ້ງປະຕິບັດແຜນແນວຄວາມຄິດພື້ນທີ່

ອີງໃສ່ແຜນແນວຄວາມຄິດພື້ນທີ່ ແລະ ໝວດຫຼັກຂອງອົງປະກອບໂຄງການ, ຕາຕະລາງ 6-1 ແມ່ນສະແດງໃຫ້ເຫັນລາຍການຂອງອົງປະກອບຂອງໂຄງການໃນພື້ນທີ່ຕົວແບບ. ລາຍການອົງປະກອບໂຄງການ ຕາມໝວດໝູ່ ແລະ ແຜນທີ່ຕັ້ງ ແມ່ນເບິ່ງໃນເອກະສານຊ້ອຍທ້າຍ 1.

ຕາຕະລາງ 6-1: ອົງປະກອບໂຄງການທີ່ໄດ້ກຳນົດ ໃນ ເຂດພື້ນທີ່ຕົວແບບ

/	ໝວດຍ່ອຍ	ປະເພດອົງປະກອບໂຄງການ
ການພັດທະນາພື້ນຖານ ໂຄງລ່າງ	01. ເສັ້ນທາງ (ລວມທັງຮ່ອງລະບາຍນ້ຳ ແລະ ການສະໜອງສາ ທາລະນະປະໂຫຍດ)	01-1. ສ້າງເສັ້ນທາງສາຍຫຼັກ (w=13.5m) 01-2. ປັບປຸງເສັ້ນທາງສາຍຫຼັກ (w=13.5m) 01-3. ສ້າງເສັ້ນທາງສາຍຫຼັກຮອບໃນ (w=9.5m) 01-4. ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ (w=9.5m) 01-5. ສ້າງເສັ້ນທາງເພື່ອການບໍລິການໃໝ່ 01-6. ປັບປຸງເສັ້ນທາງບໍລິການທີ່ມີຢູ່
	02. ເຂດເປົ້າຫວ່າງ	02-1. ສ້າງພື້ນທີ່ເປົ້າຫວ່າງສີຂຽວ 02-2. ສ້າງສວນຂະໜາດນ້ອຍ
	03. ຄ່ອງນ້ຳ	03-1. ປັບປຸງຄ່ອງນ້ຳທີ່ມີຢູ່
	ການນຳໃຊ້ທີ່ດິນ ແລະ ອາຄານ	11-1. ສ້າງສູນກາງທ່ອງທ່ຽວ 11-2. ພັດທະນາຕະຫຼາດການທ່ອງທ່ຽວ 11-3. ສ້າງຕະຫຼາດທ້ອງຖິ່ນ 11-4. ພັດທະນາເຂດທຸລະກິດ
		12. ການສຶກສາ
		12-1. ສ້າງສູນກາງວິຊາຊີບ
		13. ສຸຂະພາບ
		13-1. ສ້າງສູນກາງການແພດ
		14. ເຄຫາສະຖານ
		14-1. ການພັດທະນາເຄຫາສະຖານໃໝ່ 14-2. ປັບປຸງບ້ານທີ່ມີຢູ່
		15. ການນຳໃຊ້ໃນຫຼາກຫຼາຍຈຸດປະສົງ
		15-1. ການນຳໃຊ້ພື້ນທີ່ຫ້ອງການບ້ານ ເພື່ອການຄ້າ
	16. ກະສິກຳ	16-1. ຂໍ້ຫ້າມໃນການນຳໃຊ້ທີ່ດິນ ຢູ່ ດິນກະສິກຳ
ການບໍລິການ ແລະ ການດຳເນີນງານ	21. ສາຍທາງບໍລິການລົດເມໃນຕົວເມືອງ	21-1. ຂະຫຍາຍສາຍທາງບໍລິການລົດເມ
	22. ການຄວບຄຸມການຈອດລົດ	22-1. ການຄຸ້ມຄອງ ຫ້າມການຈອດລົດທຸກປະເພດ
	23. ຄວາມສວຍງາມ/ ສະພາບແວດລ້ອມຂອງ ຕົວເມືອງ	23-1. ຄຸ້ມຄອງໃນການອອກແບບທັດສະນີຍະພາບ 23-2. ການຄຸ້ມຄອງຂີ້ເຫຍື້ອ 23-3. ກິດຈະກຳອະນາໄມຂອງຊຸມຊົນ
	24. ການທ່ອງທ່ຽວ	24-1. ການສ້າງມູນຄ່າຜະລິດຕະພັນທ້ອງຖິ່ນ 24-2. ກິດຈະກຳສົ່ງເສີມການທ່ອງທ່ຽວ
	25. ສຸຂະພາບ	25-1. ທຸລະກິດບໍລິການສຸຂະພາບ 25-2. ກິດຈະກຳກິລາ/ ເພື່ອສຸຂະພາບ
	26. ການສຶກສາ	26-1. ທຸລະກິດການຝຶກອົບຮົມວິຊາຊີບ
	27. ຄວາມປອດໄພ/ ການຮັກສາຄວາມປອດໄພ	27-1. ການຄຸ້ມຄອງການຮັກສາຄວາມປອດໄພ CCTV

/	ໝວດຍ່ອຍ	ປະເພດອົງປະກອບໂຄງການ
	28. ການຄຸ້ມຄອງຕົວເມືອງ	28-1. ການໃຊ້ ເວັບຂໍ້ມູນ GIS (ການແບ່ງປັນຂໍ້ມູນ)

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

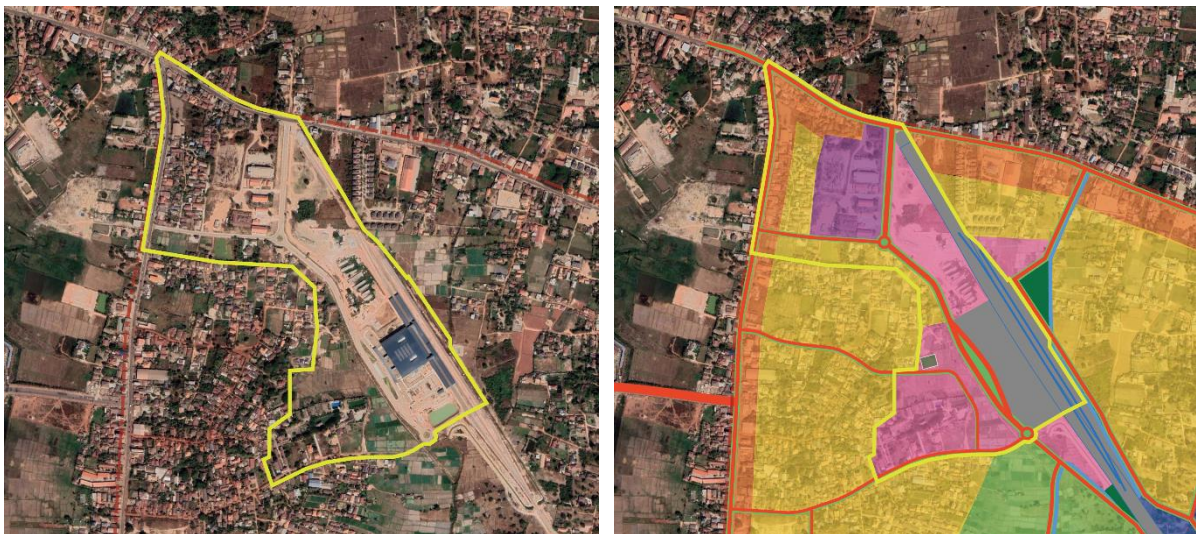
6.3 ເຂດພັດທະນາບູລິມະສິດ

ເຂດພື້ນທີ່ຕົວແບບທີ່ມີເນື້ອທີ່ປະມານ 523 ເຮັກຕາແມ່ນພື້ນທີ່ຂະໜາດໃຫຍ່ສໍາລັບການລົງທຶນ ເຊິ່ງຈຳເປັນຕ້ອງພິຈາລະນາເຖິງການຈັດລຽນບູລິມະສິດໃນການລົງທຶນ ໂດຍຄຳນຶງເຖິງຜົນກະທົບ, ຄວາມສະດວກ ແລະ ໄລຍະການຈັດຕັ້ງປະຕິບັດ.

ເຂດພັດທະນາບູລິມະສິດ ເນື້ອທີ່ 47.4 ເຮັກຕາ ແມ່ນໄດ້ວາງຍຸດທະສາດຢູ່ເຂດຕາເວັນຕົກຂອງສະຖານີຄຳສະຫວາດ ໂດຍພິຈາລະນາເຖິງສະພາບການຕໍ່ໄປນີ້:

- ສະຖານທີ່ສາມາດເຂົ້າເຖິງ ແລະ ມີມູນຄ່າ ດ້ວຍການຕັ້ງຢູ່ ທາງໜ້າທາງເຂົ້າສະຖານີລົດໄຟ ແລະ ໃກ້ກັບເຂດໃຈກາງຕົວເມືອງ.
- ດຶງດູດການລົງທຶນໄດ້ງ່າຍຂຶ້ນຍ້ອນໂຄງລ່າງພື້ນຖານທີ່ມີຢູ່ ເຊັ່ນ: ເສັ້ນທາງຫຼັກໃນການເຂົ້າເຖິງ ທີ່ໄດ້ຮັບການພັດທະນາໂດຍໂຄງການທາງລົດໄຟ.
- ປະກອບມີຕອນດິນທີ່ມີທ່າແຮງດ້ານການພັດທະນາເຊັ່ນ: ດິນເປົ່າຫວ່າງຢູ່ທາງທິດເໜືອຂອງສະຖານີລົດໄຟ, ດິນກະສິກໍາ ແລະ ດິນເປົ່າຫວ່າງຕາມເສັ້ນທາງເຂົ້າເຖິງຫຼັກ.
- ຜົນກະທົບທາງດ້ານເສດຖະກິດ ແລະ ສັງຄົມຂອງພາກພື້ນ ແມ່ນສາມາດຄາດຄະເນໄດ້ຈາກການພັດທະນາການທ່ອງທ່ຽວ ແລະ ການຄ້າ

ເຂດພັດທະນາບູລິມະສິດແມ່ນສະແດງໃນ ຮູບ 6-4.



ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 6-4: ເຂດພັດທະນາບູລິມະສິດ ໃນ ເຂດພື້ນທີ່ຕົວແບບ

6.4 ໂຄງການບຸລິມະສິດ ແລະ ວິທີການຈັດຕັ້ງປະຕິບັດໂຄງການ

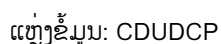
(1) ໂຄງການບຸລິມະສິດ ໃນ ເຂດພັດທະນາບຸລິມະສິດ

ອີງຕາມບັນຊີລາຍຊື່ອົງປະກອບຂອງໂຄງການໃນເຂດພື້ນທີ່ຕົວແບບ, ໂຄງການບຸລິມະສິດ ໃນເຂດພັດທະນາບຸລິມະສິດ ໄດ້ກຳນົດ ຢູ່ ໃນ ຕາຕະລາງ 6-2 ແລະ ຮູບ 6-5.

ຕາຕະລາງ 6-2: ໂຄງການບຸລິມະສິດ ໃນ ເຂດພັດທະນາບຸລິມະສິດ

ໝວດຫຼັກ	ລະຫັດໂຄງການ	ປະເພດໂຄງການ	ຂະໜາດຂອງໂຄງການ
ການພັດທະນາ ພື້ນຖານໂຄງລ່າງ	C04-MR-N-001	ເສັ້ນທາງສາຍຫຼັກຮອບໃນ ເສັ້ນໃໝ່	W9.5m x L353m
	C04-MR-N-002	ເສັ້ນທາງສາຍຫຼັກຮອບໃນ ເສັ້ນໃໝ່	W9.5m x L167m
	C04-IM-I-001	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	W9.5m x L282m
	W01-SR-I-001	ປັບປຸງເສັ້ນທາງບໍລິການ	W5.0m x L333m
	W01-SR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	W5.0m x L240m
	W02-SR-N-001	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	W6.0m x L83m
	W02-SR-N-002	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	W6.0m x L344m
	W02-SR-N-007	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	W6.0m x L94m
	W02-SR-I-008	ປັບປຸງເສັ້ນທາງບໍລິການ	W5.0m x L156m
ການນຳໃຊ້ທີ່ດິນ ແລະ ອາຄານ	C01-CD-N-001	ສ້າງສູນກາງດ້ານການທ່ອງທ່ຽວ	5.49 ha
	C04-CD-N-001	ສ້າງຕະຫຼາດດ້ານການທ່ອງທ່ຽວ	5.08 ha
	W01-UI-I-001	ປັບປຸງບ້ານທີ່ມີຢູ່	6.34 ha
	W02-UI-I-001 (part)	ປັບປຸງບ້ານທີ່ມີຢູ່	3.42 ha
ການບໍລິການ ແລະ ການດຳເນີນງານ	SO-N-002	ຄຸ້ມຄອງການອອກແບບທັດສະນີຍະພາບ	47.4 ha
	SO-N-003	ກິດຈະກຳສົ່ງເສີມການທ່ອງທ່ຽວ (ເຂດສະຖານີລົດໄຟ ແລະ ເຂດສູນກາງທ່ອງທ່ຽວ)	10.0 ha
	SO-N-006	ການຄຸ້ມຄອງ-ຮັກສາຄວາມປອດໄພ CCTV	47.4 ha
	SO-N-008	ຂະຫຍາຍສາຍທາງບໍລິການລົດເມ	3.2 km

ແຫຼ່ງຂໍ້ມູນ: CDUDCP



(2) ວິທີການຈັດຕັ້ງປະຕິບັດໂຄງການບູລິມະສິດ

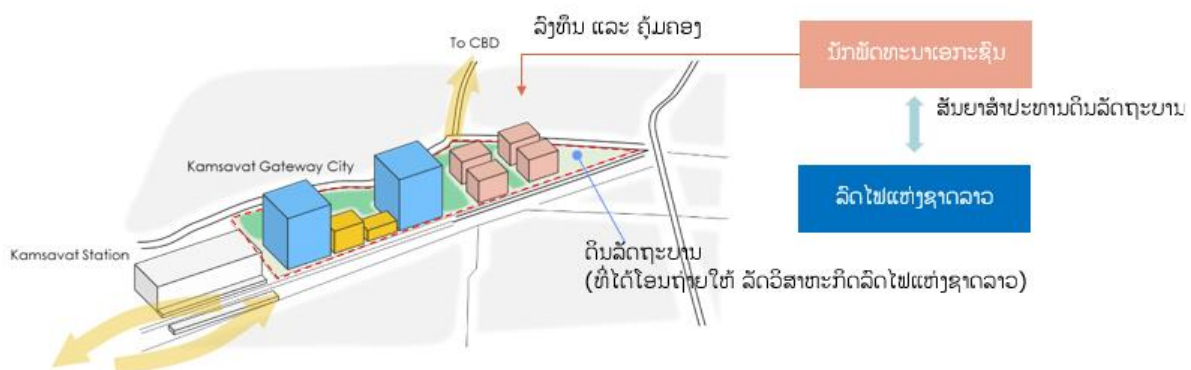
ໝວດຫຼັກ	ລະຫັດໂຄງການ	ປະເພດໂຄງການ	ວິທີການຈັດຕັ້ງປະຕິບັດ		ພາກສ່ວນຈັດຕັ້ງປະຕິບັດ
			ໂຄງຮ່າງ	ປະເພດ	
ການພັດທະນາພື້ນຖານໂຄງລ່າງ	C04-MR-N-001	ເສັ້ນທາງສາຍຫຼັກຮອບໃນເສັ້ນໃໝ່	ການລົງທຶນຂອງພາກສ່ວນເອກະຊົນ ເພື່ອ ການພັດທະນາດ້ານການຄ້າ (ລວມເຂົ້າໃນໂຄງການ C04-CD-N-001)	b	ເອກະຊົນ
	C04-MR-N-002	ເສັ້ນທາງສາຍຫຼັກຮອບໃນເສັ້ນໃໝ່	ການລົງທຶນຂອງພາກສ່ວນເອກະຊົນ ເພື່ອ ການພັດທະນາດ້ານການຄ້າ (ລວມເຂົ້າໃນໂຄງການ C04-CD-N-001)	b	ເອກະຊົນ
	C04-IM-I-001	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	ການສ້າງເສັ້ນທາງໂດຍການມີສ່ວນຮ່ວມຂອງພາກລັດ ແລະ ເອກະຊົນ	c	ລັດຖະບານ ແລະ ເອກະຊົນ
	W01-SR-I-001	ປັບປຸງເສັ້ນທາງບໍລິການ	ການສ້າງເສັ້ນທາງໂດຍການມີສ່ວນຮ່ວມຂອງພາກລັດ ແລະ ເອກະຊົນ	c	ລັດຖະບານ ແລະ ເອກະຊົນ
	W01-SR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	ການສ້າງເສັ້ນທາງໂດຍການມີສ່ວນຮ່ວມຂອງພາກລັດ ແລະ ເອກະຊົນ	c	ລັດຖະບານ ແລະ ເອກະຊົນ
	W02-SR-N-001	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	ການສ້າງເສັ້ນທາງໂດຍການມີສ່ວນຮ່ວມຂອງພາກລັດ ແລະ ເອກະຊົນ	c	ລັດຖະບານ ແລະ ເອກະຊົນ
	W02-SR-N-002	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	ການສ້າງເສັ້ນທາງໂດຍການມີສ່ວນຮ່ວມຂອງພາກລັດ ແລະ ເອກະຊົນ	c	ລັດຖະບານ ແລະ ເອກະຊົນ
	W02-SR-N-007	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	ການລົງທຶນຂອງພາກສ່ວນເອກະຊົນ ເພື່ອ ການພັດທະນາດ້ານການຄ້າ (ລວມເຂົ້າໃນໂຄງການ C04-CD-N-001)	b	ເອກະຊົນ
	W02-SR-I-008	ປັບປຸງເສັ້ນທາງບໍລິການ	ການສ້າງເສັ້ນທາງໂດຍການມີສ່ວນຮ່ວມຂອງພາກລັດ ແລະ ເອກະຊົນ	c	ລັດຖະບານ ແລະ ເອກະຊົນ

ໝວດໝູ່ກາ	ລະຫັດໂຄງການ	ປະເພດໂຄງການ	ວິທີການຈັດຕັ້ງປະຕິບັດ		ພາກສ່ວນຈັດຕັ້ງປະຕິບັດ
			ໂຄງຮ່າງ	ປະເພດ	
ການນຳໃຊ້ທີ່ດິນ ແລະ ອາຄານ	C01-CD-N-001	ສ້າງສູນກາງດ້ານການທ່ອງທ່ຽວ	ສຳປະທານດິນລັດ	a	ເອກະຊົນ
	C04-CD-N-001	ສ້າງຕະຫຼາດດ້ານການທ່ອງທ່ຽວ	ຮ່ວມພັດທະນາ/ ການຈັດສັນຕອນດິນຄືນໃໝ່	b	ເອກະຊົນ
	W01-UI-I-001	ປັບປຸງບ້ານທີ່ມີຢູ່	ສ້າງ ແລະ ປັບປຸງ ເສັ້ນທາງ		ລັດຖະບານ ແລະ ເອກະຊົນ
	W02-UI-I-001 (part)	ປັບປຸງບ້ານທີ່ມີຢູ່	ສ້າງ ແລະ ປັບປຸງ ເສັ້ນທາງ		ລັດຖະບານ ແລະ ເອກະຊົນ
ການບໍລິການ ແລະ ການດຳເນີນງານ	SO-N-002	ຄຸ້ມການອອກແບບທັດສະນີ ຍະພາບ	ສ້າງແຜນຜັງເມືອງລະອຽດ		ເອກະຊົນ
	SO-N-003	ກິດຈະກຳສົ່ງເສີມການທ່ອງທ່ຽວ	ກິດຈະກຳ/ ເທດສະການ		ລັດຖະບານ ແລະ ເອກະຊົນ
	SO-N-006	ການຄຸ້ມຄອງ-ຮັກສາຄວາມປອດໄພ CCTV	ການຕິດຕັ້ງສິ່ງອ່ານວຍຄວາມສະດວກ/ ລະບົບການຄຸ້ມຄອງ		ລັດຖະບານ
	SO-N-008	ຂະຫຍາຍສາຍທາງບໍລິການລົດເມ	ຈັດຊື້ລົດເມ/ ຕິດຕັ້ງປ້າຍລໍຖ້າລົດເມ		ລັດຖະບານ

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

a) ການສຳປະທານດິນລັດຖະບານ

ການພັດທະນາສ້າງສູນກາງການທ່ອງທ່ຽວ (C01-CD-N-001) ຢູ່ທາງທິດເໜືອຂອງສະຖານີຄຳສະຫວັດ ແມ່ນໃຊ້ຮູບແບບການໂຄງການສຳປະທານ ເພື່ອໃຫ້ສິດໃນການພັດທະນາແກ່ພາກສ່ວນເອກະຊົນ ແລະ ຄາດວ່າ ພາຍຫຼັງທີ່ມີການໂອນທີ່ດິນຈາກລັດຖະບານຂຶ້ນສູນກາງ, ລັດວິສາຫະກິດທາງລົດໄຟແຫ່ງຊາດລາວ ຈະເປັນເຈົ້າຂອງໂຄງການນີ້. ໂຄງການພັດທະນານີ້ມີຈຸດປະສົງເພື່ອການເຊື່ອມໂຍງກັບສະຖານີລົດໄຟ ແລະ ການພັດທະນາດ້ານການຄ້າ ພ້ອມທັງການຮັບປະກັນຄວາມສະດວກລະພາບທາງດ້ານການເງິນຂອງການບໍລິການລົດໄຟລາວ-ໄທ ດ້ວຍ ຄຳສຳປະທານ ພາຍໃຕ້ ແນວຄວາມຄິດການພັດທະນາພື້ນທີ່ອ້ອມຮອບສະຖານີຂົນສົ່ງສາທາລະນະ/ Transit-Oriented Development. ພາບລວມຂອງການສຳປະທານທີ່ດິນຂອງລັດຖະບານແມ່ນສະແດງໃນ ຮູບ 6-6.

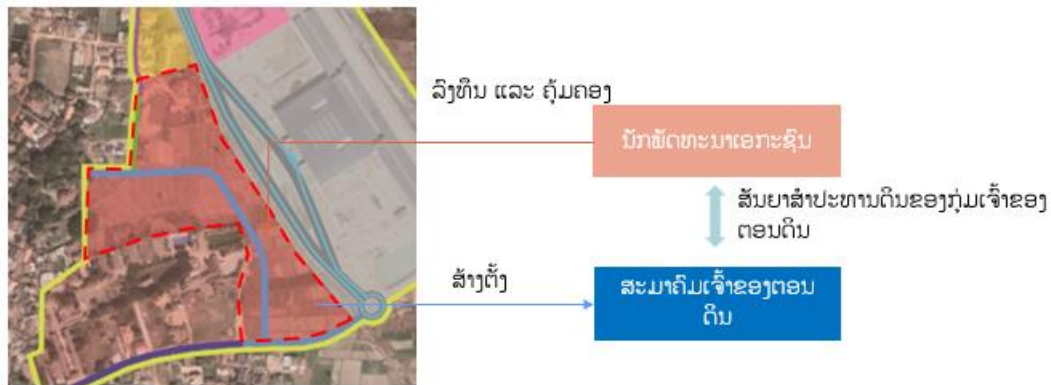


ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 6-6: ພາບລວມຂອງການສຳປະທານດິນລັດຖະບານ

b) ການຮ່ວມມືພັດທະນາ

ການພັດທະນາສ້າງຕະຫຼາດດ້ານການທ່ອງທ່ຽວ (C04-CD-N-001) ລວມທັງການສ້າງເສັ້ນທາງໃໝ່ ດ້ວຍຮູບແບບ ໂຄງການສຳປະທານເພື່ອໃຫ້ສິດໃນການພັດທະນາຈາກກຸ່ມເຈົ້າຂອງທີ່ດິນໃຫ້ແກ່ຜູ້ພັດທະນາເອກະຊົນ. ສຳລັບການພັດທະນາ, ເຈົ້າຂອງທີ່ດິນຈຳເປັນຕ້ອງໄດ້ສ້າງສະມາຄົມເຈົ້າຂອງທີ່ດິນເພື່ອຄຸ້ມຄອງການນຳໃຊ້ທີ່ດິນ. ໂຄງການພັດທະນານີ້ມີຈຸດປະສົງໃຫ້ເຈົ້າຂອງທີ່ດິນເດີມຍັງເປັນເຈົ້າຂອງຕອນດິນຄືເກົ່າ ແລະ ຈະໄດ້ຮັບຜົນກຳໄລຈາກການພັດທະນາການຄ້າໂດຍຜ່ານຄ່າສຳປະທານ. ຖ້າເບິ່ງຈາກການຄຸ້ມຄອງຕົວເມືອງ, ໂຄງການນີ້ຈະຊ່ວຍຫຼີກລ້ຽງການພັດທະນາທີ່ດິນສ່ວນບຸກຄົນໂດຍບໍ່ມີການປະກອບສ່ວນເຂົ້າໃນການພັດທະນາຕາຫນ່າງເສັ້ນທາງ. ພາບລວມຂອງການຮ່ວມພັດທະນາ ແມ່ນ ສະແດງໃນ ຮູບ 6-7 ແລະ ຮູບ 6-6.

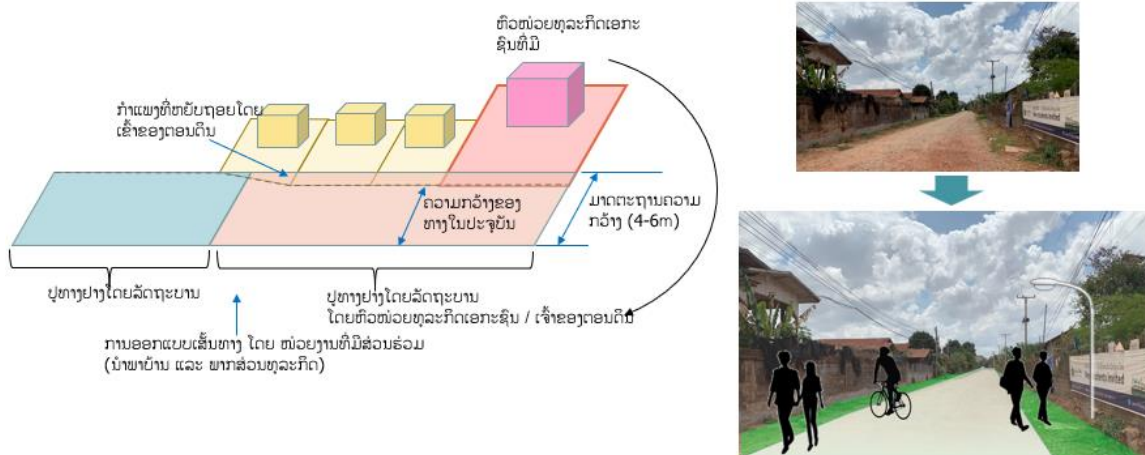


ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 6-7: ພາບລວມຂອງການຮ່ວມພັດທະນາ

c) ການສ້າງເສັ້ນທາງໂດຍການມີສ່ວນຮ່ວມຂອງພາກລັດ ແລະ ເອກະຊົນ

ການສ້າງເສັ້ນທາງໃໝ່ ແລະ ປັບປຸງເສັ້ນທາງທີ່ມີຢູ່ ທີ່ຢູ່ນອກເຂດການຮ່ວມພັດທະນາ ແມ່ນໃຊ້ຮູບແບບໂຄງການພັດທະນາແບບມີສ່ວນຮ່ວມຂອງ ລັດຖະບານ ແລະ ເຈົ້າຂອງທີ່ດິນທີ່ມີຢູ່ ໂດຍການແບ່ງປັນຄ່າໃຊ້ຈ່າຍ. ໂຄງການພັດທະນານີ້ມີຈຸດປະສົງໃນການປະກອບສ່ວນເຂົ້າໃນມູນຄ່າການພັດທະນາພື້ນຖານໂຄງລ່າງ. ພາບລວມຂອງການສ້າງເສັ້ນທາງໂດຍການມີສ່ວນຮ່ວມຂອງພາກລັດ ແລະ ເອກະຊົນ ແມ່ນສະແດງໃນ ຮູບ 6-8 ແລະ ຮູບ 6-6.



ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 6-8: ພາບລວມຂອງການພັດທະນາສ້າງເສັ້ນທາງໂດຍການມີສ່ວນຮ່ວມຂອງພາກລັດ ແລະ ເອກະຊົນ

ພາກທີ 7. ແຜນປະຕິບັດງານ

7.1 ພາລະບົດບາດຂອງຜູ້ທີ່ມີສ່ວນຮ່ວມ

ຕາຕະລາງ 7-1 ສະແດງໃຫ້ເຫັນເຖິງພາລະບົດບາດຂອງຜູ້ທີ່ມີສ່ວນຮ່ວມ ໃນການ ການວາງແຜນ, ການປະຕິບັດ ແລະ ການດຳເນີນງານ ແລະ ຄຸ້ມຄອງ ບັນດາໂຄງການບຸລິມະສິດ.

ຕາຕະລາງ 7-1: ພາລະບົດບາດຂອງຜູ້ທີ່ມີສ່ວນຮ່ວມໃນໂຄງການບຸລິມະສິດ

ພາກສ່ວນ	ການວາງແຜນ	ການຈັດຕັ້ງປະຕິບັດ	O&M	ໝາຍເຫດ
ກະຊວງ ຍທຂ				
ກຄຜ	ຮັບຮອງແຜນຜັງເມືອງ	ປະສານສົມທົບໃນການຂຶ້ນ ງົບປະມານ	ການປະເມີນໂຄງການ	
ສຍຂ	ວາງຜັງເມືອງ	ຊ່ວຍເຫຼືອໃນການວາງແຜນ ພັດທະນາ		
ນະຄອນຫຼວງວຽງຈັນ				
ພະແນກ ຍທຂ	ວາງຜັງເມືອງ/ ອອກແບບພື້ນຖານໂຄງລ່າງ/	ການພັດທະນາພື້ນຖານໂຄງ ລ່າງ/ ໃຫ້ການຊ່ວຍເຫຼືອດ້ານ ວິຊາການຂອງໂຄງການສຳ ປະທານ	ບຳລຸງຮັກສາພື້ນຖານໂຄງລ່າງ	
ຫ້ອງການ ຍທຂ ເມືອງໄຊ ເສດຖາ	ວາງຜັງເມືອງ/ ປະສານສົມທົບກັບຂຸມຊົນ	ການພັດທະນາພື້ນຖານໂຄງ ລ່າງ/ ປະສານສົມທົບກັບເຈົ້າ ຂອງຕອນດິນ	ບຳລຸງຮັກສາພື້ນຖານໂຄງລ່າງ	
ຂະແໜງຂົນສົ່ງ	ວາງແຜນຂະຫຍາຍການ ບໍລິການລົດເມ	ການຈັດຊື້ພາຫະນະ /ຕິດຕັ້ງປ້າຍລໍຖ້າລົດເມ	ການບໍລິການລົດເມໃນຕົວ ເມືອງ	
ອື່ນໆ				
ລັດວິສາຫະກິດທາງລົດໄຟ ແຫ່ງຊາດລາວ/ ລົດໄຟ ລາວ-ໄທ	ສຶກສາຄວາມເປັນໄປໄດ້ໃນ ການໃຊ້ດິນລັດຖະບານໃຫ້ ເກີດປະໂຫຍດສູງສຸດ	ສັນຍາສຳປະທານ/ ໃຫ້ຄຳປຶກສາໂຄງການສຳ ປະທານ	ຄຸ້ມຄອງສັນຍາ	
ເຈົ້າຂອງຕອນດິນ	ເຂົ້າຮ່ວມໃນການວາງ ຜັງເມືອງ	ປະກອບສ່ວນດິນຂອງຕົນ ເຂົ້າໃນເສັ້ນທາງ		

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

7.2 ມູນຄ່າການພັດທະນາ ແລະ ການແບ່ງຄວາມຮັບຜິດຊອບ

ຕາຕະລາງ 7-2 ສະແດງໃຫ້ເຫັນມູນຄ່າການພັດທະນາໂຄງການບຸລິມະສິດ ແລະ ການແບ່ງຄວາມຮັບຜິດຊອບ ລະຫວ່າງພາກລັດ ແລະ ເອກະຊົນ ເຊິ່ງໄດ້ມີການປະເມີນມູນຄ່າການພັດທະນາໂດຍອີງຕາມໂຄງການຕົວຢ່າງ ຢູ່ ນວ.

ຕາຕະລາງ 7-2: ມູນຄ່າການພັດທະນາໂຄງການບຸລິມະສິດ

ໝວດຫຼັກ	ລະຫັດໂຄງການ	ປະເພດໂຄງການ	ມູນຄ່າການພັດທະນາ (ພັນ ໂດລາ)	ການແບ່ງມູນຄ່າຮັບຜິດຊອບ	
				ພາກລັດ	ເອກະຊົນ
ການພັດທະນາ ພື້ນຖານໂຄງລ່າງ	C04-MR-N-001	ເສັ້ນທາງສາຍຫຼັກຮອບໃນ ເສັ້ນໃໝ່	237	-	237
	C04-MR-N-002	ເສັ້ນທາງສາຍຫຼັກຮອບໃນ ເສັ້ນໃໝ່	112	-	112
	C04-IM-I-001	ປັບປຸງເສັ້ນທາງສາຍຫຼັກ ຮອບໃນ	182	91	91

ໝວດຫຼັກ	ລະຫັດໂຄງການ	ປະເພດໂຄງການ	ມູນຄ່າການພັດທະນາ (ພັນ ໂດລາ)	ການແບ່ງມູນຄ່າຮັບຜິດຊອບ	
				ພາກລັດ	ເອກະຊົນ
	W01-SR-I-001	ປັບປຸງເສັ້ນທາງບໍລິການ	118	59	59
	W01-SR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	86	43	43
	W02-SR-N-001	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	36	18	18
	W02-SR-N-002	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	146	73	73
	W02-SR-N-007	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	40	-	40
	W02-SR-I-008	ປັບປຸງເສັ້ນທາງບໍລິການ	56	28	28
ການນຳໃຊ້ທີດິນ ແລະ ອາຄານ	C01-CD-N-001	ສ້າງສູນກາງດ້ານ ການທ່ອງທ່ຽວ	164,700	-	164,700
	C04-CD-N-001	ສ້າງຕະຫຼາດດ້ານ ການທ່ອງທ່ຽວ	152,400	-	152,400
	W01-UI-I-001	ປັບປຸງບ້ານທີມີຢູ່ (ການພັດທະນາພື້ນຖານໂຄງລ່າງ)	-	-	-
	W02-UI-I-001 (part)	ປັບປຸງບ້ານທີມີຢູ່ (ການພັດທະນາພື້ນຖານໂຄງລ່າງ)	-	-	-
ການບໍລິການ ແລະ ການດຳເນີນງານ	SO-N-002	ຄຸ້ມຄອງອອກແບບທັດສະນີ ຍະພາບ	150	150	-
	SO-N-003	ກິດຈະກຳສົ່ງເສີມ ການທ່ອງທ່ຽວ	60	30	30
	SO-N-006	ການຄຸ້ມຄອງ-ຮັກສາຄວາມ ປອດໄພ CCTV	45	45	-
	SO-N-008	ຂະຫຍາຍສາຍທາງບໍລິການ ລົດເມ	580	580	-

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

7.3 ແຜນປະຕິບັດງານ

ຮູບ 7-1 ສະແດງໃຫ້ເຫັນລາຍລະອຽດບັນດາກິດຈະກຳທີ່ຈຳເປັນເພື່ອປະຕິບັດການພັດທະນາຕົວເມືອງທີ່ສຳຄັນໃນເຂດພັດທະນາບູລິມະສິດ. ແຜນປະຕິບັດງານທີ່ອະທິບາຍຄວາມຮັບຜິດຊອບຂອງແຕ່ລະອົງການ ແລະ ໄລຍະການຈັດຕັ້ງປະຕິບັດແມ່ນສະແດງຢູ່ໃນຕາຕະລາງ 7-3.



ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 7-1: ກິດຈະກຳພັດທະນາເຂດບູລິມະສິດ

ຕາຕະລາງ 7-3: ແຜນປະຕິບັດງານຂອງໂຄງການບຸລິມະສິດ

ໂຄງການ	ກິດຈະກຳ	ພາກສ່ວນ ຮັບຜິດຊອບ	ໄລຍະສັ້ນ (5ປີ)					ໄລຍະກາງ ແລະ ໄລຍະຍາວ (10ປີ)	
ແຜນຜັງເມືອງລວມ	ແຜນຜັງລວມ ຂັ້ນຊຸມຊົນ	ສຍຂ/ ພະແນກ ຍທຂ / ຍທຂ ເມືອງ							
ການພັດທະນາສູນ ການທ່ອງທ່ຽວ	ສຶກສາຄວາມເປັນໄປໄດ້ເບື້ອງຕົ້ນ ໃນການພັດທະນາດ້ານການຄ້າ	ລົດໄຟແຫ່ງຊາດ ລາວ, ພະແນກ ຍທຂ							
	ການປະສານສົມທົບກັບຜູ້ມີສ່ວນ ຮ່ວມ	ລົດໄຟແຫ່ງຊາດ ລາວ, ພະແນກ ຍທຂ, ຍທຂ ເມືອງ							
	ການຈັດຊື້-ຈັດຈ້າງ ເພື່ອ ການສຳ ປະທານ ແລະ ສັນຍາ	ລົດໄຟແຫ່ງຊາດ ລາວ							
	ການຈັດຕັ້ງປະຕິບັດ	ເອກະຊົນ, ລົດໄຟ ແຫ່ງຊາດລາວ, ພະ ແນກ ຍທຂ							
ການພັດທະນາ ຕະຫຼາດ ການທ່ອງທ່ຽວ	ສຶກສາຄວາມເປັນໄປໄດ້ເບື້ອງຕົ້ນ ໃນການຮ່ວມພັດທະນາ	ພະແນກ ຍທຂ, ຍທຂ ເມືອງ, ສຍຂ							
	ການປະສານສົມທົບກັບຜູ້ມີສ່ວນ ຮ່ວມ	ພະແນກ ຍທຂ, ຍທຂ ເມືອງ							
	ສ້າງຕັ້ງສະມາຄົມເຈົ້າຂອງຕອນ ດິນ	ພະແນກ ຍທຂ, ເຈົ້າຂອງຕອນດິນ							
	ການຈັດຊື້-ຈັດຈ້າງ ເພື່ອ ການສຳ ປະທານ ແລະ ສັນຍາ	ເຈົ້າຂອງຕອນດິນ, ພະແນກ ຍທຂ							
	ການຈັດຕັ້ງປະຕິບັດ	ເອກະຊົນ, ເຈົ້າ ຂອງຕອນດິນ, ພະ ແນກ ຍທຂ							
ການພັດທະນາ ແລະ ປັບປຸງ ເສັ້ນທາງ	ການປະສານສົມທົບກັບຜູ້ມີສ່ວນ ຮ່ວມ	ພະແນກ ຍທຂ, ຍທຂ ເມືອງ							
	ສຶກສາຄວາມເປັນໄປໄດ້ໃນການ ພັດທະນາ	ພະແນກ ຍທຂ, ຍທຂ ເມືອງ							
	ການຈັດຊື້-ຈັດຈ້າງ ແລະ ສັນຍາ	ພະແນກ ຍທຂ, ຍທຂ ເມືອງ							
	ການຈັດຕັ້ງປະຕິບັດ	ພະແນກ ຍທຂ, ຍທຂ ເມືອງ, ເອກະຊົນ							
ການບໍລິການ ແລະ ການດຳເນີນງານ	ຄຸ້ມການອອກແບບຫັດສະນີຍະ ພາບ	ພະແນກ ຍທຂ, ຍທຂ ເມືອງ, ສຍຂ							
	ສົ່ງເສີມການທ່ອງທ່ຽວ	ລົດໄຟແຫ່ງຊາດ ລາວ, ຍທຂ ເມືອງ							
	ການຄຸ້ມຄອງ-ຮັກສາຄວາມປອດ ໄພ CCTV	ພະແນກ ຍທຂ, ຍທຂ ເມືອງ							
	ຂະຫຍາຍການບໍລິການສາຍທາງ ລົດເມ	ຂະແໜງຂົນສົ່ງ, ລົດໄຟແຫ່ງຊາດ ລາວ, ພະແນກ ຍທຂ							

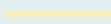
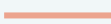
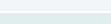
ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ເອກະສານຊ້ອນທ້າຍ 1

ບັນຊີອົງປະກອບຂອງໂຄງການ

01. ເສັ້ນທາງ

ຕາຕະລາງ 01-1: ຕາຕະລາງສະຫຼຸບໂຄງການທີ່ເປັນອົງປະກອບຂອງເສັ້ນທາງ

ປະເພດ	ສັນຍາລັກສີ	ປະເພດເສັ້ນທາງ	ຄວາມ ກວ້າງ	ຄວາມຍາວທັງໝົດ (ແມັດ)
ເສັ້ນທາງສາຍຫຼັກ		1-1. ສ້າງເສັ້ນທາງສາຍຫຼັກ ເສັ້ນໃໝ່	13.5m	2,135
		1-2. ປັບປຸງເສັ້ນທາງສາຍຫຼັກ	13.5m	2,500
ເສັ້ນທາງສາຍຫຼັກ ຮອບໃນ		1-3. ສ້າງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	9.5m	5,697
		1-4. ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	9.5m	10,605
ເສັ້ນທາງບໍລິການ		1-2. ສ້າງເສັ້ນທາງບໍລິການເສັ້ນໃໝ່	6m	10,292
		1-1. ປັບປຸງເສັ້ນທາງບໍລິການທີ່ມີຢູ່	5m ໂດຍ ສະເລ່ຍ	19,443
	ລວມທັງໝົດ			50,672

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຕາຕະລາງ 01-2: ບັນຊີໂຄງການທີ່ເປັນອົງປະກອບຂອງເສັ້ນທາງ

ເຂດ	ລະຫັດ	ປະເພດສິ່ງອຳນວຍຄວາມສະດວກ	ຄວາມຍາວ (ແມັດ)
C-03	C03-MR-N-001	ເສັ້ນທາງສາຍຫຼັກ ເສັ້ນໃໝ່	531
C-04	C04-MR-N-001	ເສັ້ນທາງສາຍຫຼັກຮອບໃນ ເສັ້ນໃໝ່	353
	C04-MR-N-002	ເສັ້ນທາງສາຍຫຼັກຮອບໃນ ເສັ້ນໃໝ່	167
	C04-IM-I-001	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	282
W-01	W01-SR-I-001	ປັບປຸງເສັ້ນທາງບໍລິການ	333
	W01-SR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	240
W-02	W02-SR-I-001	ປັບປຸງເສັ້ນທາງບໍລິການ	250
	W02-SR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	63
	W02-SR-I-003	ປັບປຸງເສັ້ນທາງບໍລິການ	52
	W02-SR-I-004	ປັບປຸງເສັ້ນທາງບໍລິການ	63
	W02-SR-I-005	ປັບປຸງເສັ້ນທາງບໍລິການ	83
	W02-SR-I-006	ປັບປຸງເສັ້ນທາງບໍລິການ	250
	W02-SR-I-007	ປັບປຸງເສັ້ນທາງບໍລິການ	73
	W02-SR-I-008	ປັບປຸງເສັ້ນທາງບໍລິການ	156
	W02-SR-N-001	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	83
	W02-SR-N-002	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	344
	W02-SR-N-003	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	21
	W02-SR-N-004	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	125
	W02-SR-N-006	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	146
	W02-SR-N-007	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	94
	W02-SR-N-008	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	52
	W02-SR-N-009	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	125
	W02-SR-N-010	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	94
	W02-SR-N-011	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	73
	W02-IM-I-001	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	333
	W02-IM-N-001	ເສັ້ນທາງສາຍຫຼັກຮອບໃນ ເສັ້ນໃໝ່	198
W-03	W03-SR-I-001	ປັບປຸງເສັ້ນທາງບໍລິການ	115
	W03-SR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	281

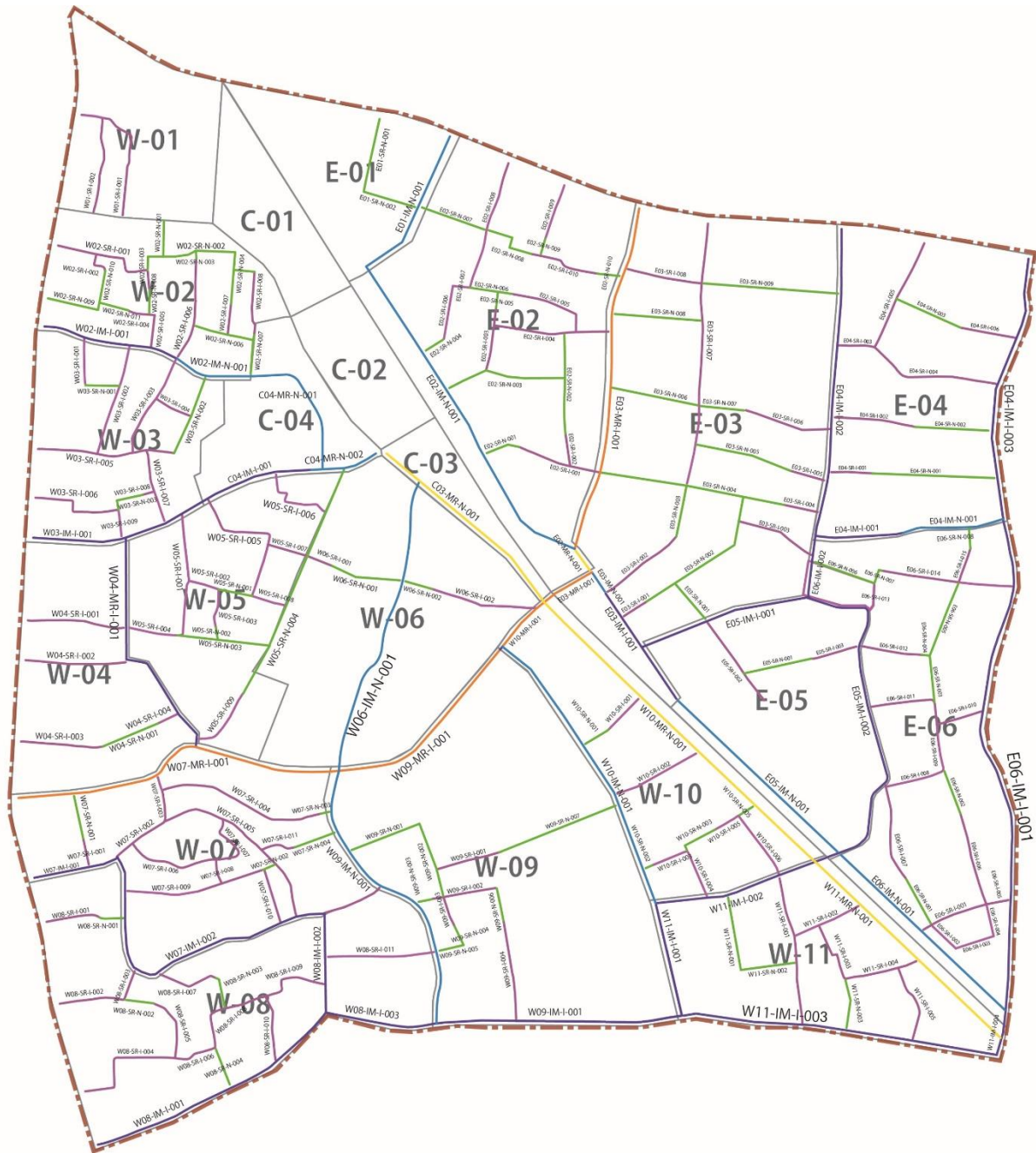
ເຂດ	ລະຫັດ	ປະເພດສິ່ງອຳນວຍຄວາມສະດວກ	ຄວາມຍາວ (ແມັດ)
	W03-SR-I-003	ປັບປຸງເສັ້ນທາງບໍລິການ	260
	W03-SR-I-004	ປັບປຸງເສັ້ນທາງບໍລິການ	94
	W03-SR-I-005	ປັບປຸງເສັ້ນທາງບໍລິການ	333
	W03-SR-I-006	ປັບປຸງເສັ້ນທາງບໍລິການ	229
	W03-SR-I-007	ປັບປຸງເສັ້ນທາງບໍລິການ	177
	W03-SR-I-008	ປັບປຸງເສັ້ນທາງບໍລິການ	31
	W03-SR-I-009	ປັບປຸງເສັ້ນທາງບໍລິການ	63
	W03-SR-N-001	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	83
	W03-SR-N-002	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	198
	W03-SR-N-003	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	83
	W03-IM-I-001	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	437.5
W-04	W04-SR-I-001	ປັບປຸງເສັ້ນທາງບໍລິການ	240
	W04-SR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	250
	W04-SR-I-003	ປັບປຸງເສັ້ນທາງບໍລິການ	208
	W04-SR-I-004	ປັບປຸງເສັ້ນທາງບໍລິການ	52
	W04-SR-N-001	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	146
	W04-IM-I-001	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	594
W-05	W05-SR-I-001	ປັບປຸງເສັ້ນທາງບໍລິການ	302
	W05-SR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	73
	W05-SR-I-003	ປັບປຸງເສັ້ນທາງບໍລິການ	94
	W05-SR-I-004	ປັບປຸງເສັ້ນທາງບໍລິການ	135
	W05-SR-I-005	ປັບປຸງເສັ້ນທາງບໍລິການ	448
	W05-SR-I-006	ປັບປຸງເສັ້ນທາງບໍລິການ	188
	W05-SR-I-007	ປັບປຸງເສັ້ນທາງບໍລິການ	104
	W05-SR-I-008	ປັບປຸງເສັ້ນທາງບໍລິການ	83
	W05-SR-I-009	ປັບປຸງເສັ້ນທາງບໍລິການ	167
	W05-SR-N-001	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	83
	W05-SR-N-002	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	31
	W05-SR-N-003	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	229
	W05-SR-N-004	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	604
	W06-SR-I-001	ປັບປຸງເສັ້ນທາງບໍລິການ	63
	W06-SR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	260
	W06-SR-N-001	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	177
	W06-SR-N-002	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	63
	W06-IM-N-001	ເສັ້ນທາງສາຍຫຼັກຮອບໃນ ເສັ້ນໃໝ່	760
W-07	W07-SR-I-001	ປັບປຸງເສັ້ນທາງບໍລິການ	63
	W07-SR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	146
	W07-SR-I-003	ປັບປຸງເສັ້ນທາງບໍລິການ	115
	W07-SR-I-004	ປັບປຸງເສັ້ນທາງບໍລິການ	417
	W07-SR-I-005	ປັບປຸງເສັ້ນທາງບໍລິການ	458
	W07-SR-I-006	ປັບປຸງເສັ້ນທາງບໍລິການ	229
	W07-SR-I-007	ປັບປຸງເສັ້ນທາງບໍລິການ	167
	W07-SR-I-008	ປັບປຸງເສັ້ນທາງບໍລິການ	63
	W07-SR-I-009	ປັບປຸງເສັ້ນທາງບໍລິການ	344
	W07-SR-I-010	ປັບປຸງເສັ້ນທາງບໍລິການ	135
	W07-SR-I-011	ປັບປຸງເສັ້ນທາງບໍລິການ	83
	W07-SR-N-001	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	104
	W07-SR-N-002	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	31
	W07-SR-N-003	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	21
	W07-SR-N-004	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	104
	W07-IM-I-001	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	208
	W07-IM-I-002	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	781
	W07-MR-I-001	ປັບປຸງເສັ້ນທາງສາຍຫຼັກ	813
W-08	W08-SR-I-001	ປັບປຸງເສັ້ນທາງບໍລິການ	135

ເຂດ	ລະຫັດ	ປະເພດສິ່ງອຳນວຍຄວາມສະດວກ	ຄວາມຍາວ (ແມັດ)
	W08-SR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	156
	W08-SR-I-003	ປັບປຸງເສັ້ນທາງບໍລິການ	73
	W08-SR-I-004	ປັບປຸງເສັ້ນທາງບໍລິການ	292
	W08-SR-I-005	ປັບປຸງເສັ້ນທາງບໍລິການ	156
	W08-SR-I-006	ປັບປຸງເສັ້ນທາງບໍລິການ	104
	W08-SR-I-007	ປັບປຸງເສັ້ນທາງບໍລິການ	146
	W08-SR-I-008	ປັບປຸງເສັ້ນທາງບໍລິການ	229
	W08-SR-I-009	ປັບປຸງເສັ້ນທາງບໍລິການ	177
	W08-SR-I-010	ປັບປຸງເສັ້ນທາງບໍລິການ	156
	W08-SR-I-011	ປັບປຸງເສັ້ນທາງບໍລິການ	260
	W08-SR-N-001	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	63
	W08-SR-N-002	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	73
	W08-SR-N-003	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	73
	W08-SR-N-004	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	94
	W08-IM-I-001	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	656
	W08-IM-I-002	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	240
	W08-IM-I-003	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	271
W-09	W09-SR-I-001	ປັບປຸງເສັ້ນທາງບໍລິການ	156
	W09-SR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	156
	W09-SR-I-003	ປັບປຸງເສັ້ນທາງບໍລິການ	73
	W09-SR-I-004	ປັບປຸງເສັ້ນທາງບໍລິການ	240
	W09-SR-N-001	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	177
	W09-SR-N-002	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	188
	W09-SR-N-003	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	31
	W09-SR-N-004	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	52
	W09-SR-N-005	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	63
	W09-SR-N-006	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	83
	W09-SR-N-007	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	302
	W09-MR-I-001	ປັບປຸງເສັ້ນທາງສາຍຫຼັກ	552
	W09-IR-I-001	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	604
	W09-IR-N-001	ເສັ້ນທາງສາຍຫຼັກຮອບໃນ ເສັ້ນໃໝ່	729
W-10	W10-SR-I-001	ປັບປຸງເສັ້ນທາງບໍລິການ	104
	W10-SR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	219
	W10-SR-I-003	ປັບປຸງເສັ້ນທາງບໍລິການ	94
	W10-SR-I-004	ປັບປຸງເສັ້ນທາງບໍລິການ	125
	W10-SR-I-005	ປັບປຸງເສັ້ນທາງບໍລິການ	73
	W10-SR-I-006	ປັບປຸງເສັ້ນທາງບໍລິການ	177
	W10-SR-N-001	ເສັ້ນທາງສາຍຫຼັກ ເສັ້ນໃໝ່	63
	W10-SR-N-002	ເສັ້ນທາງສາຍຫຼັກ ເສັ້ນໃໝ່	21
	W10-SR-N-003	ເສັ້ນທາງສາຍຫຼັກ ເສັ້ນໃໝ່	94
	W10-SR-N-005	ເສັ້ນທາງສາຍຫຼັກ ເສັ້ນໃໝ່	42
	W10-IM-N-001	ເສັ້ນທາງສາຍຫຼັກຮອບໃນ ເສັ້ນໃໝ່	740
	W10-MR-I-001	ປັບປຸງເສັ້ນທາງສາຍຫຼັກ	177
	W10-MR-N-001	ເສັ້ນທາງສາຍຫຼັກ ເສັ້ນໃໝ່	927
W-11	W11-SR-I-001	ປັບປຸງເສັ້ນທາງບໍລິການ	365
	W11-SR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	167
	W11-SR-I-003	ປັບປຸງເສັ້ນທາງບໍລິການ	156
	W11-SR-I-004	ປັບປຸງເສັ້ນທາງບໍລິການ	177
	W11-SR-I-005	ປັບປຸງເສັ້ນທາງບໍລິການ	188
	W11-SR-N-001	ເສັ້ນທາງສາຍຫຼັກ ເສັ້ນໃໝ່	177
	W11-SR-N-002	ເສັ້ນທາງສາຍຫຼັກ ເສັ້ນໃໝ່	135
	W11-SR-N-003	ເສັ້ນທາງສາຍຫຼັກ ເສັ້ນໃໝ່	115
	W11-IM-I-001	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	281
	W11-IM-I-002	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	438

ເຂດ	ລະຫັດ	ປະເພດສິ່ງອຳນວຍຄວາມສະດວກ	ຄວາມຍາວ (ແມັດ)
	W11-IM-I-003	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	771
	W11-IM-I-004	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	73
	W11-MR-N-001	ເສັ້ນທາງສາຍຫຼັກ ເສັ້ນໃໝ່	625
E-01	E01-SR-N-001	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	188
	E01-SR-N-002	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	135
	E01-IM-N-001	ເສັ້ນທາງສາຍຫຼັກຮອບໃນ ເສັ້ນໃໝ່	396
E-02	E02-SR-I-001	ປັບປຸງເສັ້ນທາງບໍລິການ	208
	E02-SR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	83
	E02-SR-I-003	ປັບປຸງເສັ້ນທາງບໍລິການ	156
	E02-SR-I-004	ປັບປຸງເສັ້ນທາງບໍລິການ	281
	E02-SR-I-005	ປັບປຸງເສັ້ນທາງບໍລິການ	208
	E02-SR-I-006	ປັບປຸງເສັ້ນທາງບໍລິການ	135
	E02-SR-I-007	ປັບປຸງເສັ້ນທາງບໍລິການ	42
	E02-SR-I-008	ປັບປຸງເສັ້ນທາງບໍລິການ	313
	E02-SR-I-009	ປັບປຸງເສັ້ນທາງບໍລິການ	135
	E02-SR-I-010	ປັບປຸງເສັ້ນທາງບໍລິການ	177
	E02-SR-N-001	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	83
	E02-SR-N-002	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	240
	E02-SR-N-003	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	292
	E02-SR-N-004	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	52
	E02-SR-N-005	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	42
	E02-SR-N-006	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	104
	E02-SR-N-007	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	167
	E02-SR-N-008	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	135
	E02-SR-N-009	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	42
	E02-SR-N-010	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	52
	E02-IM-N-001	ເສັ້ນທາງສາຍຫຼັກຮອບໃນ ເສັ້ນໃໝ່	948
	E02-MR-N-001	ເສັ້ນທາງສາຍຫຼັກ ເສັ້ນໃໝ່	52
E-03	E03-SR-I-001	ປັບປຸງເສັ້ນທາງບໍລິການ	63
	E03-SR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	219
	E03-SR-I-003	ປັບປຸງເສັ້ນທາງບໍລິການ	198
	E03-SR-I-004	ປັບປຸງເສັ້ນທາງບໍລິການ	83
	E03-SR-I-005	ປັບປຸງເສັ້ນທາງບໍລິການ	83
	E03-SR-I-006	ປັບປຸງເສັ້ນທາງບໍລິການ	208
	E03-SR-I-007	ປັບປຸງເສັ້ນທາງບໍລິການ	646
	E03-SR-I-008	ປັບປຸງເສັ້ນທາງບໍລິການ	188
	E03-SR-N-001	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	115
	E03-SR-N-002	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	375
	E03-SR-N-003	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	125
	E03-SR-N-004	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	458
	E03-SR-N-005	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	240
	E03-SR-N-006	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	208
	E03-SR-N-007	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	104
	E03-SR-N-008	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	208
	E03-SR-N-009	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	333
	E03-IM-I-001	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	313
	E03-IM-N-001	ເສັ້ນທາງສາຍຫຼັກຮອບໃນ ເສັ້ນໃໝ່	63
	E03-MR-I-001	ປັບປຸງເສັ້ນທາງບໍລິການ	854
	E03-MR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	104
E-04	E04-SR-I-001	ປັບປຸງເສັ້ນທາງບໍລິການ	104
	E04-SR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	198
	E04-SR-I-003	ປັບປຸງເສັ້ນທາງບໍລິການ	83
	E04-SR-I-004	ປັບປຸງເສັ້ນທາງບໍລິການ	333
	E04-SR-I-005	ປັບປຸງເສັ້ນທາງບໍລິການ	281

ເຂດ	ລະຫັດ	ປະເພດສິ່ງອຳນວຍຄວາມສະດວກ	ຄວາມຍາວ (ແມັດ)
	E04-SR-I-006	ປັບປຸງເສັ້ນທາງບໍລິການ	135
	E04-SR-N-001	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	302
	E04-SR-N-002	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	177
	E04-SR-N-003	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	177
	E04-IM-I-001	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	219
	E04-IM-I-002	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	760
	E04-IM-I-003	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	656
	E04-IM-N-001	ເສັ້ນທາງສາຍຫຼັກຮອບໃນ ເສັ້ນໃໝ່	250
E-05	E05-SR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	235
	E05-SR-I-003	ປັບປຸງເສັ້ນທາງບໍລິການ	115
	E05-SR-N-001	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	167
	E05-IM-I-001	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	427
	E05-IM-I-002	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	854
	E05-IM-N-001	ເສັ້ນທາງສາຍຫຼັກຮອບໃນ ເສັ້ນໃໝ່	542
E-06	E06-SR-I-001	ປັບປຸງເສັ້ນທາງບໍລິການ	167
	E06-SR-I-002	ປັບປຸງເສັ້ນທາງບໍລິການ	83
	E06-SR-I-003	ປັບປຸງເສັ້ນທາງບໍລິການ	94
	E06-SR-I-004	ປັບປຸງເສັ້ນທາງບໍລິການ	73
	E06-SR-I-005	ປັບປຸງເສັ້ນທາງບໍລິການ	52
	E06-SR-I-006	ປັບປຸງເສັ້ນທາງບໍລິການ	229
	E06-SR-I-007	ປັບປຸງເສັ້ນທາງບໍລິການ	240
	E06-SR-I-008	ປັບປຸງເສັ້ນທາງບໍລິການ	146
	E06-SR-I-009	ປັບປຸງເສັ້ນທາງບໍລິການ	167
	E06-SR-I-010	ປັບປຸງເສັ້ນທາງບໍລິການ	115
	E06-SR-I-011	ປັບປຸງເສັ້ນທາງບໍລິການ	156
	E06-SR-I-012	ປັບປຸງເສັ້ນທາງບໍລິການ	146
	E06-SR-I-013	ປັບປຸງເສັ້ນທາງບໍລິການ	73
	E06-SR-I-014	ປັບປຸງເສັ້ນທາງບໍລິການ	323
	E06-SR-I-015	ປັບປຸງເສັ້ນທາງບໍລິການ	83
	E06-SR-N-001	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	125
	E06-SR-N-002	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	115
	E06-SR-N-003	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	115
	E06-SR-N-004	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	21
	E06-SR-N-005	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	188
	E06-SR-N-006	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	156
	E06-SR-N-007	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	42
	E06-SR-N-008	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	52
	E06-IM-I-001	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	1260
	E06-IM-I-002	ປັບປຸງເສັ້ນທາງສາຍຫຼັກຮອບໃນ	146
	E06-IM-N-001	ເສັ້ນທາງບໍລິການ ເສັ້ນໃໝ່	552

ແຫຼ່ງຂໍ້ມູນ: CDUDCP



ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 01-1: ແຜນທີ່ ທີ່ຕັ້ງໂຄງການທີ່ເປັນອົງປະກອບຂອງເສັ້ນທາງ

02. ພື້ນທີ່ເປົ້າຫວ່າງ

ຕາຕະລາງ 02-1: ບັນຊີໂຄງການທີ່ເປັນອົງປະກອບຂອງພື້ນທີ່ເປົ້າຫວ່າງ

ເຂດ	ລະຫັດ	ປະເພດສິ່ງອຳນວຍຄວາມສະດວກ	ເນື້ອທີ່ (ຕາແມັດ)
C-03	C03-OP-N-001	ສ້າງພື້ນທີ່ເປົ້າຫວ່າງສີຂຽວ	2,387
W-05	W05-OP-N-001	ສ້າງພື້ນທີ່ເປົ້າຫວ່າງສີຂຽວ	31,793
W-11	W11-OP-N-001	ສ້າງພື້ນທີ່ເປົ້າຫວ່າງສີຂຽວ	12,044
E-02	E02-OP-N-001	ສ້າງພື້ນທີ່ເປົ້າຫວ່າງສີຂຽວ	7,813
E-06	E06-OP-N-001	ສ້າງພື້ນທີ່ເປົ້າຫວ່າງສີຂຽວ	11,068
ລວມທັງໝົດ			65,104

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

03. ຄ່ອງນ້ຳ

ຕາຕະລາງ 03-1: ບັນຊີໂຄງການທີ່ເປັນອົງປະກອບຂອງຄ່ອງນ້ຳ

ເຂດ	ລະຫັດ	ປະເພດສິ່ງອຳນວຍຄວາມສະດວກ	ຄວາມຍາວ (ແມັດ)
C-03	C03-CN-I-001	ປັບປຸງຄ່ອງນ້ຳ (ຄວາມກວ້າງ=10m)	264
W-06	W06-CN-I-001	ປັບປຸງຄ່ອງນ້ຳ (ຄວາມກວ້າງ=10m)	747
W-09	W09-CN-I-001	ປັບປຸງຄ່ອງນ້ຳ (ຄວາມກວ້າງ=10m)	743
E-01	E01-CN-I-001	ປັບປຸງຄ່ອງນ້ຳ (ຄວາມກວ້າງ=10m)	281
E-02	E02-CN-I-001	ປັບປຸງຄ່ອງນ້ຳ (ຄວາມກວ້າງ=10m)	784
ລວມທັງໝົດ			2,818

ແຫຼ່ງຂໍ້ມູນ: CDUDCP



ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 03-1: ແຜນທີ່ ທີ່ຕັ້ງໂຄງການທີ່ເປັນອົງປະກອບຂອງພື້ນທີ່ເປົ້າຫວ່າງ/ ຄ່ອງນ້ຳ

04.ການຄ້າ ແລະ ທຸລະກິດ/ ການສຶກສາ/ ສຸຂະພາບ

ຕາຕະລາງ 04-1: ບັນຊີໂຄງການທີ່ເປັນອົງປະກອບດ້ານການຄ້າ ແລະ ທຸລະກິດ

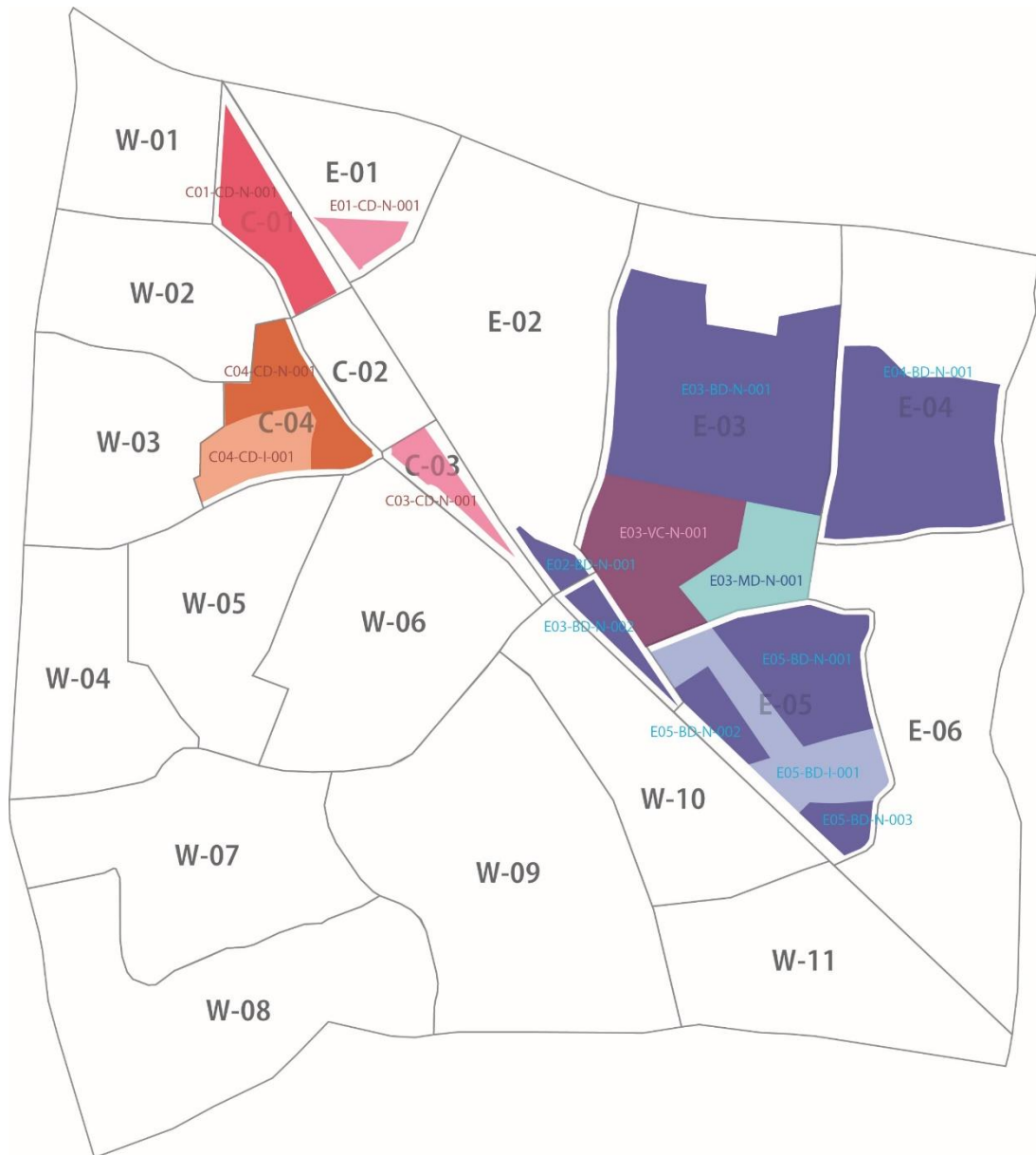
ເຂດ	ສັນຍາລັກສີ	ລະຫັດ	ປະເພດການພັດທະນາ	ເນື້ອທີ່ (ຮຕ)
C-01		C01-CD-N-001	ພັດທະນາສ້າງສູນການທ່ອງທ່ຽວ	5.49
C-03		C03-CD-N-001	ສ້າງຕະຫຼາດທ້ອງຖິ່ນ	1.99
C-04		C04-CD-N-001	ສ້າງຕະຫຼາດພ້ອມການທ່ອງທ່ຽວ	5.08
		C04-CD-I-001	ພັດທະນາສ້າງສູນການທ່ອງທ່ຽວ(ທີ່ມີຢູ່)	4.21
E-01		E01-CD-N-001	ສ້າງຕະຫຼາດທ້ອງຖິ່ນ	1.50
E-02		E02-BD-N-001	ພັດທະນາເຂດທຸລະກິດ	1.00
E-03		E03-BD-N-001	ພັດທະນາເຂດທຸລະກິດ	25.01
		E03-BD-N-002	ພັດທະນາເຂດທຸລະກິດ	1.49
E-04		E04-BD-N-001	ພັດທະນາເຂດທຸລະກິດ	15.70
E-05		E05-BD-N-001	ພັດທະນາເຂດທຸລະກິດ	8.57
		E05-BD-N-002	ພັດທະນາເຂດທຸລະກິດ	2.04
		E05-BD-N-003	ພັດທະນາເຂດທຸລະກິດ	1.55
		E05-BD-I-001	ເຂດທຸລະກິດ (ທີ່ມີຢູ່)	7.64
ລວມທັງໝົດ				81.27

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຕາຕະລາງ 04-2: ບັນຊີໂຄງການທີ່ເປັນອົງປະກອບດ້ານການສຶກສາ/ ສຸຂະພາບ

ເຂດ	ສັນຍາລັກສີ	ລະຫັດ	ປະເພດການພັດທະນາ	ເນື້ອທີ່ (ຮຕ)
E-03		E03-MD-N-001	ສ້າງສູນວິຊາຊີບ	10.36
E-03		E03-VC-N-001	ສ້າງສູນສຸຂະພາບ	5.79
ລວມທັງໝົດ				16.15

ແຫຼ່ງຂໍ້ມູນ: CDUDCP



ແຫຼ່ງຂໍ້ມູນ: CDUDCP

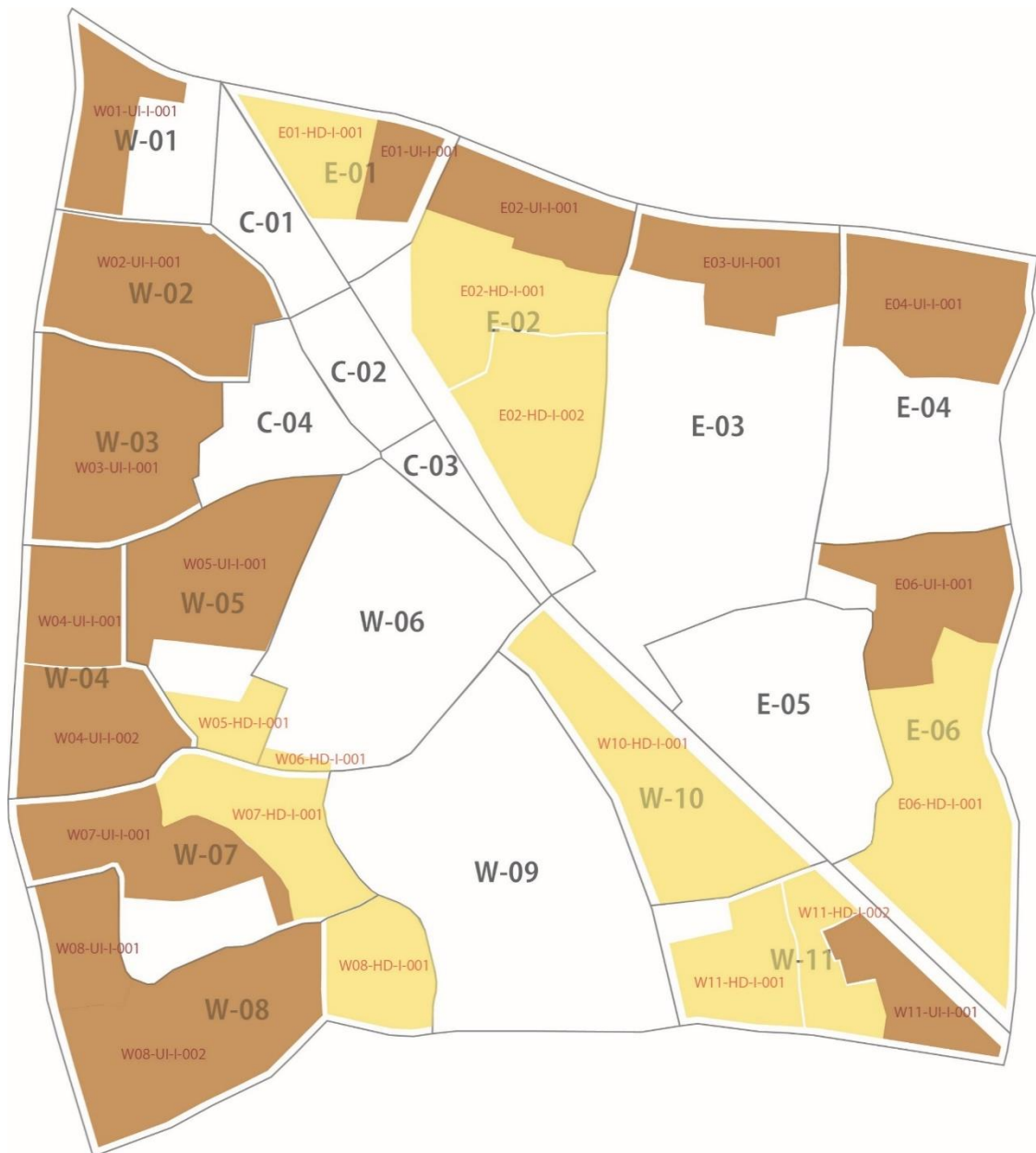
ຮູບ 04-1: ແຜນທີ່ ທີ່ຕັ້ງໂຄງການທີ່ເປັນອົງປະກອບດ້ານການຄ້າ ແລະ ທຸລະກິດ/ ການສຶກສາ/ ສຸຂະພາບ

05. ເຄຫາສະຖານ

ຕາຕະລາງ 05-1: ບັນຊີໂຄງການທີ່ເປັນອົງປະກອບດ້ານເຄຫາສະຖານ

ເຂດ	ສັນຍາລັກ	ລະຫັດ	ປະເພດການພັດທະນາ	ເນື້ອທີ່ (ຮຕ)
W-01		W01-UI-I-001	ປັບປຸງບ້ານທີ່ມີຢູ່	6.34
W-02		W02-UI-I-001	ປັບປຸງບ້ານທີ່ມີຢູ່	15.70
W-03		W03-UI-I-001	ປັບປຸງບ້ານທີ່ມີຢູ່	18.11
W-04		W04-UI-I-001	ປັບປຸງບ້ານທີ່ມີຢູ່	6.56
		W04-UI-I-002	ປັບປຸງບ້ານທີ່ມີຢູ່	10.58
W-05		W05-HD-I-001	ພັດທະນາເຂດເຄຫາສະຖານ	3.43
		W05-UI-I-001	ປັບປຸງບ້ານທີ່ມີຢູ່	15.04
W-06		W06-HD-I-001	ພັດທະນາເຂດເຄຫາສະຖານ	0.69
W-07		W07-HD-I-001	ພັດທະນາເຂດເຄຫາສະຖານ	9.81
		W07-UI-I-001	ປັບປຸງບ້ານທີ່ມີຢູ່	11.20
W-08		W08-HD-I-001	ພັດທະນາເຂດເຄຫາສະຖານ	7.23
		W08-UI-I-001	ປັບປຸງບ້ານທີ່ມີຢູ່	5.79
		W08-UI-I-002	ປັບປຸງບ້ານທີ່ມີຢູ່	19.70
W-10		W10-HD-I-001	ພັດທະນາເຂດເຄຫາສະຖານ	17.05
W-11		W07-HD-I-001	ພັດທະນາເຂດເຄຫາສະຖານ	7.60
		W07-HD-I-002	ພັດທະນາເຂດເຄຫາສະຖານ	5.11
		W07-UI-I-001	ປັບປຸງບ້ານທີ່ມີຢູ່	5.73
E-01		E01-HD-I-001	ພັດທະນາເຂດເຄຫາສະຖານ	5.96
		E01-UI-I-001	ປັບປຸງບ້ານທີ່ມີຢູ່	3.46
E-02		E02-HD-I-001	ພັດທະນາເຂດເຄຫາສະຖານ	12.26
		E02-HD-I-002	ພັດທະນາເຂດເຄຫາສະຖານ	13.12
		E02-UI-I-001	ປັບປຸງບ້ານທີ່ມີຢູ່	8.40
E-03		E03-UI-I-001	ປັບປຸງບ້ານທີ່ມີຢູ່	9.70
E-04		E04-UI-I-001	ປັບປຸງບ້ານທີ່ມີຢູ່	12.76
E-06		E06-HD-I-001	ພັດທະນາເຂດເຄຫາສະຖານ	21.32
		E06-UI-I-001	ປັບປຸງບ້ານທີ່ມີຢູ່	11.37
ລວມທັງໝົດ				264.02

ແຫຼ່ງຂໍ້ມູນ: CDUDCP



ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 05-1: ແຜນທີ່ ທີ່ຕັ້ງໂຄງການທີ່ເປັນອົງປະກອບດ້ານເຄຫາສະຖານ

06.ການນຳໃຊ້ທີ່ດິນໃນຫຼາກຫຼາຍຈຸດປະສົງ/ ເຂດກະສິກຳ

ຕາຕະລາງ 06-1: ບັນຊີໂຄງການທີ່ມີອົງປະກອບໃນການນຳໃຊ້ທີ່ດິນໃນຫຼາກຫຼາຍຈຸດປະສົງ

ເຂດ	ສັນຍາລັກ ສີ	ລະຫັດ	ປະເພດການພັດທະນາ	ເນື້ອທີ່ (ຕາ ແມັດ)
W-04		W04-MU-N-001	ການນຳໃຊ້ເພື່ອຈຸດປະສົງດ້ານການຄ້າ ໃນ ເຂດ ຫ້ອງການບ້ານ	3,150
W-08		W08-MU-N-001	ການນຳໃຊ້ເພື່ອຈຸດປະສົງດ້ານການຄ້າ ໃນ ເຂດ ຫ້ອງການບ້ານ	1,630
E-04		E04-MU-N-001	ການນຳໃຊ້ເພື່ອຈຸດປະສົງດ້ານການຄ້າ ໃນ ເຂດ ຫ້ອງການບ້ານ	1,410
ລວມທັງ ໝົດ				6,190

ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຕາຕະລາງ 06-2: ບັນຊີໂຄງການທີ່ມີອົງປະກອບໃນເຂດກະສິກຳ

ເຂດ	ສັນຍາລັກ ສີ	ລະຫັດ	ປະເພດການພັດທະນາ	ເນື້ອທີ່ (ຮຕ)
W-06		W06-AR-I-001	ຂໍ້ຫ້າມໃນການນຳທີ່ດິນ ຢູ່ ເຂດກະສິກຳ	14.65
		W06-AR-I-002	ຂໍ້ຫ້າມໃນການນຳທີ່ດິນ ຢູ່ ເຂດກະສິກຳ	14.28
W-09		W09-AR-I-001	ຂໍ້ຫ້າມໃນການນຳທີ່ດິນ ຢູ່ ເຂດກະສິກຳ	43.74
ລວມທັງ ໝົດ				72.67

ແຫຼ່ງຂໍ້ມູນ: CDUDCP



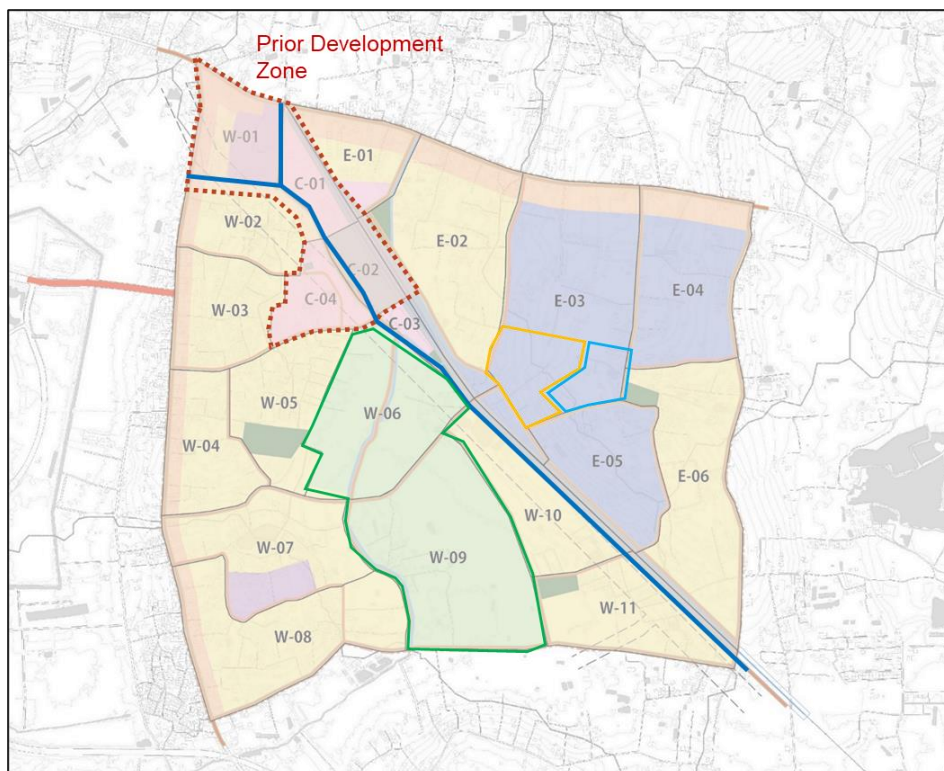
ຮູບ 06-1: ແຜນທີ່ ທີ່ຕັ້ງໂຄງການທີ່ເປັນອົງປະກອບໃນການນຳໃຊ້ທີ່ດິນໃນຫຼາກຫຼາຍຈຸດປະສົງ/ ເຂດກະສິກຳ

07.ການບໍລິການ ແລະ ຄຸ້ມຄອງ

ຕາຕະລາງ 07-1: ບັນຊີໂຄງການທີ່ມີອົງປະກອບດ້ານການບໍລິການ ແລະ ຄຸ້ມຄອງ

ປະເພດ	ສັນຍາລັກ	ລະຫັດ	ປະເພດໂຄງການ
ໂຄງການໃນເຂດບຸລິມະສິດ ໃນການພັດທະນາ		SO-N-001	ການຄຸ້ມຄອງ ຫ້າມການຈອດລົດທຸກປະເພດ
		SO-N-002	ຄຸ້ມໃນການອອກແບບທັດສະນີຍະພາບ
		SO-N-003	ກິດຈະກຳສົ່ງເສີມການທ່ອງທ່ຽວ
ໂຄງການພາຍໃນເຂດພື້ນທີ່ ຕົວແບບ	-	SO-N-004	ການຄຸ້ມຄອງຂີ້ເຫຍື້ອ
	-	SO-N-005	ກິດຈະກຳອະນາໄມຂອງຊຸມຊົນ
	-	SO-N-006	ການຄຸ້ມຄອງການຮັກສາຄວາມປອດໄພ CCTV
	-	SO-N-007	ການໃຊ້ ເວັບຂໍ້ມູນ GIS (ການແບ່ງປັນຂໍ້ມູນ)
ໂຄງການສະເພາະເຂດ		SO-N-008	ການຂະຫຍາຍສາຍທາງບໍລິການລົດເມ
		SO-N-009	ການສ້າງມູນຄ່າຜະລິດຕະພັນທ້ອງຖິ່ນ
		SO-N-010	ທຸລະກິດບໍລິການສຸຂະພາບ
		SO-N-011	ກິດຈະກຳກິລາ/ ເພື່ອສຸຂະພາບ
		SO-N-012	ທຸລະກິດການຝຶກອົບຮົມວິຊາຊີບ

ແຫຼ່ງຂໍ້ມູນ: CDUDCP



ແຫຼ່ງຂໍ້ມູນ: CDUDCP

ຮູບ 07-1: ແຜນທີ່ ທີ່ຕັ້ງໂຄງການທີ່ມີອົງປະກອບດ້ານການບໍລິການ ແລະ ຄຸ້ມຄອງ

Annex

11-3

MINUTES OF MEETING

ON

AREA CONCEPT PLAN OF PILOT AREA

FOR

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

The consultation meeting for the Area Concept Plan of Pilot Area which was formulated by “The Project for Capacity Development on Urban Development Control and Promotion” (hereinafter referred to as “CDUDCP”) was held on xxth June 2024.

The final outputs of the Area Concept Plan were presented and discussed among the meeting participants.

In consideration of the promotion of urban development management based on the Area Concept Plan by arising from the execution and performance of this MoM, the receipt and sufficiency of which are hereby acknowledged, NK-Urban, DHUP, PTI and DPWT agree to the following terms and conditions.

1. DHUP, PTI and DPWT agree with the Area Concept Plan of the pilot area to be a basic plan for urban development management of the pilot area.
2. PTI and DPWT shall comply with the Area Concept Plan for formulation of the urban plan within the pilot area.
3. NK-Urban provides the digital data of the Area Concept Plan including the GIS database for DPWT.

Attachments:

- I. Report on Area Concept Plan of Pilot Area

Vientiane Capital, June xxth, 2024

Nippon Koei Urban Space Co., Ltd.

Minoru MATSUI

Leader of Consultant Team of CDUDCP and
Chief Specialist of International Urban
Development Department, Nippon Koei
Urban Space Co., Ltd.

**Department of Housing and Urban
Planning of Ministry of Public Works and
Transport of Laos**

Dr. Viengnam DOUANGPACHANH

Director General of Department of Housing
and Urban Planning of Ministry of Public
Works and Transport of Laos

**Public Works and Transport Training
Institute of Laos**

Siriphone INTILATH

Director General of Public Works and
Transport Training Institute of Laos

**Department of Public Works and
Transport of Vientiane Capital**

Bounyavath NIRAXAY

Director General of Department of Public
Works and Transport of Vientiane Capital

Annex

11-4

MINUTES OF MEETING

ON

AREA CONCEPT PLAN OF PILOT AREA

FOR

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

The consultation meeting for the Area Concept Plan of Pilot Area which was formulated by “The Project for Capacity Development on Urban Development Control and Promotion” (hereinafter referred to as “CDUDCP”) was held on 8th July 2024.

The final outputs of the Area Concept Plan were presented and discussed among the meeting participants.

In consideration of the promotion of urban development management based on the Area Concept Plan by arising from the execution and performance of this MoM, the receipt and sufficiency of which are hereby acknowledged, NK-Urban and DHUP agree to the following terms and conditions.

1. DHUP agree with the Area Concept Plan of the pilot area to be a basic plan for urban development management of the pilot area.

Attachments:

- Report on Area Concept Plan of Pilot Area

Vientiane Capital, 12th August, 2024

Nippon Koei Urban Space Co., Ltd.

Minoru MATSUI

Leader of Consultant Team of CDUDCP and
Chief Specialist of International Urban
Development Department, Nippon Koei
Urban Space Co., Ltd.

松井 稔

Department of Housing and Urban
Planning of Ministry of Public Works and
Transport of Laos

Mr. Nalongxay MYVAPADITH

Deputy Director General of Department of
Housing and Urban Planning of Ministry of
Public Works and Transport of Laos

Annex

11-5

MINUTES OF MEETING

ON

AREA CONCEPT PLAN OF PILOT AREA

FOR

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

The consultation meeting for the Area Concept Plan of Pilot Area which was formulated by "The Project for Capacity Development on Urban Development Control and Promotion" (hereinafter referred to as "CDUDCP") was held on 8th July 2024.

The final outputs of the Area Concept Plan were presented and discussed among the meeting participants.

In consideration of the promotion of urban development management based on the Area Concept Plan by arising from the execution and performance of this MoM, the receipt and sufficiency of which are hereby acknowledged, NK-Urban and PTI agree to the following terms and conditions.

1. PTI agree with the Area Concept Plan of the pilot area to be a basic plan for urban development management of the pilot area.
2. PTI shall comply with the Area Concept Plan for formulation of the urban plan within the pilot area.
3. NK-Urban provides the digital data of the Area Concept Plan including the GIS database for PTI.

Attachments:

- Report on Area Concept Plan of Pilot Area

Vientiane Capital, 13th August 2024

Nippon Koei Urban Space Co., Ltd.

Minoru MATSUI

Leader of Consultant Team of CDUDCP and
Chief Specialist of International Urban
Development Department, Nippon Koei
Urban Space Co., Ltd.

松井 稔

**Public Works and Transport Institute of
Laos**

Chanthavangso OUDOMDETH

Deputy Director General of Public Works and
Transport Institute of Laos

D. Oudomdeth

Annex

11-6

MINUTES OF MEETING

ON

AREA CONCEPT PLAN OF PILOT AREA

FOR

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

The consultation meeting for the Area Concept Plan of Pilot Area which was formulated by “The Project for Capacity Development on Urban Development Control and Promotion” (hereinafter referred to as “CDUDCP”) was held on 8th July 2024.

The final outputs of the Area Concept Plan were presented and discussed among the meeting participants.

In consideration of the promotion of urban development management based on the Area Concept Plan by arising from the execution and performance of this MoM, the receipt and sufficiency of which are hereby acknowledged, NK-Urban and DPWT agree to the following terms and conditions.

1. DPWT agree with the Area Concept Plan of the pilot area to be a basic plan for urban development management of the pilot area.
2. DPWT shall comply with the Area Concept Plan for formulation of the urban plan within the pilot area.
3. NK-Urban provides the digital data of the Area Concept Plan including the GIS database for DPWT.

Attachments:

- I. Report on Area Concept Plan of Pilot Area

松井



Vientiane Capital, 16th August 2024

Nippon Koei Urban Space Co., Ltd.

Minoru MATSUI

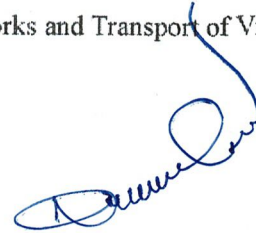
Leader of Consultant Team of CDUDCP and
Chief Specialist of International Urban
Development Department, Nippon Koei
Urban Space Co., Ltd.



**Department of Public Works and
Transport of Vientiane Capital**

Somchaivang DETH OUDOM

Deputy Director General of Department of
Public Works and Transport of Vientiane
Capital



Annex

12-1

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

Minutes of Meeting for the 12th WG on Urban

Wednesday, 9th February 2022, 14:00PM – 16:00 PM by ZOOM online

I. Objective:

- To introduce JICA Experts
- To look back on 1st UMP
- To discuss of selection criteria for pilot area and GIS platform
- To discuss the ways forward to implement the project (Output 2 and 3)

II. Agenda

1. Opening Remark by Leader of WG
2. Introduce New JICA Experts
3. Look back on the 1st UMP
4. Criteria for Selection of Pilot Area
Outline of GIS Platform.
5. Q&A and Discussion
6. Closing

III. Document

- Agenda No.2-4;(Data sharing) Presentation PPT

IV. QA and Discussion

1. Looking back on 1st UMP and Newsletter Publication

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTRI

The publication through both paper base and electronics will provide facilitation of accessibility, and I concur with the idea, in particular, publishing the E- newsletter on MPWT and Vientiane Webpage. To broaden it, the electronic version should be also added to PTRI Website. The procedure to be published will be informed to JICA expert assistant later. In regard to newsletter edition, the feedbacks is ensured to be sent to the JICA Team before the due date.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

When the newsletter has been finalized, the final version should be handed to DHUP team to be proceeded for the publication on MPWT Website. The Newsletter will be proceeded through administrative office (ICT division) to be considered and published.

2. Draft Criteria (break-downed based on Key Perspectives) and Questionnaire

Assoc. Prof. Aphisayadeth INSIXIENGMAY, Deputy Director General / PTRI

We appreciate Mr. Matsui for the contribution in preparation of Draft Criteria (break-downed based on Key Perspectives) which provides us clearer direction of procedure to pilot area selection. In order to give comments on the draft criteria, we would like to discuss more detail within our team first and will return to the JICA Team as soon as possible before 15th February.

→**Mr. Mr. Minoru MATSUI, JICA Expert**

Thank you. We would like to collect data and check detail the data including GIS if they are available or not before the next WG.

Mr. Somchit CHERSUANTHOR, Technical staff, PTRI

I would like to express my appreciation of Mr. Matsui for the preparation of Draft Criteria (break-downed based on Key Perspectives) which is very useful for pilot area selection. When it comes to the criteria, Dongdok area is one of the best option to be considered. As can be seen that the area creates many opportunities for development due to the fact that many facilitation are located within and near the area such as bus stations, transport link road, Lao-China railway, and others which contribute to economic opportunities. Additionally, Dongdonk seems to have more empty land which will facilitate in implementing the activities since it is difficult to manage if the implemented site is covered existing residential area.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

In regards to questionnaire for private sector (for Village Leaders), since Questionnaire's contents are not specific and only for general topics, not directly regarding to pilot area, the content is suitable and proper to be distributed. However, the specific questionnaire in the next survey should be taken into account of sensibility of the content and be carefully drafted and checked.

Assoc. Prof. Aphisayadeth INSIXIENGMAY, Deputy Director General / PTRI

I also agree with these general questions and would like to know the possibility of collaborative project. I believe that we have another survey after that.

→**Mr. Mr. Minoru MATSUI, JICA Expert**

This questionnaire only for the selection. After selection, through the planning activities we have another questionnaire survey and/or some residents' meetings.

3. Responsible Organization for GIS Platform Management

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

As we all know that there are three concerned organization as counterparts: DHUP, PTRI, and DPWT which collaboratively work together to achieve the goals of activities. When it comes GIS Platform management during the project, we can work together to manage the platform, and when the project has ended, we can hand it to DPWT to mainly be in charge with because it is , in fact, DPWT who take in charge with practical work.

Mr. Bouavanh LUANGXAY, Director Division

One of the main project objectives is to strengthen capacity building, and as we know there are 3 main relevant government agencies as counters of the project which are DHUP, PTRI, and DHUP. I think all of the three origination should get involved in the GIS platform to learn and be trained by the JICA expert's team.

Assoc. Prof. Aphisayadeth INSIXIENGMAY, Deputy Director General / PTRI

Although I think Somchit is the right person for PTRI, since the DPWT team was not present in today's meeting, let us discuss within our team first, and we get back to the JICA team as soon as the conclusion is reached.

4. Next Working

The WGs member has no objection to schedule of WGs and the following were agreed;

24th, February (Wed.) 14:00~16:00

- Pilot Area selection and GIS platform

The Lao side will consider whether to keep the venue for the next WG online or offline and get back to the JICA team.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants

WG Leaders:

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTRI

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

List of participants

DHUP	- Mr. Dao KEOSUKAN , Director, Division of Urban Planning - Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning
PTRI	- Mr. Bouavanh LUANGXAY, Director Division - Mr. Somchit CHERSUANTHOR, Technical staff
DPWT	-
JICA Project Team	- Mr. Tetsuji GOTO, JICA Senior Adviser / Expert - Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.) - Mr. Chikara UCHIDA JICA Expert (Tamano Consultants Co., Ltd.) - Ms. Noriko HIGO (Nippon Koei Co., Ltd.) - Mr. Tetsuro NISHIMURA (Nippon Koei Co., Ltd.) - Ms. Kunika KONAKA (Tamano Consultants Co., Ltd.) - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant - Mr. Kiattiphoum PHANOUVONG, JICA Project Assistant - Ms. Phanida SINGLIVONGSA, JICA Project Assistant
JICA Laos office (Observer)	- Mr. Shunichiro HAYADHI, Project formulation Adviser

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

Minutes of Meeting for the 13th WG on Urban

Thursday, 24th February 2022, 14:00PM – 16:00 PM by ZOOM online

I. Objective:

- To discuss Evaluation for pilot area
- To discuss Outline of GIS platform
- To discuss the ways forward to implement the project (Output 2 and 3)

II. Agenda

1. Opening Remark by Leader of WG
2. Evaluation for pilot area Look back on the 1st UMP
3. Outline of GIS platform Q&A and Discussion
4. Discussion
5. Closing

III. Document

- Agenda No.2-4;(Data sharing) Presentation PPT

IV. QA and Discussion

1. Evaluation Results

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

The result of the study presented by JICA expert is very positive and give us clear direction for the future activities.

There are two points I would like to discuss with the WGS members and participants

Firstly, I would like to ask WGs members or participants regarding the results of the study whether you agree with the results or not.

The second point is in regard to questionnaire. Since there are many villages within the three candidate area, are we going to give questionnaire to all villages?

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

The study results today which enable us to see clearer direction of pilot project area to be selected and, this is one of the major progress for the activities. I think the criteria for pilot project selection used for the study is very concrete and explicit; therefore, when it comes to the study results, I couldn't agree more with the result and have no objection for that.

Of course, as we know the survey that the study has only 70 percent been completed, and in order to fully complete the study, we have to distribute the questionnaire to the village leaders

over the candidate area. I think make the study reliable and concrete, it is necessary to distribute the questionnaire to all villages.

Mr. Somchit CHERSUANTHOR, Technical staff

The study results today which enable us to see more explicit direction of pilot project area to be selected. As Mr.phouvong mentioned, the criteria used to evaluate the candidate area is very effective. Hence, overall, I would say I agree with the criteria and evaluation results. Regarding the questionnaire, I agree the perspectives that we should distribute the questionnaire to all villagers.

2. Counterpart's involvement / Questionnaire survey procedures

Mr. Tetsuji GOTO, JICA Senior Adviser / Expert

How will the counterparts get involve in questionnaire distribution?

→**Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)**

At first, we would like to consult with counterparts to provide us data regarding the targeted villages and after that, we (consultant team) will be in charge for questionnaire distribution.

Ms. Tomoko YAMAMOTO, JICA Expert

Regarding questionnaire distribution, If the counterparts can help the consultant team to coordinate with the targeted village, such as preparing the official document as necessary, providing contact numbers and so, it will make the process smother which is very useful for the team.

→**Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment**

We are happy to facilitate the team and more to coordinate with the village leaders. If there are anything needed, we collaboratively cooperate with the constant team for the survey.

→**Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

Regarding the procedure, the first step is to have the consultant team prepare the forms of the questionnaire and we will check them.

Mr. Dao KEOSUKAN , Director, Division of Urban Planning

I am concerned about the process or how the team will distribute the questionnaire to each village. Are we going to distribute the questionnaire to every villagers or just representatives of the household? Or we just interview the village leaders?

→**Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)**

The questionnaire will be distributed only to the village leaders.

3. GIS Data regarding Construction permit and utility facility

Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)

In order to make the survey more effective, we would like to see more on detail data of construction permit such as structure of buildings or the utility facility within the village, such as drainage system, sewage, and others.

→**Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment**

Actually, we don't have the type of detail data which has been requested. However, we will review and compile the data that we have on hand, and will send them to the consultant team as soon as possible.

→**Ms. Tomoko YAMAMOTO, JICA Expert**

The general infrastructure drawings such as water supply are included in the GUP document. We have been told that Mr. Sonepaseuth from DPWT manages the GIS data of GUP, so why not discuss this with him at first?

4. GIS Platform outlines

Chikara UCHIDA, JICA Expert (Tamano Consultants Co., Ltd.)

Through the previous WGs, we have discussed toward responsible organization to be in charge with the platform. We would like to know about data server situation within the counterparts. How do you manage and maintain the data through the servers?

→**Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

In MPWT, we have ICT division who is mainly in charge with all ICT aspects within MPWT, and this includes data base management. As I know, regarding MPWT server, we have 50 TB to restore and manage the data for PWT works. To integrate GIS data which involve to our activities into the server, we need to consult and liaison with ICT division to procedure and process. The more detail regarding the server and data base or any needed date, DHUP team can coordinate with the division for data provision.

Regarding the Sub-WG for GIS platform, we will select two people from the DHUP to tell you.

→ **Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment**

From DPWT, I think Sonepaseuth will be our representatives of DPWT.

→**Ms. Tomoko YAMAMOTO, JICA Expert**

Two from DHUP, Mr. Sonepaseuth from DPWT and Mr. Somchit from PTRI are considered suitable. Please inform the members after selection.

5. Next Working Group:

The WGs member has no objection to schedule of WGs and the following were agreed;

9th, Mar (Wed.) 14:00~

- Pilot Project Evaluation and Develop draft concepts and comparison
- TOR for GIS platform

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants

WG Leaders:

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

List of participants

DHUP	- Mr. Dao KEOSUKAN , Director, Division of Urban Planning - Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning
PTRI	- Mr. Somchit CHERSUANTHOR, Technical staff
DPWT	- Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment - Mr. Sonpaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
JICA Project Team	- Mr. Tetsuji GOTO, JICA Senior Adviser / Expert - Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (Tamano Consultants Co., Ltd.) - Ms. Noriko HIGO, JICA Expert (Nippon Koei Co., Ltd.) - Mr. Tetsuro NISHIMURA, JICA Expert (Nippon Koei Co., Ltd.) - Ms. Kunika KONAKA, JICA Expert (Tamano Consultants Co., Ltd.) - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant - Mr. Kiattiphom PHANOUVONG, JICA Project Assistant - Ms. Phanida SINGLIVONGSA, JICA Project Assistant
JICA Laos office (Observer)	- Mr. Shunichiro HAYADHI, Project formulation Adviser-
JICA HQ (Observer)	- Ms. Chieko MATSUBARA, Special Adviser

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

Minutes of Meeting for the 14th WG on Urban

Wednesday, 9th Mar 2022, 14:00PM – 16:00 PM by ZOOM online

I. Objective:

- To discuss Evaluation for pilot area
- To discuss concepts of pilot areas and additional candidate areas
- To discuss Activity of Sub WG for GIS platform
- To discuss the ways forward to implement the project (Output 2 and 3)

II. Agenda

1. Opening Remark by Leader of WG
2. Evaluation for pilot area / Draft concepts of pilot areas and additional candidate areas
3. Activity of Sub WG for GIS platform
4. Distribution of 'Ban Hao'
5. Discussion
6. Closing

III. Document

- Agenda No.2-4;(Data sharing) Presentation PPT

IV. QA and Discussion

1. Evaluation for pilot area and additional candidate areas

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

Investments and procedures for urban development take time, so it would be good if changes of the area could be felt in a short period of time following a project, if possible. From this perspective, the candidate area differ from what has been suggested in the evaluation result, and my preferable candidates are A or B. In comparison to other area, the Dongdok area has a higher potential for development. Due to the fact that Candidate C involves many stakeholders, it might be difficult to shift for the change, while less stakeholders can be seen through Candidate A which will benefit for the activity because the process and procedure will take shorter time.

Assoc. Prof. Aphisayadeth INSIXIENGMAY, Deputy Director General / PTRI

Candidate C is well fitted to be selected as Pilot Project. When looking at the Area, Khouvieng has full potential to implement the activity due to utility accessibility, road connectivity, business opportunity in order to develop road safety and make the area remarkable landscape as a priority. Moreover, the area has been already approved by VTE.

Ms. Tomoko YAMAMOTO, JICA Expert

Candidate A, B, C were suggested by Lao counterparts. Can you be a bit more specific about what you wanted to do in each area?

In addition to these three candidates, please let us know if there are any other areas that might fit this selection criteria.

→**Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment**

In terms of Dongdok Area, in the past, PTRI and DWPT conducted the study toward development plan, and the plan has been approved by the district. I am concerned that if Candidate A area is selected, it will overlap with the existing plan.

The candidate C is one of the good option for Pilot project, and Khouvieng has been proposed and considered as investment promotion site. Additionally, the area is in line with resolution number 107.

The area B is another suitable candidate, and because through railway station the candidate B is seen as investment promotion and logistics area, it will be developed as the new urban area with high density of population. Therefore, the area will gain the benefits from the project through development plan or guideline.

→**Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTRI**

Additional candidate area, we can suggest you later.

→**Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP**

If there has been an existing plan of development in Candidate A, we can move to Area B. However, approval plan should be checked in detail first.

The utility of accessibility (Wastewater drainage: less drainage system within the site and road: less existing main road network (north-south road passing centre of the site is unpaved.) has not covered the whole area, and through the pilot project, I believe we can provide the local authority the guidance for development and solution to the issues.

We should avoid to have applied activities, many stakeholders. The important considerations is the involvement of citizen or their willingness to participate in the project activity.

Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)

The questionnaire to village leaders will be conducted before the next WG.

Many opinions were expressed by counterparts today, but not by all members. To finalize the pilot area selection, there is one option of voting. Choosing an area that requires the big investment would be difficult to handle. This means if you select Candidate A or B, we need focus on core site in the pilot area, less than 20 ha.

→**Mr. Tetsuji Goto, JICA Expert**

It is important to know counterpart's suggestions and opinions. Please continue the discussion.

→**Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP**

Because of different perspective in regards to the selection, the conclusion has not been reached yet. As JICA expert suggestion, to finalize the pilot area selection, the voting approach could be done, but we would continue to discuss.

2. Activity of Sub WG for GIS platform

Assoc. Prof. Aphisayadeth INSIXIENGMAY, Deputy Director General / PTRI

Regarding the sub-WGs of GIS Platform, beside Mr. Somchit, I would like to introduce two more technical staff from PTRI to get involved in the activity. They can play a role either observer or members.

3. Newsletter publication

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

I am in favor of discussing Newsletters distribution opportunities with other organizations. Apart from dissemination through MPWT website, we should also advertise it through Newspaper for widespread accessibility of audiences.

4. Next Working Group

The WGs member has no objection to schedule of WGs and the following were agreed;

24th, Mar (Wed.) 14:00~

- Final Evaluation for pilot area
- TOR for GIS platform

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants

WG Leaders:

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTRI

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

List of participants

DHUP	- Mr. Dao KEOSUKAN , Director, Division of Urban Planning - Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning
PTRI	- Mr. Bouavanh LUANGXAY, Director Division - Mr. Somchit CHERSUANTHOR, Technical staff
DPWT	- Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment - Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
JICA Expert Team	- Mr. Tetsuji GOTO, JICA Senior Adviser / Expert - Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (Tamano Consultants Co., Ltd.) - Mr. Tetsuro NISHIMURA, JICA Expert (Nippon Koei Co., Ltd.) - Ms. Kunika KONAKA, JICA Expert (Tamano Consultants Co., Ltd.) - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant - Mr. Kiattiphoum PHANOUVONG, JICA Project Assistant - Ms. Phanida SINGLIVONGSA, JICA Project Assistant
JICA Laos office (Observer)	- Mr. Shunichiro HAYADHI, Project formulation Adviser
JICA HQ (Observer)	- Ms. Chieko MATSUBARA, Special Adviser

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

Minutes of Meeting for the 15th WG on Urban

Wednesday, 23th Mar 2022, 14:00PM – 16:00 PM by ZOOM online

I. Objective:

- To discuss selection of pilot area
- To discuss TOR of GIS platform
- To discuss the ways forward to implement the project (Output 2 and 3)

II. Agenda

1. Opening Remark by Leader of WG
2. Objective of Study on Pilot Area Activity of Sub WG for GIS platform
3. Evaluation for pilot area and additional candidate areas
 - Result of questionnaire for village leaders / Explanation of Opinion Sheet
4. Brief report of the field survey
5. TOR of GIS platform
 - The situation analysis from questionnaire
6. Discussion
7. Closing

III. Document

- Agenda No.2-4;(Data sharing) Presentation PPT

IV. QA and Discussion

1. Final Evaluation of Pilot Projects

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTRI

Before the form will have been filled up, we would like to have an internal meeting to discuss about the selection.

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

I want our work to be applicable and the project to end up in the shell to bring the best benefits.

In the past, from previous plan, we made proposal to improve the street frontage in Xaysetha and Sarm Saen Thai road which seems has no progress. I don't want our way to end up that way.

I would say that it does not matter which area is selected, but it is about commitment from local authority. This is because the commitment will result in more effective implementation.

The budget is another problem, and we can look for it. As can be seen through some area in Sisattanak district which has succeeded in financial mobilization for road and drainage improvement. Therefore, I would emphasize that commitment from local authority is one of the priorities.

Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)

In terms of opinion sheet, please consider commitment from local authority as one of the criteria, when you fill the form.

2. TOR of GIS platform

If you have any question regarding GIS platform, you can direct contact us.
Ms.Yui will contact you regarding the date of Sub-Working Group for GIS Platform meeting.

3. Next Working Group

The WGs member has no objection to schedule of WGs and the following were agreed;

30th, Mar (Wed.) 14:00~

- Discussion on final evaluation for pilot area

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants

WG Leaders:

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTRI

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

List of participants

DHUP	- Mr. Nalongxay MYVAPADITH, Deputy Director General - Mr. Dao KEOSUKAN , Director, Division of Urban Planning - Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning
PTRI	- Mr. Somchit CHERSUANTHOR, Technical staff - Ms. Sengchane SOULA, Technical staff - Ms. Phattharavady UDOMDETH, Technical staff
DPWT	- Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment -
JICA Expert Team	- Mr. Tetsuji GOTO, JICA Senior Adviser / Expert - Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (Tamano Consultants Co., Ltd.) - Mr. Tetsuro NISHIMURA, JICA Expert (Nippon Koei Co., Ltd.) - Ms. Kunika KONAKA, JICA Expert (Tamano Consultants Co., Ltd.) - Mr. Kiattiphoum PHANOUVONG, JICA Project Assistant - Ms. Phanida SINGLIVONGSA, JICA Project Assistant

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

Minutes of Meeting for the 16th WG on Urban

Wednesday, 30th Mar 2022, 14:00PM – 16:00 PM by ZOOM online

I. Objective:

- To discuss on final Evaluation for pilot area
- To discuss the ways forward to implement the project (Output 2 and 3)

II. Agenda

1. Opening Remark by Leader of WG
2. Monitoring the progress of CDUDCP
3. Draft of final evaluation for pilot area
4. Discussion
5. Closing

III. Document

- Agenda No.2-3;(Data sharing) Presentation PPT

IV. QA and Discussion

1. Final evaluation and selection of Pilot Area

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

The principle of selection; Each area is entirely the object of the project but who can Decided to select that area is the Vientiane capital, which is important for is the implementation. Ultimately, that area must be approved by the government.

Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)

If it has to discuss through a comment from the Mayor or Vientiane capital, do we need to prepare any documents or make an appointment for the meeting before holding the JCC?

Assoc. Prof. Aphisayadeth INSIXIENGMAY, Deputy Director General / PTRI

I also agree with Mr. Sengdala, We need to meet with the mayor of Vientiane capital to explain the area for reasons of selection to allow the mayor to participate in the selection of the candidate area.

Ms. Tomoko YAMAMOTO, JICA Expert

We are available to attend the meeting with mayor or Vientiane capital. We would like to ask counterpart to coordinate the meeting.

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

As you knew DPWT is the secretary of Vientiane capital, before we will make an appointment with Vientiane Mayor we have to decide the pilot area as WG's proposal at first with all members. Vientiane capital also could have commitment regarding the working group's proposal. I would like to select the candidate B, this area would be the areas planning for development orderly. I would like the working group member to select the location together and later we can purpose to Vientiane capital.

Assoc. Prof. Aphisayadeth INSIXIENGMAY, Deputy Director General / PTRI

I suggest to have internal meeting with working group member to select the areas before going to meeting with Vientiane capital.

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

As Mr. Phouvong mentioned, he would select candidate B, so how about we discuss together and then purpose DG of DPWT and then later we purpose to Vientiane capital.

Assoc. Prof. Aphisayadeth INSIXIENGMAY, Deputy Director General / PTRI

If the working group member agree to select the candidate B, especially I think about the project objective, capacity of planning, and we would like to reconfirmed together for the location of candidate B from everyone. The most important thing, we need to consider about the capacity building. Even if any candidate we select, we believe that we can also extended the areas not only limited candidate B or A,C in the future. However, when we finalize it together, we can purpose or report to the Vientiane governor for final decision by hearing the opinion and reason form the working group member.

Mr. Bouavanh LUANGXAY, Director Division

I also agree with the candidate B, it is the capacity building in TOD , anyway this area will be most urbanize area in the future, so it is good opportunity to make the area plan and to collaborate with other development projects

Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment

I also selected the candidate B. In term of the capacity building of urban development in according with the construction permit. We had been observed Saysetta district, it's quite high potential urban development.

Mr. Somchit CHERSUANTHOR, Technical staff

I also agree to be selected the candidate B, it's most suitable for capacity building in urban development management and promotion, however this area also designated by urban expansion areas in GUP version3, this areas planning will lead for promotion and urban development improvement

Mr. Tetsuji GOTO, JICA Senior Adviser / Expert

The important thing is the ownership and corroboration, this project not only by DPWT, but also DHUP and PTRI as main counterpart. It's important to discuss together with Vientiane capital.

Ms. Tomoko YAMAMOTO, JICA Expert

Please report this area selection to DGs by WG members of each organization. Then, I would like to discuss the consultation with Vientiane Capital with the two leaders and Mr. Phouvong after this meeting, including protocol and specific date.

2. Monitoring the progress / Monitoring sheet

Ms. Kunika KONAKA and Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)

For monitoring sheets, please feed-back by WG members to Ms. Konaka by 6th April.

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

In terms of indicators to validate the project's overall goal, we have to determine the number of permit (400 units) and the number of the Urban Collaborative Project (5 projects), we must ask for comments from the governor whether it is appropriate and comment, and then implement it. For the goals we selected and can we follow it up on the project?

3. Next Working Group

The WGs member has no objection to schedule of WGs and the following were agreed;

6th, April (Wed.) 14:00 ~ 16:00

- TOR for GIS platform
- Preparation of WG's proposal for pilot area
- Coordination for JCC

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants

WG Leaders:

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTRI

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

List of participants

DHUP	- Mr. Dao KEOSUKAN , Director, Division of Urban Planning - Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning - Mr. Souksavanh HANEPHOM, Technical staff, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning
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JICA Laos office (Observer)	- Mr. Shunichiro HAYADHI, Project formulation Adviser - Mr. Kingsada SIPHANTHONG, Program Officer
JICA HQ (Observer)	- Ms. Chieko MATSUBARA, Special Adviser

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

Minutes of Meeting for the 17th WG on Urban

Wednesday, 6th Apr 2022, 14:00PM – 16:00 PM by ZOOM online

I. Objective:

- To discuss the TOR for GIS platform
- To prepare of WG's report for pilot area selection
- To coordinate for JCC
- To discuss the ways forward to implement the project (Output 2 and 3)

II. Agenda

1. Opening Remark by Leader of WG
2. discuss the TOR for GIS platform
3. prepare of WG's report for pilot area selection
4. coordinate for JCC
5. Discussion
6. Closing

III. Document

- Agenda No.2-4;(Data sharing) Presentation PPT

IV. QA and Discussion

1. The TOR for GIS platform

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

After the completion of the project, Lao sides hope to expand the GIS platform to other cities and we would like to find a suitable time to hold a seminar or some of training on the managing the system. What do you think when would it be good time for having such training?

Another question, I think we may also need some GIS trainings as well. Our department would like to provide training on the usage of QGIS and other GIS currently in use in the field of urban design, not for our WG member and but for other stuffs in the country.

Mr. Chikara UCHIDA, JICA Expert (Tamano Consultants Co., Ltd.)

During the implementation of the project, we plan to hold two training for WG member, the first one for general technical staff and the other for training Technical GIS platform in particular.

Mr. Tetsuji GOTO, JICA Senior Adviser / Expert

Regarding GIS training, other former projects belong to JICA also had some of trainings for the usage of GIS. I believe that Lao side will continue training by themselves. Input resources are limited, so counterpart side will continue this training, and in this project, we would like to focus more on operations related to practical work rather than usage itself.

Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)

We plan to start the training before the development of the system is completed. The first training will be held on beginning of the next year 2023, this is basic trainings to learn that what's is the GIS and operation of GIS itself including the QGIS and also for the operation of the GIS platform. The second session from August to the November this is more detail about the operation and management. We have planned these two training sessions in the 2023.

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

Lao government funded program already approved in our departments and we expect to have a training on GIS, it may be next year. It's good that we get this synergy of this project and we can somehow to combine the training if necessary. Instead of having two separate scheme of training, we will look at how we can combine the two project together.

Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)

About the training of GIS platform in the first session is for member of sub working group and we may invite more participant from DHUP, PTI and DPWT. Then we have planned that member of sub working group get training in the first session, they will become trainers in the second session. The sub working group member will be the trainer for the GIS and GIS platform.

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

We are also leaning from the Japanese site itself actually, we would like to see overall in each of the platform. Especially these operability and visibility of the platform and we expect to keep the GIS platform that other people can access for all the information. If we have time, we would like to hear how the GIS platform look like.

→**Mr. Chikara UCHIDA, JICA Expert (Tamano Consultants Co., Ltd.)**

Next of the working group we will discuss more detail about and GIS platform.

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

All of the members might be interested in GIS platform. Can we plan to have the meeting in different time for these examples. All of the members can join the meeting, would it be possible?

→**Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)**

It's possible, we will discuss again.

2. Prepare of WG's report for pilot area selection
Ms. Tomoko YAMAMOTO, JICA Expert

Actually, I discussed the schedule and procedure for consultation with vice mayor and JCC which is presented today with two leaders and Mr. Phouvong before this WG.

<Schedule and Procedure>

18th-20th April; Letter from PTI for Consultation meeting with vice mayor

By end of April; Consultation meeting with vice mayor

Early of May; Invitation letter for JCC

By Mid of May; JCC (TBD)

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

We can stick to this schedule. I really hope we can proceed to this time schedule.

About the letter, Dr. Aphixayadeth may make correct the some of the words in Lao, but the context is already OK. In addition about the letter, we may need to attach short summary of this selection such as the characteristics of each area and why did we select candidate B. it is very short summary is already in your presentation, just we attach it to the letters for just letting the vice mayor know the background of the selection.

I would like to draw your attention here to request whom the members of our department, because I knew there are two or three vice mayors, I really want to make sure the vice mayor we are going to meet to send a letter to must be who attend the JCC meeting.

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

I agree with the comment with Mr.Sengara, especially for the draft of letter proposed will be prepare by PTI and finalize the Lao wording including the attachment summery; how we came up to selected the pilot area so far.

Regarding participant, on this occasion we doesn't limited only the members but also the DG of DPWT, we shall include him to list of participant.

About the preparation of the JCC, before we proceed it, I would like to consult with the member of the working group about the materials and contents. Then, we should have an approval from the minister.

For the vice mayor who attend the first JCC is Mr. Phoukhong BANAVONG

→**Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)**

Before we have meeting with vice mayor, we have to meet with DG of DPWT?

→**Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP**

I would like to suggest that we can invite the DG together with as to meet the vice mayor.

→**Ms. Tomoko YAMAMOTO, JICA Expert**

Can Mr. Phouvong explain or inform to DG at first before we are going to meet the vice mayor?

→**Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment**

Actually, we don't need to have meeting with DG. I can bring the kind of report to DG in stage, then the DG can also clarify when we meet with vice Mayor.

3. Coordinate for JCC

The draft of agenda and documents for 2nd JCC were presented by JICA Expert, the member agreed to start making arrangements for the event. Lao side will select the presenters and participants.

4. Monitoring Sheet

Ms. Kunika KONAKA, JICA Expert (Tamano Consultants Co., Ltd.)

We would like to hear your comments on the monitoring sheet presented recently. Please give me the comment until tomorrow and then we will submit to JICA office.

→**Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP and**

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

Generally agreed, but the indicators need to be discussed further.

5. Next Working Group

The WGs member has no objection to schedule of WGs and the following were agreed;

- We shall start the coordination for consultation meeting with vice mayor and preparations for the JCC.
- Until the JCC is held, the JCC will be coordinated on an individual basis(without WG) and he members will be informed separately about the next WG.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants

WG Leaders:

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

List of participants

DHUP	- Mr. Nalongxay MYVAPADITH, Deputy Director General - Mr. Dao KEOSUKAN , Director, Division of Urban Planning - Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning - Mr. Souksavanh HANEPHOM, Technical staff, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning
PTI	- Mr. Somchit CHERSUANTHOR, Technical staff - Ms. Sengchane SOULA, Technical staff - Ms. Phattharavady UDOMDETH, Technical staff
DPWT	- Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment - Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
JICA Expert Team	- Mr. Tetsuji GOTO, JICA Senior Adviser / Expert - Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (Tamano Consultants Co., Ltd.) - Ms. Kunika KONAKA, JICA Expert (Tamano Consultants Co., Ltd.) - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant - Mr. Kiattiphoum PHANOUVONG, JICA Project Assistant - Ms. Phanida SINGLIVONGSA, JICA Project Assistant
JICA HQ (Observer)	- Ms. Chieko MATSUBARA, Special Adviser

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

Minutes of Meeting for the 18th WG on Urban

Wednesday, 11th May 2022, 14:00PM – 15:45 PM by ZOOM online

I. Objective:

- To share the overview of GIS platform
- To proceed with preparations for the 2nd JCC
- To discuss the ways forward to implement the project (Output 2 and 3)

II. Agenda

1. Opening Remark by Leader of WG
2. Basic ideas of 'platform' and its operation (Present by Mr. Yuta AIHARA)
3. Overview of GIS platform-Use Case (Present by Mr. Chikara UCHIDA)
4. Exchange of views
5. Report of the consultation with vice mayor
6. 2nd JCC Coordination Progress
7. Draft RD amendment
8. Closing

III. Document

- Agenda No.2-3, 5-7; (Data sharing) Presentation PPT

IV. QA and Discussion

1. GIS platform

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

Are YouTube and Facebook platforms?

Mr. Yuta AIHARA, JICA Expert/CDUDCP

Yes, GAFAM (Google including YouTube, Amazon, Facebook, Apple, and Microsoft) are the most successful global platformers in this century.

2. Overview of GIS platform Use Case

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

In our project, should we survey only the pilot area or expand the survey area like the whole area of town? Because I think it may not be helpful with just only the pilot area.

Mr. Chikara UCHIDA, JICA Expert (Tamano Consultants Co., Ltd.)

GISPF will include not only data of the pilot area but also data of the other area.

Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)

The coverage of GIS PF would be basically Vientiane capital area. We have some available GIS data and analysis maps which were developed in the previous Master plan study or belongs to the other Ministries. But the base data might be old. We will develop the GIS PF as the base in this project. When you are revising master plan near future, you may collect and analyse data and upload them to GIS PF. At present we cannot update all kind of data and maps but will develop the useful and sustainable GIS PF system as much as possible. The data of Pilot area current situation survey or planning activities are too much detailed to share public, These data should not be upload to GISPF.

Mr. Tetsuji GOTO, JICA Senior Adviser / Expert

We expect the possibilities of GIS PF, but the available data are limited, so we should think about this balance. One of the purposes of GIS PF is the visualization which address the issue of lack of information sharing among stakeholders. At first, we will consider what kind of data is important for sharing and how we collect them. There is information that we should not share on the web such as private data and too detailed issues including the survey data. Mr. Uchida explained how to use GIS itself today, which is different from the concept of GISPF.

3. Report of the consultation with vice mayor and preparation of 2nd JCC

The consultation of vice Mayor was successfully hold on 10th May and was reported by participants. In response, it was agreed to proceed with the briefing for deputy minister and prepare the following schedule.

<Schedule and Procedure>

10th May (Done); Consultation meeting with vice mayor

16th to 20th May; Briefing for deputy minister

23th to 25th May; Invitation letter for JCC

2nd or 3rd June; 2nd JCC

4. Amendment of Record of Discussion

All participants agreed on the M/M draft for minor amendment of R/Ds for the organization's name change from 'PTRI' to 'PTI'. After the approval JICA HQ, it will be signed by 3 DGs. This M/M will be a rotating signing rather than a signing ceremony at the JCC.

5. Next Working Group

Until the JCC, WGs will not be held, but JICA experts plan to have individual MTGs with C/P related to ICT and construction permits etc.

FYI; A consultant team will be in Vientiane from 22 May(1.5 month), and Ms. Yamamoto will temporarily return to Japan from 9 June(1 month).

V. Participants

WG Leaders:

Assoc. Prof. Aphisayadeth INSIXIENGMAY, Deputy Director General/PTI

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

List of participants

DHUP	- Mr. Dao KEOSUKAN , Director, Division of Urban Planning - Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning -Mr. Bounthiem CHITTAPHONE, Technical staff, Division of Urban Planning
PTI	- Mr. Bouavanh LUANXAY, Director Division - Mr. Somchit CHERSUANTHOR, Technical staff
DPWT	- Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment - Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
JICA Project Team	- Mr. Tetsuji GOTO, JICA Senior Adviser / Expert - Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (Tamano Consultants Co., Ltd.) - Ms. Kunika KONAKA, JICA Expert (Tamano Consultants Co., Ltd.) - Mr. Akihito MUTO, JICA Expert (Nippon Koei Co., Ltd.) - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant - Mr. Chayyang CHUVEA - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project Assistant
JICA Laos office (Observer)	- Mr. Shunichiro HAYASHI, Project formulation Adviser - Mr. Kingsada SIPHANTHONG, Program Officer

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

Minutes of Meeting for the 19th WG on Urban

Wednesday, 8th June 2022, 14:00PM – 15:45 PM by ZOOM online

I. Objective:

- To share the SWG activities for GIS platform
- To discuss the activities and schedule of area concept planning in pilot area
- To discuss the ways forward to implement the project (Output 2 and 3)

II. Agenda

1. Opening Remark by Leader of WG
2. Report of #004 Sub WG for GIS PF
(Presented by Mr. Chikara UCHIDA, JICA Expert, Tamano Consultants Co., Ltd.)
3. Q and A
4. Review and the way forward for Urban Collaborative Development (Output 3)
(Presented by Ms. Tomoko YAMAMOTO, JICA Expert)
5. Activities of Area Concept Planning in Pilot Area
(Presented by Mr. Minoru MATSUI, JICA Expert, Tamano Consultants Co., Ltd.)
6. Discussion
7. Next WG
8. Closing

III. Document

- Agenda No.2, No.4, and No.5; (Data sharing) Presentation PPT

IV. QA and Discussion

1. Report of #004 Sub WG for GIS PF

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

Last year, we signed two projects of our department's own, and some budgets were provided. We need systems to digitize paperwork to simplify our work process. We also discussed purchasing hardware, and provisioning servers. But we have no professionals to think about that. We should discuss trainings to be professional. I would like us to move in the same direction. We will see how to use government's budget. First, we should ask our department whether we can use the budget. After that, we should talk about the objective of the digitization project and how to carry it out. The total budget is more than two hundred million Kip. We strongly support to make this project happen. The most difficult problem is sharing

information. The land agency doesn't utilize their software or application well, which is difficult to access. Anyway, I think we can connect to all the agency using by UMP and GIS PF, which we are now developing.

Ms. Tomoko YAMAMOTO, JICA Expert

When will you plan to start the digitization project?

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

It may be after July this year.

Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)

Should you spend the budget within one year?

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

The project duration is two years. It depends on the government's program. If the project cannot complete within two years, we can expand it. It depends on finance of government.

Mr. Tetsuji GOTO, JICA Senior Adviser / Expert

It is good to discuss such issues as what kind of data are available, or latest. We should check these data with counterparts (DHUP, PTI, and DPWT).

Also, what kind of data are needed for urban issues, analysis, and management. They also need to be clarified. Mr. Sengdara mentioned sharing information is very hard, but we should know why sharing information is so difficult. And then we can solve the problem.

2. Activities of Area Concept Planning in Pilot Area (Output 3)

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

Could you tell us imposed tasks of Urban Promotion Working Team? Is it different from ones of Urban WG?

Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)

The Urban Promotion Working Team will report their progress in Urban WG and JICA expert team will give technical advice and some information to support them.

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

Minister is developing programs and doing area whole planning is smart and excellent urban planning. We can get supported from government and relevant agency as well. The important point is how to make sure that government and the relevant involved this understand what we are going to do. After discussion on this in JCC, all information there shall be reach the decision maker, government official level.

Regarding "Urban Promotion Working Team", we can discuss it easily because of the team only from our department. In addition to that, as Vice Governor also mentioned, even if we had done a detail planning well, almost nothing happened there. Because the urban planning local team would be missing. After the project completion, the government shall setup the team. It would be similar to the proposing Urban Promotion Working team that can represent relevant agencies, or the other sectors. Someone who are looking for investment represent relevant agencies. Working as a team to promote what we propose will be good. Sustainability after the

completion of the project is important. As mentioned in our Newsletters, we will make sure, how we can carry out projects and confirm the basement is there, because all relevant are there already. So, people involvement, private sector involvement, investment capacity is there, and needs for problem solution will be there. It is clear and this information sends out to reach the people.

Ms. Tomoko YAMAMOTO, JICA Expert

For awareness raising and promoting understanding, we can use UMP newsletters and UMP meetings. Although our UMP is still only an information-sharing meetings for urban development, in the future, based on the roadmap of UMP, we would like to make these stakeholder meetings to be the urban management mechanism to discuss institutional issues on urban development. Sustainability of the mechanism is mentioned clearly in the TOR of UMP. Holding a series of meetings, we will discuss GISPF issue in the coming UMP meeting and would like to share Area Concept Plan across sectors in another UMP meeting if possible.

Mr. Sengdara DOUANGMYXAY, Deputy Director General/DHUP and Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment/DPWT

The problem is how can we get the data from the land sector because sharing information is difficult.

Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)

In the case of Japan, anyone can access and download the land data. Some countries, not only Laos, have restriction of data flow. We understand why we are involving DONRE in UMP to make the common understanding. We will try first, and report to UMP if we have issues.

Mr. Tetsuji GOTO, JICA Senior Adviser / Expert

We talked about Output 3 to promote urban development project. There should be not only planning but also implementation. There are many potentials, ideas, issues and challenges. We should discuss how to implement and how to promote after/during planning. This is main focus of Output 3.

Mr. Bouavanh LUANGXAY, Director Division

What JICA experts are now doing, is good for us to simplify work process in the future. In the Working Team assignments, there may be two Working Teams (WTs). WT#1 is for map and WT#2 is for urban planning. I will discuss with Mr. Aphisayadeth, on members of Working Team.

3. Next Working Group

Next Working Group will be held on 22nd June

Next topic is

- TOR for current condition survey in pilot area
- Coordination for small seminar for GIS platform

Venue is PTI (Tentative)

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants

WG Leaders:

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

List of participants

DHUP	- Mr. Dao KEOSUKAN , Director, Division of Urban Planning - Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning- - Mr. Souksavanh HANEPHOME, Technical staff, Division of Urban Planning
PTRI	- Mr. Bouavanh LUANGXAY, Director Division - Mr. Somchit CHERSUANTHOR, Technical staff - Ms. Phattharavady UDOMDETH, Technical staff
DPWT	- Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment
JICA Project Team	- Mr. Tetsuji GOTO, JICA Senior Adviser / Expert - Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (Tamano Consultants Co., Ltd.) - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant - Mr. Viengdavanh Phommachanh, JICA Project Assistant (GIS/Urban Information Management Expert of Consultant Team) - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project Assistant

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

Minutes of Meeting for the 20th WG on Urban

Wednesday, 22nd June 2022, 14:00PM – 16:17 PM by ZOOM online

I. Objective:

- To discuss the future actions following opinions in the JCC
- To discuss TOR for current condition survey in Pilot Area
- To report activities of SWG on GIS-PF
- To prepare 1st seminar on urban issues
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening Remark by Leader of WG
2. Discussion points at the JCC and future actions (Discussion)
3. TOR for current condition survey in Pilot Area
4. Discussion
5. Report of #05-06 SWG for GIS-PF
6. Coordination for 1st seminar series on urban issues
7. Q and A / Discussion
8. Next WG
9. Closing

III. Document

- Agenda No.2, 3, 5 and 6; (Data sharing) Presentation PPT

IV. QA and Discussion

1. Discussion points at the JCC and future actions (Discussion)

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

I would like to focus on two points. The first point is GIS PF. Because we need to update this project. Government, especially Ministry of Public Work and Transport should establish budgeting. This budget is spent for Operation and Maintenance of data. We should organize the speciate meeting with WG members and JICA Experts to talk about O&M of data. The second point is, I would like to recommend, that Vice Minister and Vice Mayor should sign the Minute of Meeting of 2nd JCC Meeting. But before that, we should talk to Vice Minister and Vice Mayor to make appointment to request both signing. Mr. Sengdara DOUANGMYXAY and all

higher-level members of CDUDCP should sign down before submitting to Vice Minister and Vice Mayor.

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

First, we need to clarify some of comments raised in 2nd JCC meeting. Regarding the involvement of DONRE, we are now involving in them, but it may not be needed in our project. On the other hand, we are involving in representatives of OPWT.

Regarding activity in Pilot site and Area Concept Planning, we should search where we need to present or promote it to public, residents, and stakeholders. So, in this case, we need to provide it exactly. Involvement should be applied to whole, not only working group members.

Regarding e-government, I'm not sure who is responsible, but the department is under Ministry of Posts and Telecommunications. We will make a team to hear from them on their e-government work including using database and updating procedure.

In term of Cybersecurity, it is important, but we hardly do this, which service is provided only by Lao Telecom. We are now developing a very simple database, which doesn't need to rely on the Cybersecurity service.

In term of updating GIS, it is a future work and earlier to discuss on detail such as requesting budget for updating. Of course, we need to discuss this prior to the project completion.

For community involvement on Pilot Area Project, we need to involve the people. Especially, before the area planning is approved, we need to ask the opinion from people.

For standards to determine shape and form of building, it is earlier to mention because we don't know now exactly what our product would be.

In term of building code, some of items are already written there. In our project, the building code must be drafted and finalized. We need to submit it for consideration by various agencies and there are several stages of approval. Although collaboration with NUOL is good, we can work it out by ourselves. We should clear draft building code between JICA Experts and our team, and then we can submit it for consideration.

Regarding signature for 2nd JCC meeting, we can require Vice Minister and Vice Mayor to sign. We need to draft the Minutes of Meeting.

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

Who is preparing the Minutes of Meeting of 2nd JCC meeting?

Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)

We are already preparing it. Do we have both Lao and English version?

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

We need both to make more understanding for Vice Minister and Vice Mayor. In term of dissemination, in the Master plan of Vientiane Capital to be submitted, we prepared for understanding of population. Let me ask first question, how many populations living in Historic Area? According to the study of the area, it is 3.7% of population. Second question, if you live in Historic Area, will you participate for protection of historic Area? Indeed, 97% of population would like to join. Thus, it is important for consultants to do questionnaire. If they understand, it will be good opportunity for their well-being.

Ms. Tomoko YAMAMOTO, JICA Expert

Regarding e-government, who or which Division is responsible for e-government?

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

The department relating to e-government is under Ministry of Post and Telecommunications.

Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)

DPWT in Vientiane Capital is the representative of Laos of Asian Smart City network. It is not Ministry but Vientiane Capital. I saw some document that mentions the list of the representative members of Lao from DPWT in Vientiane Capital. It means the Vientiane Capital have some Division to promote Smart City. E-government is one category of the smart city. I will discuss more about this.

Ms. Tomoko YAMAMOTO, JICA Expert

I know the policy of smart city is placed in e-government, but the Lao government may have the concept of e-government itself. Let's discuss this with Vientiane Capital later.

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

We would like to receive all comments raised in the 2nd JCC meeting to consider. But we must consider from the framework that has been set out. First, it will be good if we can do cybersecurity. Second, it is agreeable that building code should have design for disabled people but we should consider whether this is in our framework and which standard we will use. Will GIS PF test to utilize in the pilot area?

2. TOR for current condition survey in Pilot Area

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

On the map in the slide, I don't understand what is indicated as the green boundary and the orange boundary on Villages in Survey Target Area.

Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant

The yellow boundary is where consultants will buy satellite image. The orange boundary is where we will survey to know the inside condition of green border. In the current condition survey, there are two conditions including both external and internal ones. We will survey both orange and green boundary then we will arrange some area in the green boundary.

Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)

Are 9 numbers of villages large? We can reduce them if many. Because during Pilot area selection, there are just 5 villages. The green boundary is temporary drawn for our Area planning, which is changeable. I'm worried about the 3 additional village leaders. During Pilot Area Selection, we surveyed only 5 villages and they already understood something we are doing in that village, but 3 other villages don't know what we are doing in the survey.

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

It is necessary to advertise to each village, what we are doing in the survey. Before that, we should make a notice to the administrator of each district.

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

First, we must make it clear that our purpose will not affect the people in the village, and we will not make any construction work in the survey. It is just a survey. In term of area in the survey, we can keep the orange boundary, but it depends on budget. From my experience, if we survey in larger area, the survey company will charge higher prices. In term of selection to purchase, if this project is funded by our government's money, we may choose the cheaper one, but this project is funded by JICA. It depends on JICA. In addition, we need to give a notice in newspaper.

Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)

We don't have much but enough budget. If the quotation of the company in the proposal is much higher than our expectation, we can adjust to reduce the cost. So, we will keep this boundary at the moment. After determining the company, we will send the letter to the villages before starting the survey activity. We still have time.

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

The district should be informed in advance because the district will notify the village.

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

I would like to inform you that in the last meeting regarding WT members, the works between Planning Team and Survey Team is found to be similar. So, we decided to arrange someone who is now already in Urban WG and will work with the survey company. I already found 3 from DHUP. DPWT in Vientiane Capital assigned a same person who is working in Urban W G. We accepted your request and already prepared the working members. The working members are almost the same with GIS PF SWG members and just add one person.

Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)

I recommend different members from GIS PF SWG's to be assigned. Because the activity of the Urban Promotion WT is so hard. WT has a meeting once or twice a week. It is difficult for them to join both.

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

I already discuss with DPWT in Vientiane Capital and PTI. They don't have any more people. But from DHUP, 3 people are enough. If 1 person is not available, 2 may join.

Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)

Could you send us the candidate of members?

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

Please tell me later how many persons you would like.

3. Coordination for 1st seminar series on urban issues

Mr. Somchit CHERSUANTHOR, Technical staff

Is there requirement of participants who join the seminar? Should I bring PC to the seminar?

Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)

It is preferable that participants have a basic knowledge of GIS and AutoCAD. PC is not needed for the seminar because it is not operation training of GIS, but presentation.

The 1st seminar tentatively scheduled on 29th June, and we can move it to 30th June or 1st July. I'm suggesting holding the 1st seminar before consultants go back to Japan on 3rd July.

Assoc. Prof. Aphisayadeth INSIXIENGMAY, Deputy Director General / PTI

We will assign Mr. Vasaly SISAVATH as a coordinator and inform you this week.

4. Next WG

Next WG (21st Urban WG) will be held on 6th July.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants

WG Leaders:

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

List of participants

DHUP	- Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning
PTI	- Mr. Somchit CHERSUANTHOR, Technical staff - Ms. Sengchanh SULA, Technical staff - Ms. Phattharavady UDOMDETH, Technical staff
DPWT	- Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment - Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
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JICA Laos Office (Observer)	- Mr. Shunichiro HAYASHI, Project formulation Adviser - Mr. Kingsada SIPHANTHONG, Program Officer
JICA HQs (Observer)	- Ms. Chieko MATSUBARA, Special Adviser

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

Minutes of Meeting for the 21st WG on Urban

Wednesday, 6th July 2022, 14:00PM – 16:00 PM by ZOOM online

I. Objective:

- To discuss the structure and contents of GIS platform
- To analyse issues on current permission system
- To coordinate 2nd UMP
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening Remark by Leader of WG
2. Progress of SWG of GIS platform
3. Q and A / Discussion
4. Progress of Survey Procurement for Area Conceptual Planning
5. Analysis of issues with the current permission system
6. Q and A / Discussion
7. Coordination for 2nd UMP (Discussion)
8. Next WG
9. Closing

III. Document

- Agenda No. 4, 5 and 7; (Data sharing) Presentation PPT

IV. QA and Discussion

Summary

1. Progress of SWG of GIS platform

Mr. UCHIDA reported available GIS data survey progress. This survey will be continued.

2. Report of Seminar for Urban issue #001

Mr. UCHIDA reported 1st Seminar on Urban Issues/Management held on 1 July, which theme was “Visualization for urban status.” Since it was not enough time to do the group work in the seminar, another separate debriefing opportunity will be provided.

3. Progress of Survey Procurement for Area Conceptual Planning

Regarding Urban Promotion Working Team (Hereafter; UPWT), , its member list is needed. Ms. Larphet will send it to JICA Experts after approved by DG of DHUP. RfPs of Topographical Mapping and Current Condition survey were delivered to the 6 candidate companies. Proposal of Topo Mapping will be received by 8 July and proposal of Current Condition Survey will be received by 15th July 2022.

4. Analysis of issues with the current permission system

Counterparts agreed with the concept of a GIS-PF function related to Construction permission system presented by Mr. MATSUI. Counterparts will discuss such issues with director that current permission system is not enough disseminated to the public. Some of the residents still don't know how to access information via online. The most important thing is Laos side's ownership to manage and maintain the system.

5. Coordination for 2nd UMP

Counterparts acknowledged to hold the 2nd UMP meeting on 27th July at Crowne Plaza Vientiane. Presenters of each agenda will be set.

6. Next WG

Next WG (22nd Urban WG) will be held on 21st July 2022.

For details

< 3. Progress of Survey Procurement for Area Conceptual Planning >

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

In terms of UPWT, a part of committee announced to Prime Minister for the assigning members. This committee is comprising of H.E. Madame Vilaykham PHOSALATH (Vice Minister of MPWT as the president), H.E. Phoukhong BANNAVONG (Vice Mayor of Vientiane Capital as the chairperson), Dr. Viengnam DOUANGPACHANH (Director General of DHUP as the chairperson), Mr. Soulivanh PHOMMAHASAY (Director General of DPWT as the chairperson). The project committee will share it to urban working group, building working group, survey working group, and pilot area working group. Now all of them are submitting to the Prime Minister for appointment and I can send you a draft of this committee of each team on how we go ahead. I will assign to Ms. Larphet DUANGKHEMTHORNG (Deputy Director, Division of Urban Planning) for proceeding submitted official letter to DHUP then we will share you the draft of working member list.

In terms of evaluation on survey before contract, do you proceed by online, or face to face?

Mr. Minoru MATSUI, JICA Expert (Tamano Consultants Co., Ltd.)

In the contract process, I will proceed it by online.

< 4. Analysis of issues with the current permission system >

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

The issues mentioned by Mr. MATSUI is good. For the next step, we will work with UMP team and GIS PF from DPWT. Mr. Somchit CHERSUANTHOR (Acting Deputy Director) should send these issues to director. Similarly, Ms. Larphet should submit these issues to director (Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP) for considering

of these issues. Next step, we should follow up and implement with concept established by Mr. MATSUI.

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

I agreed with the presentation because our aim and expectation are to have a clear database easily accessible for everyone and a tool to make our service faster. We would like to integrate the data of construction into the database of DONRE's Department of Land but there are many difficulties. GIS PF that we will create will be a new process. Therefore, we should utilize this process in pilot area to be a model of database creation and to make experts understand deep down of the work process in both DPWT and OPWT. First everyone must understand the system, the details, the problems, and the programs that we want to do at the moment.

Mr. Minoru MATSUI, JICA Expert

This kind of software will support your work. We need to discuss more detail and we still don't have much detail information on construction permit. So, we need your cooperation.

Mr. Somchit CHERSUANTHOR (Acting Deputy Director)

I have two points to discuss. First point, regarding on organizing seminar last week, I think the time is limited and not enough because most participants didn't come on time. Therefore, the next seminar should manage time. Second point, regarding on improving the construction permit, I agreed that there are still many issues on the current permission system. I also agreed with transformation into a digital system.

But the issue that I saw is restriction of people's knowledge in accessing information via online. I think we should Put up the Land Use Plan or Construction Permit posters in OPWT and village office to make people aware of the information on this. We need to know how to disseminate to the public more than ever.

Mr. Tetsuji GOTO, JICA Senior Adviser / Expert

Regarding GIS PF for construction permit, it needs more information and discussion. I think it is also important to discuss on capacity development of the current situation in Laos.

Regarding digitalization, in some case, all data is digitalized, and in the other cases it is not yet due to not good work for agency. It depends on situation and capacity. It is necessary to discuss where to use GIS PF and where to use analogue data. It is necessary to combine them, which depends on the situation. JICA Experts will advise and support technically, but the most important thing is management with Laos side's ownership because after project completion, you will be assigned and responsible to continue and maintain it. In conclusion, achieving the goal of this project depends on Laos side's ownership.

< 5. Coordination for 2nd UMP>

Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning

For preparation of the 2nd UMP meeting, how do you assign responsibility of counterparts?

Mr. Yuta AIHARA, JICA Expert

I have already talked to Mr. Vasaly SISAVATH (Technical staff, DHUP) with documents for good coordination. After the meeting, I will share these documents to you later.

Assoc. Prof. Aphisayadeth INSIXIENGMAY, Deputy Director General / PTI

In my understanding of the 2nd UMP meeting, it will be held on 27th July at Crowne Plaza Hotel. I think it is good in terms of coordination between DHUP, PTI, DPWT, JICA experts and all secretariat team. We can share responsibility in the detail. We have enough time to have specific meeting to discuss on this. The responsibility of each task, Mr. Yuta AIHARA (JICA Expert) showed, is very detailed. Thus, we can apply this concept.

<Closing>

Assoc. Prof. Aphisayadeth INSIXIENGMAY, Deputy Director General / PTI

In terms of Mr. UCHIDA's presentation, I think it is good. Especially the flood area estimation, however, the question that I would like to share, is that there are flood made by human and nature. Regarding the road network, the situation of Vientiane's one has not been connected yet. So, it needs how to use GIS PF or database to link this network.

In terms of UPWT, I would like to request Ms. Larphet to submit this suggestion to the Director General of DHUP to provide us the draft of UPWT.

Regarding the preparation of the 2nd UMP meeting, we have time to organize the specific meeting for not only discussion on coordination but also discussion with a key person who will present on each topic.

In term of Ban Hao Newsletter, I would like to see Lao Version text to be shared by secretariat. Why don't we plan to be interviewed by television or radio? We should discuss and share it with DPWT and VTE Capital.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants

WG Leaders:

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

List of participants

DHUP	- Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning
PTI	- Mr. Somchit CHERSUANTHOR, Acting Deputy Director, Technical staff - Ms. Sengchanh SULA, Technical staff - Ms. Phattharavady UDOMDETH, Technical staff
DPWT	- Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment
JICA Project Team	- Mr. Tetsuji GOTO, JICA Senior Adviser / Expert - Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Kunika KONAKA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project Assistant - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant - Mr. Chayyang CHUVEA, JICA Project Assistant
JICA HQs (Observer)	- Ms. Chieko MATSUBARA, Special Adviser

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

Minutes of Meeting for the 22nd WG on Urban

Thursday, 21st July 2022, 14:00PM – 16:00 PM at DHUP/ ZOOM

I. Objective:

- To coordinate 2nd UMP
- To review Project Outputs to date and future
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening Remark by Leader of WG
2. Coordination for 2nd UMP
3. Q and A / Discussion
4. Review of project Outputs to date and future plans
5. Comments from the Lao side on the way forward
6. Progress of Sub WG/ Progress of Area Conceptual Planning and Urban Promotion Working Team
7. Next WG
8. Closing

III. Document

- Agenda No. 2, 4 and 6; (Data sharing) Presentation PPT

IV. QA and Discussion

1. Coordination for 2nd UMP

<Progress of Coordination UMP >

Mr. Yuta AIHARA, JICA Expert

I would like to receive the presentation material by 22nd July. If difficult, please give me the following 4 information, instead.

1. Title of the presentation material
2. Name of the presenter
3. Date and time, you can submit the material
4. Number of pages of the slide*

* About 6-8 pages are enough as the main part and you can attach the unlimited pages of reference slide (It may not translate, if so many).

<Ban Hao Newsletter 2nd Issue>

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

I agreed with the contents of the UMP Newsletter. Words remaining in English on the Lao version newsletter such as “feature”, “Voices from Urban Transport field”, and Mr. Lamkha's profile should be translated. In the 21st Urban WG, I proposed broadcasting the UMP Newsletter on TV and invite experts responsible for these works.

2. Review of project Outputs to date and future plans

Ms. Tomoko YAMAMOTO, JICA Expert

I shared Plan of Operations in the 2nd JCC. As a future direction, I would like to proceed with Output 3, using the UMP as information sharing mechanism, created for Output 1. In addition, I would like to improve the efficiency and review the process of Output 2, using the GISPF of Output 1. Let me hear Lao side comments on your challenge and ideas for the future.

3. Comments from the Lao side on the way forward

There are comments from each participant in the following table. Experts will give an answer as a list in the 23rd Urban WG.

Name		Category	Comments
Mr. Sonepaseuth	DPWT	Construction permit / GIS PF	Regarding Construction permit, I agreed with JICA Expert's way on #20 Urban WG. I would like to have its online application. DPWT doesn't have a detailed information system, lack of tool, equipment, personnel, training, enough info sharing, devices, and capacity development.
Mr. Sonepaseuth	DPWT	Construction permit	I would like to know the construction permit in Japan. How they do? Modernizing the construction permit system in Laos must start from Zero. When online construction permit in Japan started?
Mr. Somchit	PTI	GISPF	How can GISPF enable info sharing. Give me a concrete explanation, such as future direction in the creation of GIS PF.
Mr. Somchit	PTI	Area concept Plan	On Pilot Area, in my understanding, we will implement a survey and purchase satellite images in the Lao Thai station area. I would like a detailed Urban Plan in this pilot area to create as a model and a reference for other areas to use Hope it tangible and a good practice for another project.

Mr. Somchit	PTI	GIS	In the next seminar, I would like to do OJT using GIS for Pilot area project. I would like to know how to use GIS PF for Pilot project area activities.
Mr. Somchit	PTI	Others	JICA bought 3 laptops only used in the office. Can I use it home? When will GIS training program on these laptops start?
Mr. Vasaly	DHUP	Data management	We should review the available data in DHUP, Map legislation, Departments related to GIS, and Database system administrator. Knowing the internal problems clearly, we will be able to create a mechanism to visualize and share our department's problem to the external department. I would like to do info sharing. My department needs to confirm what data we have, what kind of rule we have, and which department is related on GIS. Info sharing in DHUP is needed at first. Each Department has each data. Let me make sure what data we must do info sharing to another Department. We DHUP have no flood data. In the procedure of solution, what kind of info we have in DHUP? After visualizing and sharing DHUP's problem to the external Department, I would like to disseminate it.
Ms. Larphet	DHUP	GISPF	How secure the measure to sustain GISPF after CDUDCP project completion?
Ms. Larphet	DHUP	GISPF	How can we use GISPF for provinces outside the capital? If the system is complicated, no citizen uses and apply it. Reducing procedure makes citizens using this system. In Laos, I would like to apply good practices overseas.
Mr. Sulikorn	DHUP	UMP	Only DHUP coordinates UMP. External collaborators such as DONRE should work together. We should impose clear responsibilities to external organizations including MONRE, MOF and the other related organizations. Then, DHUP can more easily request a cooperation from them. It has been very difficult. Task sharing and information sharing between internal and external organizations will sustain the activities after project completion. Project RD should mention their role clearly.
Mr. Sulikorn	DHUP	Construction permit	To make it easier for citizens to apply, DPWT should know Construction permit well and can consult with Experts. Hope you give us technical cooperation.

Mr. Dao	DHUP	UMP and Area concept Plan /Urban Collaborative Development	Each Output is important for our work. There was nothing like Output 1 in the past. But we can use this mechanism, thanks to this project. I'm interested in capacity development to find an urban issue with Output 1 and to solve the problem with Output 3. From the past until now, each department have its own information, and it is inconsistent. It is good for this project to integrate separately managed data and information in each department.
Mr. Dao	DHUP	Construction permit	Most important thing is legislation on Construction permit. Collecting information is conducted in Pilot project area. We can apply this practice to another area with online application.
Ms. Phattharavady	PTI	Area concept Plan	In Output 3, I would like to know concrete concept plan and its activities.
Ms. Phattharavady	PTI	Urban Collaborative Development	In Output 3, I would like to know what kind of cooperation from the private sector will be? I would like to know concrete way to obtain the cooperation from private sector.

4. Progress of Area Conceptual Planning and Urban/ Promotion Working Team
Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

I hope Urban planning implements along GUP. I would like you to talk to Xaysettha district leader through Ms. Yui. Also, you should have a meeting with Mr. Nalongdeth, the railway station director.

5. Next WG

Next WG (23rd Urban WG) will be held on 3rd August 2022.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants

WG Leaders:

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

List of participants

DHUP	- Mr. Dao KEOSUKAN, Director, Division of Urban Planning - Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning
PTI	- Mr. Somchit CHERSUANTHOR, Acting Deputy Director, Technical staff - Ms. Phattharavady UDOMDETH, Technical staff
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JICA Project Team	- Mr. Tetsuji GOTO, JICA Senior Adviser / Expert - Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Miki HONMA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Manyvone DUANGCHAK, JICA Project Assistant - Mr. Chayyang CHUVEA, JICA Project Assistant
JICA HQs (Observer)	- Ms. Chieko MATSUBARA, Special Adviser
JICA Laos office (Observer)	- Mr. Shunichiro HAYASHI, Project formulation Adviser

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

Minutes of Meeting for the 23rd WG on Urban

Wednesday, 3rd August 2022, 14:00PM – 16:00 PM at PTI Meeting room/ ZOOM

I. Objective:

- To look back on UMP 2nd Meeting
- To review the status of Land Use regulation
- To review Project Outputs to date and future
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening Remarks by Leader of WG
2. Discussion points and learnt from UMP 2nd Meeting
3. Status of GUP and Land Use regulation
4. Responses to comments from the Lao side on the way forward
5. Progress of GIS SWG
Progress of Area Conceptual Planning and Urban Promotion Working Team
6. Discussion
7. Next WG
8. Closing

III. Document

- Agenda No. 2, 3, 4 and 5; (Data sharing) Presentation PPT

IV. QA and Discussion

1. Discussion points and learnt from UMP 2nd Meeting

Based on the views and summary given in UMP2, all participants of this Urban WG confirmed the following actions related to GISPF activities.

- (1) To submit available GIS data from SWG members to Mr. Uchida as soon as possible.
*Data sharing through GISPF with well managed data inventory will avoid duplication of efforts to make similar works in the Government.
- (2) To determine GISPF's scope of disclosure and information security.
- (3) To define the data published by GISPF
- (4) To discuss continuously with participants of UMP2 to work together effectively.
- (5) To verify the feasibility of land information data collection from other ministries, and land information data provision on GISPF.
- (6) To discuss data center accommodating GISPF.

(7) To publish the Land Use information on GISPF.

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

- Regarding land data, it is necessary to identify what types of land data are required at first, and then consult DONRE on possibility of their data provision to GISPF and its usage on GISPF.
- Regarding data center, we should consult with MTC to decide how to be. In any case, we will use SWG to continue consultations.

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

- There are many issues presented in the UMP 2nd meeting and some of them are beyond our responsibility. Let me take necessary measures to cooperate with other parties, which is realistic and clear. We should start to give them our proposition to work together.
- Database and system should be developed autonomous or standalone at first. Then, it will connect with other party. We also need to check the internet access fee.

Ms. Tomoko YAMAMOTO, JICA Expert

- After identifying all available GIS data that counterpart possesses, we will verify metadata of these data, such as creator, timestamp, accuracy, and objective. Mr. Uchida is now collecting available data, and I would like to ask counterparts to send their data to him. Then, we will be able to discuss how to sort, collect, and manage the data, referring data themselves.

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

In UMP2, we could realize important points for using ICT. Why don't we continue to discuss with participants of UMP2 to improve ICT usage?

2. Status of GUP and Land Use regulation

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

- Minister of MPWT has signed the blueprint of GUP of Vientiane Capital until 2030 on 1st September 2022.
- DHUP will verify the blueprint until the Prime Minister approve it. After approved, Article 48 of the City Planning Law will take effect. Governor of Vientiane Capital appoints DHUP, PTI, and DPWT as the editorial board to create the following rules and regulations.
 - Rules of use for each type
 - Regulations of Inner-city area
 - Regulations of the old city area
 - Regulations of ancient sites and others

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

- I hope the government will sign the GUP of Vientiane Capital soon. It may take a long time.

3. Progress of Sub WG Progress of Area Conceptual Planning and Urban Promotion Working Team

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

- Should we do all the planning work or not? The given TOR says that consultant team will implement the preparation part of that.

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

- According to Mr. Somchit's report on the progress of Area Conceptual Planning by UP-WT, we should continue the survey and prepare the TOR of subcontractor procurement for Area Conceptual Planning. Is it JICA Experts to conduct TOR preparation and its selection? Please give me the name of the company.

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

- The company name is "Space Eyes Laos Corporation", a survey company with experience of GIS, design, and survey. We are making contact with Mekong consultant for Current Condition Survey.

We need to meet with Lao - Thai Railways Enterprise, and Department of Railways, as well as DONRE, DOL/MONRE to specify the policies and regulations there.

4. Next WG

Next WG (24th Urban WG) will be held on 24th August 2022.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants

WG Leaders:

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

List of participants

DHUP	- Mr. Dao KEOSUKAN, Director, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning
PTI	- Mr. Bouavanh LUANGXAY, Director Division - Mr. Somchit CHERSUANTHOR, Technical staff - Ms. Sengchanh SULA, Technical staff - Ms. Phattharavady UDOMDETH, Technical staff
DPWT	Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment - Mr. Sonpaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
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**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

Minutes of Meeting for the 24th WG on Urban

Wednesday, 24th August 2022, 14:00PM – 16:00 PM at DHUP Meeting room/ ZOOM

I. Objective:

- To discuss the Framework, and Operation and Maintenance for GISPF
- To confirm the progress of Area Conceptual Planning
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening Remarks by Leader of WG
2. Confirmation of MM for previous WG
3. Draft framework and O&M for GISPF
4. Discussion
5. Progress of Area Conceptual Planning and Urban Promotion Working Team
6. Next WG
7. Closing

III. Document

- Agenda No. 2, 3 and 5; (Data sharing) Presentation PPT

IV. QA and Discussion

1. Draft framework and O&M for GISPF

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

I have several questions. The first question is on user registration to GISPF. Before using the system, do we assume the number of registers? Shouldn't we set the maximum number of people who can register to the system? Is it 1,000 or 2,000 users, for example. I'm curious how many people can register to the GISPF system, or anyone can register?

→**Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

It is important how many people can access to GISPF at the same timing. The number of user registration is not so important. It is complicated between user registration and officer registration.

→**Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

The most important point is the number of accesses at the same time, not of registration. There are 3 kinds of users, in my opinion:

1. Administrators who can maintain and manage GISPF system.

2. Registered users. We expect the registered users should be the officer of DPWT, PTI and DHUP staff.

3. Ordinary users, who is a kind of citizens or private developers.

Registered users seem to be administrators and Lao government users. If thousands of people access to the system at the same time, we need to upgrade the server capacity. Now I can't calculate the number of users. We need to invite not only government officers in DPWT, PTI and DHUP but also that of DONRE, MONRE, MPI and the other related agencies. We need to issue IDs to them. I guess it is a few hundred at most. It depends on the registered users of the other related agencies, which is, I guess, not so much.

→**Mr. Tetsuji GOTO, JICA Senior Adviser / Expert**

Mr. Sengdara would like to know how many users can be registered at most. Mr. Uchida will verify and answer this question later.

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

I think we can discuss the first question when this system is designed. The second question is on available data collection. We have already known that there are 13 categories of data. But how we are going to do data collection. We should collect all data before designing this system or we can just collect the data until 2024 when we develop the system. Our WG members should collect it.

→**Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

We expect that we can't collect all the data by the C/P staff before starting the system development. I plan to start at the timing of subcontractor's work as second phase before trial operation and training. Data collection needs to send official letters to relevant organizations and it would take time to collect.

→**Ms. Tomoko YAMAMOTO, JICA Expert**

Could you explain the status of available data collection? Are you now just waiting for that?

I think it is better to urge some organizations. You should discuss it with them.

→**Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

I am just waiting, and we will discuss this in the next SWG.

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

Some specific data is required for our platform. We need to discuss with the team members on the data collection because in Laos, it is quite complicated, but we need to try to make the system working well. I think we should tell the team members what kind of data or information we can help in data collection.

The third question is on construction permit. It's very good to hear that we are going to put the construction permission in GISPF because we've tried to work for it. How can we setup this system funded by the World Bank? I'm not sure of the progress. I really thank the team for proposing this and I hope that it will be very great for helping us in construction permit. Can we access the application form through the system? For example, for applicants who want to go ahead with the construction and need to submit document for construction before issuance of construction permit. In Mr. Uchida's presentation, there is one box as the digital application. Does it mean the applicants can submit the document in digital form instead of paper based application? In my understanding, the applicants can submit the application form in the digital format and submit it via online. Is it correct?

→**Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

This system is for paper document application, not digital document application. Applicants need to submit paper document, not digital document. I would correct the PPT material.

Mr. Tetsuji GOTO, JICA Senior Adviser / Expert

Regarding on construction permit system, this is close to DPWT's work because they are now digitizing the permit data from the last few years. Mr. Matsui and Mr. Uchida will more discuss how to cooperate, and which area is impossible to cover by GISPF. Mr. Uchida provided the first idea, but we need more discussion on the detailed or some parts with DPWT thorough SWG because DPWT is responsible for this construction permit.

→**Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

I already have discussed with DPWT about the system. In the next GIS SWG, I will present it in more detail about this construction permit system.

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

We will work together along the way when the system is developed. As I mentioned the work will be great and be developed in helping this sector. Next, it is just a comment. Mr. Uchida mentioned that if subcontractor company give us quotation with an expensive amount of money, Mr. Uchida needs to change the structure. I think, first of all, we need to expand the potential companies who can give quotation instead of the restructure in this. I think the system looks quite good already. If you only take two companies' quotation of the cost, we have only two choices but if we ask four or five, we maybe can reduce amount of money. Taking with more companies, we can get more quotations.

→**Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

I would like to collect quotation from IT companies until today's Urban WG. So, I selected to interview companies who can meet in a few days. I will research other potential candidates and ask same question to them if possible.

Ms. Tomoko YAMAMOTO, JICA Expert

According to Mr. Uchida, Maintenance fee should be provided by MPWT from July 2024. We should verify that how much it costs and then we can discuss all of implementation structure of this system.

After verifying budget and implementation structure, we should be approved from Dr. Viengnam as the project director before the system development.

→**Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP**

I think the problem when our project completion in 2024. In the ministry, we are talking so much about smart city and e-government. We can present the purposed amount for O&M to the department under the Ministry as well. The Ministry will find a way to secure a better amount. But from our side, I think we need to tell them how much budget in a year we need for O&M.

Ms. Tomoko YAMAMOTO, JICA Expert

According to Mr. Uchida's presentation, IT sector in MPWT (Mr. Viengkone's) seems to be assign as the one of the main roles of O&M. Before developing the system, we should discuss with them very carefully. We should also discuss on budget and responsibility for O&M. It is better to start developing the system after consultation with them.

→**Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP**

IT division is in Ministry under the Prime Minister office. When the development of system is almost complete, we can discuss with them about how to connect the system with IT system in the ministry because they are the one who will manage the system. We can talk with them when the system is 70% design completed. We may need to use our people to help for developing the system. But on connection or management, like how to run the system, we need to use IT system. We need to ask them.

→**Ms. Tomoko YAMAMOTO, JICA Expert**

We should start from trying to consult with them. We should manage the data itself by DPWT, PTI and DHUP. On the other hand, we need the system support from IT section.

Mr. Yuta AIHARA, JICA Expert

Now, we cannot imagine how much workload will be increased after introducing GISPF. We must identify how much workload will be increased and then we can assign who is the person in charge of each task and we can discuss whether it is available or not. Now responsible organization such as who is data administrator is not clearly identified. In the presentation of Mr. Uchida, it just mentioned that representative of SWG members and several staff of each C/P. But which organization is the best and the most suitable to do this work? If we judge PTI is the best one, we will simulate how much workload will be added to PTI's work. Now DPWT cannot imagine how much work will change after GISPF. Normally IT system can reduce workload with automation. Some technology can help us easily to work. However, I cannot imagine the workload and the work process before and after GISPF and who is a person in charge of each task. Now we understood the task for O&M of GISPF. Next, we can talk on which organization will do each task.

→**Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP**

I guess if we ask the Minister, she would say the team must be ICT division but I don't really agree with that opinion. Because ICT division will have no more staff to manage the system. But I would like to suggest that we should setup the specific team to take care of this. The management of ICT may be under the IT division but those who need to supply data source come from our department such as PTI and the person who can upload the collected data to this system may be the one who is in the ICT department. We need to appoint two or three people additionally to do this work.

→**Mr. Yuta AIHARA, JICA Expert**

We need to identify who can do this kind of work. We can consult with ICT division and some of staff under CDUDCP project. We can simulate who is a person in charge one by one. We should assign the person in charge to each task. For now, who is the most suitable department? It depends on workload of each task. We should specify how many hours in a month or how many people should be prepared, which it is related to the budget issue.

Mr. Somchit CHERSUATHOR, Technical staff

I have 2 points that I want to discuss. First, I would like experts to explain the real goal of GISPF more clearly and make it in a realistic way. I want director general of 3 C/P to understand the real goal and details of GISPF. Second, A person who will take care of this system should be a person those who actually work related to the Urban Plan, such as management by specific technical staff. In order to promote sustainable urban development.

→**Ms. Tomoko YAMAMOTO, JICA Expert**

It's a good idea to assign a person who work under the project to take care the system. We have 2 perspectives for maintenance, "system maintenance" and "data maintenance." For data maintenance, I totally agree with Mr. Somchit. Let's discuss this issue continuously.

2. Progress of Area Conceptual Planning and Urban Promotion Working Team

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

I think now we are doing area survey. Before we go ahead in the concept design or detailed design, we need Topographic Map. We have already known area photo and required contract. I think the draft schedule on this work is good. It may have a more discussion when the concept design is conducted. Now, we knew the progress of this group. Next, when we start the concept design, we may have comments more clearly. Local people should be invited to cooperate with our designing.

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

In the parallel with this survey, we will start to discuss the concept and TOR of Subcontractor for area concept planning. This topic will be discussed in the next UP-WT.

3. Others

3-1. Draft Monitoring Sheet

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

We, consultants developed draft monitoring sheet at the end of last month. It is the kind of progress report to the JICA Laos Office. We will share the draft to Urban WG members. Please give me any comment if you have to modify and submit it to the JICA Laos Office.

3-2. Notification for WG member

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

DHUP are preparing to hold the National Urban Forum with the support of UN-Habitat on 3rd, Oct 2022 and our team, including JICA experts, will be invited.

4. Next WG

Next WG (25th Urban WG) will be held on 14th September 2022.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants

WG Leaders:

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

List of participants

DHUP	- Mr. Dao KEOSUKAN, Director, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning
PTI	- Mr. Somchit CHERSUANTHOR, Technical staff - Ms. Sengchanh SULA, Technical staff - Ms. Phattharavady UDOMDETH, Technical staff
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The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 25th WG on Urban

Wednesday, 15th September 2022, 14:00PM – 16:00 PM at PTI Meeting room/ ZOOM

I. Objective:

- To discuss the Framework, and Operation and Maintenance for GISPF
- To confirm the progress of Area Conceptual Planning (TOR for Area Conceptual Planning)
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by Leader of WG
2. Confirmation of MM for previous WG
3. Draft framework and O&M for GISPF
4. Discussion
5. Progress of Area Conceptual Planning and Urban Promotion Working Team (TOR for Area Conceptual Planning)
6. Discussion
7. Next WG
8. Closing

III. Document

- Agenda No. 2, 3, and 5; (Data sharing) Presentation PPT

IV. QA and Discussion

1. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

I would suggest to discuss at today's meeting, in order to make the system sustainable, the assumed workload, and estimated budget of development and O&M of GISPF before the contract to subcontractor.

2. Draft framework and O&M for GISPF <Data collection for Web GIS>

Mr. Somchit CHERSUANTHOR, Technical staff, Technical Housing and Urban Planning Research / PTI

SWG member will continue to discuss for collecting data.

→ **Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

I requested the SWG members to update and send the spreadsheet reporting their data collection status.

→ **Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and
Environment / DPWT**

Regarding the data that experts have requested us to provide, our team has already discussed and submitted the data to Mr. Lae. But there are some data that we cannot collect and are not in detail. We must discuss again.

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

I believe that SWG members will hold an internal(C/Ps) meeting on Data collection.

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

First, I would like to use “tracking system” in our construction permit system of GISPF, which may take a cost. Land authorities introduced such a tracking system to assist with the land titling. Applying for land title, I can track the progress of my application with the issued serial number.

Second, I would like to use governmental service to cut costs for GISPF. The government would reject 15,000 USD/year or 1,000 USD/month, the amount of service fee proposed by IT companies. After the CDUDCP completion, it will become a problem. We should verify e-government readiness in Laos.

→**Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

Tracking system is technically possible but a big challenge for the system, which might complicate our system. Our construction permit system of GISPF is exclusively for government staff. Tracking system for applicants needs login user management and its security requirement. We as Experts, DHUP, PTI and DPWT continue to discuss this in the GISSWG.

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

The system should be sustainable. So, we should give this in mind.

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

I suggested to contract government agency to provide services with low cost.

→**Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

Lao National Data Center in MTC offers a promotion to governmental organizations according to Mr. Pasithideth, who gave us the first presentation in UMP 2nd meeting. The minimum web hosting service is available by sending an official request from MPWT to MTC.

→**Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP**

Commercial companies can afford to contract services from their profit, but we are non-profit. I will raise this issue in DHUP to clarify the current condition for the government to use the system. Our system looks like e-government. Please confirm their special offer for non-profit, governmental organizations.

3. Progress of Area Conceptual Planning and Urban Promotion Working Team (TOR for Area Conceptual Planning)

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

I would like to request consultants / subcontractor to consider both ideal and optimum solutions.

1. The ideal solution in that area regardless of the constraints and obstacles such as land restrictions.
2. The optimum solution and how to make it.

We need to mention this in our TOR and lead a new solution. In my observation, concept design in urban planning of Laos starts from constraints. For example, designing road network, we as MPWT normally start from the easiest way to do it to reduce costs, which doesn't work well.

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

We should start from non-constraints concept design.

Mr. Somchit CHERSUANTHOR, Technical staff

Implementation of Japan and Laos may be different. Planning may go well, but implementation will be a problem. I would like implementable concept design. We can do data collection of construction data and detailed map to visualize and analyze the current situation. This will be a good study for C/Ps as well.

→**Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI**

Laos and Japan have similar culture. In Japan, however the people are strongly in cooperating with the authorities. Laos should learn implementation of Public-Private-Community Collaboration from Japan.

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

Regarding implementation perspective, we as Japanese side will propose some methodologies based on Japan and other country's experience. We need to discuss this. In terms of content of area conceptual planning for current condition analysis, visioning and area concept planning, we can discuss implementation matter which come later. But during the planning stage, we need to start from discussing implementation method in parallel of the planning stage.

Regarding the technology transfer from consultants to C/P staff, I will hold the 2nd urban seminar this month to introduce progress of the current condition survey, analysis technique and some implementation method. I am preparing the agenda for the seminar enabling our area concept planning activities.

Ms. Tomoko YAMAMOTO, JICA Expert

Regarding on No. 6.6, the long list should include mechanism (as some of optimum solutions) as Mr. Sengdara mentioned. We may select one project as pilot project from the long list, which is the very experience for implementation as Mr. Somchit mentioned.

I would like to add "Urban Collaborative Development projects which the public and private sectors work together" in the TOR. Keyword is the collaboration also mentioned Assoc. Prof. Aphisayadeth. We have already discussed the collaboration project in WGs. When subcontractor prepares the long list, it is better to include 'Urban Collaborative Development projects'.

→**Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

This TOR does not include pilot project activities. Based on this area concept plan activity, we will discuss and select pilot project. I will add 'Urban Collaborative Development' on the long list in the TOR.

→**Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI**

We counterparts and experts can do the pilot project selection same as pilot area selection.

4. Next WG

Next WG (26th Urban WG) will be held on 19th October 2022. (Announced later via WhatsApp.) Before the Next WG we have small seminar for planning method. Before or after that, we should have a consensus on operational structure and costs for GISPF.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants

WG Leaders:

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

List of participants

DHUP	- Mr. Dao KEOSUKAN, Director, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning
PTI	- Mr. Somchit CHERSUANTHOR, Technical staff - Ms. Sengchanh SULA, Technical staff - Ms. Phattharavady UDOMDETH, Technical staff
DPWT	- Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
JICA Project Team	- Mr. Tetsuji GOTO, JICA Senior Adviser / Expert - Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Muto AKIHITO, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project Assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 26th WG on Urban

Wednesday, 19th October 2022, 14:00PM – 16:00 PM at DHUP Meeting room/ ZOOM

I. Objective:

- To discuss the Framework, and Operation and Maintenance for GISPF
- To confirm the progress of Area Conceptual Planning (Basic Survey for Area Conceptual Planning)
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by Leader of WG
2. Confirmation of MM for previous WG
3. Draft framework and O&M for GISPF
4. Discussion
5. Progress of Area Conceptual Planning and Urban Promotion Working Team (Basic Survey for Area Conceptual Planning)
6. Discussion
7. Announcement : 2nd Urban Issue Seminar
Next WG
8. Closing

III. Document

- Agenda No. 2, 3, and 5; (Data sharing) Presentation PPT

IV. QA and Discussion

1. Confirmation of MM for previous WG

Mr. Tomoko YAMAMOTO, JICA Expert

Mr. Uchida will inform the available data collection progress.

In addition, we should discuss ensuring maintenance costs for GISPF.

2. Draft framework and O&M for GISPF

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

I have two comments. First, GISPF cost looks too expensive. We should look for cheaper companies in another country if there's no reasonable company in Laos, such as Thailand or Vietnam.

Second, the GISPF service may charge users system maintenance fees. Again, we should look at the last number of constructions permit and estimate the price we will charge.

→**Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

Regarding the first comment, we are looking for another candidate. We need to research more quotations. In another choice, we will ask B company again for the price without the construction permit system because they offer a lower price, including the construction permit system.

Regarding the second comment, since GISPF serves only Government officers, GISPF cannot charge a fee to landowner applicants. However, in the future, when we develop electronic applications, we can require payment to users and calculate the benefit. Therefore, we should consider the benefit for us as government staff first.

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

I want experts to negotiate with the IT company to reduce the price as much as possible. If we hire a foreign company, there will be a complicated process.

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment / DPWT

Honestly, we need this platform, But I'm concerned about GISPF's sustainability because we don't have maintenance costs. However, we charge a fee to landowner applicants. But the amount is not enough for the maintenance fee. So please check government has a budget for maintenance or not or if it is possible to link this platform to the existing government platform so that we can be responsible for the maintenance together.

Mr. Somchit CHERSUANTHOR, Technical staff

Currently, data collection is complex, so I suggest organizing a meeting with the Director General of each agency where we will ask for information.

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

I agree with Mr. Somchit's proposal. However, to make our team get data quickly, we should invite the director of each related part to join the meeting and discuss the issue.

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

I think the problem here is not only at our level but also at the national level. So, I suggest raising the data collection issue to Urban Forum. After Urban Forum, we, as the Lao government, will summarize all the problems and bring these into consideration. I have the opportunity to present in Urban Forum for 7-10 minutes as DHUP 's representative.

Mr. Tomoko YAMAMOTO, JICA Expert

I want DHUP to introduce CDUDCP's activities and UMP in the presentation of DHUP at the Urban Forum.

Mr. Uchida, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

We need to collect more information from the IT companies. Then, we need to meet the available budget for maintenance. After that, we will design the TOR for sustainable GISPF.

I will hold GISSWG, and after 14th GISSWG, I will update the exact schedule.

**3. Progress of Area Conceptual Planning and Urban Promotion Working Team
(Basic Survey for Area Conceptual Planning)**

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

Please report the progress and the issue to Urban WG if updated.

→Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

This Topo Map is not such a detailed topographical map (scale 1/2500). Local governments in Japan regularly update the base map every five years. The problem is that we must draw up Topo Map when

considering the development plan. The Department of Land doesn't provide the digitalized land title, and the Current land use data for MONRE is not detailed and not new to be a base map of scale 1/10,000.

Mr. Tomoko YAMAMOTO, JICA Expert

Vientiane Capital doesn't have Topo maps. Therefore, we should consider the way of formulation Area Concept Plan even without detailed Topo maps. This Area concept plan's activity in CDUDCP is an opportunity to create a Topo map. In the future, DHUP or PTI maybe organize and publish the Topo maps; this is one of the methods to promote Urban Development.

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

The coming 2nd urban seminar will provide brainstorming group work on Area concept planning, including current condition analysis, Future vision, and so on, to be the basis of discussion.

4. Next WG

Next WG (27th Urban WG) will be held on 10th November 2022.

< Announcement for the 1st Urban Forum >

The 1st Urban Forum will be held on 31st October. The participants are around 100 people. Some of them may join via online. The main purpose of this meeting is to coordinate the mechanism for the urban sector in the whole country. It is similar to UMP. There are many speakers.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants

WG Leaders:

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

List of participants

DHUP	- Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning
PTI	- Mr. Bouavanh LUANGXAY, Director Division - Mr. Somchit CHERSUANTHOR, Technical staff
DPWT	- Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment - Mr. Sonpaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
JICA Project Team	- Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project Assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant - Mr. Chayyang Chuvea, JICA Project Assistant
JICA HQs (Observer)	- Ms. Takayoshi YAMADA, Associate Expert

(End)

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 27th WG on Urban

Thursday, 10th November 2022, 14:00PM – 15:45 PM at PTI Meeting room/ ZOOM

I. Objective:

- To confirm the progress of Area Conceptual Planning
(Basic Survey for Area Conceptual Planning 2)
- To discuss the plan for 3rd UMP
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by Leader of WG
2. Introduce Experts
Confirmation of MM for previous WG
3. Report on Urban Issue Seminar
4. Progress of Area Conceptual Planning and Urban Promotion Working Team
5. Way forward 3rd UMP
-Urban Collaborative Development (tentative)
6. Discussion
7. Next WG
8. Closing

III. Document

- Agenda No. 2, 3, 4, and 5; (Data sharing) Presentation PPT

IV. QA and Discussion

1. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

In the previous WG, Mr. Sengdara requested specifying the maintenance fee of GISPF. In addition, Mr. Phouvong is concerned about responsibilities for GISPF's sustainable maintenance. Mr. Matsui and Mr. Uchida will report the progress of GISPF for the next UWG.

Lao National Urban Forum (LNUF) and UMP should play each role effectively to make synergy.

2. Report on Urban Issue Seminar

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

The 2nd Urban seminar that JICA experts organize was very productive, but I would like to underline SWOT, vision, and collaboration.

3. Progress of Area Conceptual Planning and Urban Promotion Working Team

Ms. Tomoko YAMAMOTO, JICA Expert

Could UP-WT proceed with the study such as area vision after it? This basic study has almost finished and there is a little time when the next contract is due in December.

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

Yes. We are already at the final stage of the contract with another consulting firm. Avoiding over the budget, we are now receiving the draft quotations from several companies for the area conceptual planning.

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

In terms of the initiative of the area conceptual planning, I would like to encourage the Lao side participants to have initiative planning and share with JICA experts.

Regarding population in the pilot area, the new Lao-Thai railway will increase the number of populations. I would like Mekong Consultants Co., Ltd. to consider the area's mobility as necessary before coming guests when the Lao-Thai and Lao-China railway is complete. Finally, I would like to mention the pilot area's real estate or land prices. The land price of this pilot area is different from the That Luang Lake SEZ, but I agree with Mr. Matsui that we will promote and develop the pilot area to increase the land price and become the same price as That Luang Lake SEZ.

Mr. Sengdara DOUANGLAY, Deputy Director General / DHUP

Regarding the pilot area design, a design consulting company costs looks higher. I have recently heard the Ministry of Finance (MoF) had finished setting up the website to ensure the contracts. I would like our counterpart here to consider whether we can use the service of MoF or not for the hired consultant to reduce the cost.

4. Way forward 3rd UMP

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

Thank you to JICA team for preparing the 3rd UMP, which is very collaborative work. We have time to organize the meeting to focus on only UMP in detail. We can invite participants such as UN habitat, designers, contractors, or developers.

Mr. Sengdara DOUANGLAY, Deputy Director General / DHUP

I agree with the proposed agendas of the 3rd UMP and I really want this meeting to happen. The panel discussion is good. We should discuss the panellists in more detail. The panellists might be officer from our side, those who work in our ministry. We should invite the former vice minister to share experiences as well, especially looking forward to implementing the development of Vientiane capital. Now we have the Lao national urban forum as the national level, but UMP is focusing on Vientiane capital. After the 2nd UMP meeting, just the people who participated in this meeting knew us. I would like public to know UMP more. In UMP, private sector-government-people can discuss and share ideas.

I suggest creating a Facebook page like the urban forum. So, people can communicate with us freely. If the public interacts with the government directly, they may be afraid to offer their opinions. If we have a Facebook page, we would also know how many people are interested in our project. We cannot measure how many people have viewed and downloaded BAN HAO Newsletters posted on the MPWT's website. We may create a Facebook page to promote our activities as a platform for public-private-people coordination on urban development issues. We may assign somebody to communicate with people who ask questions. We will get information and ideas from people, so we can also integrate all this information to discuss in the UMP meeting. After the meeting, we must have a summary of what we have implemented in the past and to whom we will send this information to reach the implementation of the urban development plan policies. We may send the information to the Vientiane capital office, which will hold the money for the undertaking.

Mr. Yuta AIHARA, JICA Expert

MPWT 's website is one channel to distribute our concept and idea. So, we can disseminate our opinion and policy. We also use Vientiane capital's official website as well as a Facebook page that Mr. Sengdara mentioned. I am asking Mr. Ajong to upload the content to the Vientiane capital's website. I think the website is a new channel to distribute documents and web content. In my opinion, SNS is the most suitable way to share ideas.

Ms. Tomoko YAMAMOTO, JICA Expert

JICA regulates the projects themselves to make and have a Facebook page because we expect counterpart's ownership. If counterparts will own a Facebook page by yourselves, JICA will support them indirectly. Let me discuss creating our Facebook page with Mr. Vasaly and Mr. Sulikorn later.

5. Next WG

Next WG (28th Urban WG) will be held on 23rd November 2022.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants

WG Leaders:

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

List of participants

DHUP	- Mr. Dao KEOSUKAN, Director, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning
PTI	- Mr. Bouavanh LUANGXAY, Director Division
DPWT	- Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
JICA Project Team	- Mr. Tetsuji GOTO, JICA Senior Adviser / Expert - Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Miki HOMMA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project Assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant - Mr. Vanxayxiong NAOLORXIONG, JICA Project Assistant
JICA Laos Office (Observer)	- Mr. Kingsada SIPHANTHONG, Program Officer

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 28th WG on Urban

Wednesday, 23rd November 2022, 14:00PM – 16:00 PM at PTI Meeting room/ ZOOM

I. Objective:

- To discuss the Framework, and Operation and Maintenance for GISPF
- To confirm the progress of Area Conceptual Planning / UP-WT
- To report of coordination for the 3rd UMP
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by Leader of WG
2. Confirmation of MM for previous WG
3. Draft framework and O&M for GISPF
4. Discussion
5. Progress of Area Conceptual Planning and Urban Promotion Working Team
Report on Pre-sounding for pilot projects
6. Progress of coordination for the 3rd UMP
7. Q and A
8. Next WG
9. Closing

III. Document

- Agenda No. 2, 3, 5, and 6; (Data sharing) Presentation PPT

IV. QA and Discussion

1. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

Today, Mr. Matsui will present about the maintenance of GISPF which Mr. Sengdara and Mr. Phouvong were concerned in 26th WG. And about area conceptual planning and urban promotion working team activities, Assoc. Prof. Aphisayadeth mentioned that he urged the Lao side to join in these activities and share ideas with experts in terms of area conceptual planning at previous WG. I also proposed the 3rd UMP meeting plan and I would like to discuss it more today.

2. Draft framework and O&M for GISPF

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

Will GISPF connect to Google or a satellite map?

I think it is possible, but do we need to ask for permission?

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

Utilizing Google Maps is free, but they have a policy. If the number of accesses at the same time is not over 1000 people, it is no problem. I don't know the technique for combining the GIS data with Google Maps, but it is possible. We just upload the layer on google Maps.

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

Regarding the cost of GISPF, I think it is acceptable. DHUP can pay \$240 per year for the maintenance of the server, but we need to propose DHUP.

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

It is better to have an internal meeting with Dr. Viengnam about the cost.

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

In terms of GISPF, you mention that you are waiting for BC. Let me learn from you about the progress of BC.

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

This morning we had building code WG. We almost develop the draft of the building code.

Next week we have a seminar to invite local construction companies and design companies to get their comment on the BC. Next month we also have a seminar to explain the draft to the government agency and other ministries. After that, we will finalize MPWT 's draft. The last is the process of high-level discussions, like the approval process.

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

In terms of maintenance costs after the project is complete, the issue is the sustainability of the O&M of GISPF. We strongly need a maintenance fee, but we should propose it to DHUP for consideration after the contract. I concern about additional cost for maintenance.

In terms of data sharing for GISPF. Would the consultant have the TOR for data collection? Who is responsible for data collection?

If necessary, please inform us in terms of difficulty in data collection.

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

Experts and CPs work together to collect the data. First, we need to send available data to the local IT company. Then they will convert the data to use Web GIS or data sharing.

Mr. Phouvang VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

I agree with the expert's presentation. I am interested in creating GISPF. However, I don't understand clearly about Web GIS data. Because we are now considering cutting off the construction permit system, I would like to ask if we can put the data of the construction permit on Web GIS or not.

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

We will discuss this with JICA headquarter. We must explain the necessity of creating the construction permit system on GISPF. We need to analyse more in detail, such as what the problem is then this management system will improve the DPWT 's work. We need to explain the story to JICA headquarter. Please work together on the analysis.

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

I have a suggestion. Although we will exclude the construction permit development, we should include the layer of the building that has a construction permit on the map and input the data of land use zoning. Regarding construction permit development, we received support from the World Bank and MPI. They introduced an online application for construction permits. In the future, we could add their construction permit development to GISPF, but I don't know their progress now because I have already been out of their team. Before, I have been on that team since 2012.

Assoc. Prof. Aphisayadeth INSIXIENGMAY, Deputy Director General / PTI

Regarding the construction permit system development, I agree that we need to analyse it in more detail. After analysis, we should discuss together to be united, then propose to the upper level to ask for a budget to improve the system to be sustainable. Then, if we have this system, we can expand it to use in other areas.

Mr. Kingsada SIPHANTHONG, Program Officer

Regarding GISPF development, JICA can see the importance of data development, especially the online system, and the necessity of establishing GISPF to be sustainable. I would like the project owner or counterparts to consider the management of GISPF as part of counterparts' management, such as an annual work plan. Because the management will be related to the budget plan, requesting the budget to pay the maintenance or server rental fee will be difficult if counterparts don't specify the management work in the work plan. In the future, I think there will be a detailed discussion, clearly defining the roles of each organization, who will manage GISPF, and who will input data.

Mr. Dao KEOSUKAN, Director, Division of Urban Planning

Regarding the development cost of GISPF and the construction permit system, will the price difference be if we build together and separately?

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

The question is if we start developing the construction permit system now and if we wait to establish the construction permit system separately. Will there be an impact on the cost?

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

We talk with a local IT company about this. We propose three types firstly, separate, secondly combine, and thirdly after development. Local IT Company prepares a model of an application. Management technical is different from the Web GIS portal system, so they offer separate applications. For only construction permit system development, the cost is about 70,000 dollars.

Ms. Tomoko YAMAMOTO, JICA Expert

Could we add construction permit data as a list of Layers on Web GIS? We may be able to use it as statistics or analysis data. Even only the type use of the building is very useful for knowing the trend of development. It will be helpful to formulate a general urban plan for the next ten years. We should try to put it first.

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

We need to clarify how we use construction permit data—for example, using a different colour for each data, such as polygon data, location, and new construction. Or do we need to put more data for the building, such as the annual building layer, type of building, and high? It is good data for the current situation analysis of new buildings and trend building. Mr. Sonepaseuth 's data does not include the high of buildings, but the number of storeys.

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

I agree to add the construction permit statistics to WebGIS, but DPWT must check before uploading the construction permit data.

3. Progress of Area Conceptual Planning and Urban Promotion Working Team

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

We have already checked the report of the consultant company and provided the comments. In addition, we collected quotations from a local consultant company for conceptual planning. We already receive two companies, but it is pretty expensive. Therefore, I want to confirm this for reference. How much is the standard price of the consultant company?

The local company provides local prices, but it is still expensive. So, we separate conceptual planning activities for the local consultant company and our side. The Current Condition Analysis, Visioning, and

development of the basic structure are for us, with counterparts. We offer to the local consultant company only design of conceptual planning and 3D picture development. I am unsure whether the local company's capacity can propose a good idea.

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

Regarding conceptual planning, the local consultant should be under JICA experts. We can put down the service fee if we clearly determine TOR for the local consultant.

Mr. Sengdara DOUANGLYXAY, Deputy Director General / DHUP

I think the quotation they gave us referred to the ADB project, and the rate is international, so it is expensive. We need to hire an AutoCAD and GIS specialist, but the price is higher if we employ those who will prepare the design report. Otherwise, we should have a clear TOR for the consultant company.

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

Our side conducts all of basic planning activity. We offer the consultant company just only engineering and design.

Ms. Tomoko YAMAMOTO, JICA Expert

PTI also usually has contract with the local consultant. You can discuss this with Mr. Somchit.

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

I will request Mr. Somchit to provide us with the contact. Then, we can start discussing this with the local consultant. We already discuss the analysis and visioning in the seminar. We will update it at UP-WT.

4. Report on Pre-sounding for pilot projects

Mr. Akihito MUTO, JICA Expert reported the result of pre-sounding from private sector (Green Discovery/LOCA/AGRO MART/Vientiane Logistics Park). He also proposed the 2 options of direction for the pilot project.

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

As the expert presented, we have two options for the pilot project, and both are interesting, but I think the first one should be prioritized for our pilot project; don't forget the second one. We should think about how to combine them.

5. Progress of coordination for the 3rd UMP

Ms. Tomoko YAMAMOTO, JICA Expert

The agenda and participants list have been updated in line with the discussion on the last WG and some participants will be identified later. Regarding inviting private sectors, it would be better the own business companies as introduced by Mr. Muto rather than a design company or contractor, we would like to hear the opinion of the C/Ps.

For coordination, based on the reflections of the last UMP, we would like to prepare a little earlier this time. As the UMP is led by MPWT, we expect the 3rd UMP to be coordinated mainly by C/P and your CDN team. Mr.Dao's team including Mr.Vasaly and Mr. Soulikorn have been worked together well so far.

Mr. Sengdara DOUANGLYXAY, Deputy Director General / DHUP

Thank you for your proposal. For the panellist in discussion session 1, the topic will be Vientiane's Master Plan until 2030. I really would like to invite senior people and what I had in mind is the former vice minister (Mr. Sern PHETSAAGHAN), but I'm not sure if he will come or not; maybe Assoc. Prof. Aphisayadeth has a connection. I would like to have these senior people as panellists because he will collaborate as a former vice minister. The second one is the president of ALACE (Dr. Bounleum). The third one is a representative from the UN habitat; we have to invite the one who can communicate in Lao because the language barrier will be difficult in the meeting. Someone in the UN habitat can communicate

in Lao as well. The fourth one may be from the business sector because I want them to open a discussion on what their business belongs to our project now. We started the Master Plan in 2012; now it is ten years, but nothing happened, and some of these issues will be raised there, and these people can tell us the progress and what should be the step in the city development. We need to discuss the panellist in detail. We have to define the topic and ask them their opinion. After that, we will take raised issue in the meeting as a recommendation for the next step for VTMP 2030.

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

For the Panel discussions, I am preparing a detailed scenario, so let's discuss together later.

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

I am concerned about the panellist of the representative from DoL / MONRE. I would like to focus on who came to participate in the last UMP meeting because she presented on the land issue.

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

At this moment, I discussed with Mr. Anothai, DDG of DoL, and he promised to assign someone to join as a panellist.

→ **Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI**

I think Mr. Anothai is the right person. In terms of the private sector, I want to propose LOCA company because it is the new one with new knowledge of transport service and battery charge stations.

UN-habitat is Mr. Bouahome SENGKHAMYONG. I will give the former vice minister's name later. OPWT of Xaisettha district is Mr. Thavixay. The railway enterprise is Dr. Anongdeth. Please confirm with Mr. Vasaly later.

Mr. Phouvong VIENG VILAY, Deputy Director, Division of Housing-Urban Planning and Environment

We will have national sports competitions in Xiengkhouang province starting around the 13th-22nd of December. So, if we hold the 3rd UMP on 21st, I'm not sure it will be convenient because I think some of our officers may join the event. So, is it possible to change it to 23rd December?

→ **Ms. Tomoko YAMAMOTO, JICA Expert and All participants**

We will postpone the 3rd UMP meeting to the 23rd of December.

6. Next WG

Next WG (29th Urban WG) will be held on 7th December 2022.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants

WG Leaders:

Assoc. Prof. Aphisayadeth INSIXIENGMAI, Deputy Director General / PTI

Mr. Sengdara DOUANGMYXAY, Deputy Director General / DHUP

List of participants

DHUP	- Mr. Dao KEOSUKAN, Director, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning
PTI	-
DPWT	- Mr. Khammone CHOMMANYVONG, Director, Division of Housing-Urban Planning and Environment - Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment - Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
JICA Project Team	- Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Miki HOMMA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Co., Ltd.) - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project Assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant - Mr. Chayyang CHUVEA, JICA Project Assistant
JICA Laos Office (Observer)	- Mr. Shunichiro HAYASHI, Project formulation Adviser - Mr. Kingsada SIPHANTHONG, Program Officer

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 29th WG on Urban

Wednesday, 7th December 2022, 14:00PM – 16:00 PM at DHUP Meeting room/ZOOM

I. Objectives:

- To approve TOR and Operation and Maintenance for GISPF
- To confirm the progress of Area Conceptual Planning / UP-WT
- To report the coordination report and preparation for the 3rd UMP
- To discuss the ways forward to implement the project (Output 1-3)

II. Agendas

1. Opening remarks by the Leader of WG
2. Next WG
3. Confirmation of MM for previous WG
4. The coordination report and preparation for the 3rd UMP
5. Q and A
6. Progress of Area Conceptual Planning and Urban Promotion Working Team
 - Visioning for the area
7. The TOR of GISPF / O&M and Cost for GISPF
8. Discussion
9. Closing

III. Documents

- Agenda No. 3, 4, and 7; (Data sharing) Presentation PPT

IV. QA and Discussion

1. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

Based on the previous discussion, Mr. Matsui will explain the maintenance cost of GISPF O&M today. In terms of the construction permit function and data, we should continue to analyse more detail and ensure the progress of the online construction permit system supported by the World Bank project. We should clarify each organization's role for O&M of GISPF.

2. The coordination report and preparation for the 3rd UMP

The counterparts agreed with the expert's proposal for preparing the 3rd UMP meeting.

Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning / DHUP

Issuing invitation letter process needs two official documents: an agreement document to approve the 3rd UMP meeting and another agreement document to appoint the meeting preparation committee, which

will have a list of participants and will be attached to the approved document. DHUP has already sent both to the Deputy Minister secretary and is waiting for her approval and signature. Parallely DHUP has already drafted the invitation letter and is waiting for the above two issued agreement documents. Then, we can print the invitation letter. Regarding the meeting agenda, in the Q&A session where the chairman will be the speaker, I would like the CDN committee to prepare questions to avoid the discussion going off-topic.

Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning / DHUP

Since experts have already made a detailed work plan, we have enough time to prepare for the meeting. Therefore, please wait for the Deputy Minister's signature. I guarantee it must be on time, but I request many parties to help each other deliver the letter.

Mr. Khammone CHOMMANYVONG, Director, Division of Housing-Urban Planning and Environment / DPWT

I agreed to involve seniors and business units in the meeting. In addition, as that limited time in the previous meeting gave us less comments and contents, the CDN committee should allot more time to the discussion part.

3. Progress of Area Conceptual Planning and Urban Promotion Working Team / Visioning for the area

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

I am preparing for two divided activities: One is the main activity for the Area conceptual planning by Experts and WG members and the other is the outsourced design work by a local consultant company. First, I will have a discussion for visioning and then hold a community meeting in the pilot site. We have already done the Current situation survey and are waiting for the Mekong Consultant Company's Final report. The Current situation survey collected physical data on current land use and using the building. On the other hand, we will collect community demand and intention of the area. Before the Community meeting, we will make ideas to develop the draft vision. In the Community meeting, we will emphasize the community's understanding of the current urban issue and their current lives, income, or jobs without explaining the vision. The result of the meeting will modify the draft vision. This is the first activity of the Area conceptual plan. I will discuss with Mr. Somchit and Mr. Vasaly later and in the UPWT next week. Regarding BC, we held the seminar to involve the local engineers and construction companies and collect their opinions on the draft BC. The seminar had twenty-eight companies. We will analyse the comments and feedback on the draft BC next week. Then, we will conduct another seminar to involve different agencies to get their comment within this month.

Mr. Bouavanh LUANGXAY, Director Division / PTI

Collecting information on BC from many parties will be as a basis of the draft BC. Faculty of Architecture, NUOL will provide the knowledge to create the building management standards.

4. The TOR of GISPF / O&M and Cost for GISPF

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

Regarding GISPF maintenance cost, Experts will spare a \$7,200 web portal development cost, including six months after-maintenance fee. After that, it will take \$3,000 annual maintenance cost. During the project, Experts can spare this maintenance cost. After the project, the counterparts must pay \$3,000 annually for the maintenance, which is more expensive than we expected. Beyond this WG, we need an internal discussion with Dr. Viengnam about possibility or necessity to negotiate more with the local consultant company.

Ms. Tomoko YAMAMOTO, JICA Expert

Can we negotiate the reduced cost with the local consultant company, or is it already minimized?

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

I am still asking the local consultant company to reduce the cost, but we need to confirm necessary activities.

Mr. Yuta AIHARA, JICA Expert

Experts will make sure needed options in the internal meetings.

Mr. Bouavanh LUANGXAY, Director Division / PTI

Experts should negotiate with local consultant companies for minimized costs to avoid problems when securing a budget after project completion.

Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning / DHUP

Before the meeting with DHUP DG, experts should report on the detailed cost for web portal creation and another system development on the construction permit. According to experts, it will take two maintenance costs after 2024: a \$240 yearly server rental fee and a \$3,000 yearly system maintenance fee—Please break down \$3,000 maintenance activities. Adopting an annual or lump sum payment method may be higher than the state's income.

Ms. Tomoko YAMAMOTO, JICA Expert

Mr. Matsui showed GISPF TOR reporting procedure as a conclusion to today's discussion.

In order of ; SWG, Dr. Viengnam and Urban WG.

5. Next WG

Next WG (30th Urban WG) will be held on 18th January 2022.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants

WG Leaders:

Mr. Dao KEOSUKAN, Director, Division of Urban Planning / DHUP

Mr. Bouavanh LUANGXAY, Director Division / PTI

List of participants

DHUP	- Mr. Dao KEOSUKAN, Director, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning
PTI	- Mr. Bouavanh LUANGXAY, Director Division - Mr. Somchit CHERSUANTHOR, Technical staff
DPWT	- Mr. Khammone CHOMMANYVONG, Director, Division of Housing-Urban Planning and Environment - Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
JICA Project Team	- Mr. Tetsuji GOTO, JICA Senior Adviser / Expert - Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Miki HOMMA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project Assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant - Mr. Chayyang CHUVEA, JICA Project Assistant
JICA Laos Office (Observer)	- Mr. Shunichiro HAYASHI, Project formulation Adviser

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 30th WG on Urban

Wednesday, 18th January 2023, 2:00 PM – 4:00 PM at PTI Meeting room/ZOOM

I. Objectives

- To review and feedback of the 3rd UMP
- To confirm RFP and Operation and Maintenance for GISPF
- To confirm the progress of Area Conceptual Planning / UP-WT
- To discuss the ways forward to implement the project (Output 1-3)

II. Agendas

1. Opening remarks by the leader of WG
2. Introduction welcoming new leader of UMP
3. Review and feedback to the 3rd UMP for the next
4. Request for final check of BanHao#3
5. Confirmation of MM for previous WG
6. The RFP, O&M and Cost for GISPF
7. Q and A
8. Progress of Area Conceptual Planning and Urban Promotion Working Team
9. Q and A
10. Next WG
11. Closing

III. Documents

- Agenda No. 3, 4, 5, 6 and 8; (Data sharing) Presentation PPT

IV. QA and Discussion

3. Review and feedback to the 3rd UMP for the next

The UMP secretariat reported the result of satisfaction Questionnaire after UMP. 97% participants regard UMP#3 as relevant & helpful for their jobs, some comments were introduced.

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

UMP Secretariats should give negative comments, not only the positive ones.

→ **Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning**

The participants proposed the following two points:

1. Accelerating the development of public transport that people want to use. Few promotions on public transportation and rapidly growing private car use have caused traffic congestion.
2. Improving the current land allocation and sewage drainage.

4. Request for final check of BanHao#3

Ms. Tomoko YAMAMOTO, JICA Expert

I will receive your comment by 20th January 2023 if you find something wrong in the draft BanHao#3.

→ **Mr. Chanthavangso, Deputy Director General / PTI**

I agree with BanHao#3 content and the request for comment. Local words and official/technical words are different, the Newsletter should be used more official word. UMP secretariat should buy a dictionary as a reference when translating.

5. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

Today, Mr. Matsui will propose the community meeting. Although there was comment that UMP meeting should had more the Q&A time, which is a limitation of the meeting style communication itself. Therefore, we should instead use the community meeting, BanHao Newsletter, and the official websites to communicate with stakeholders. In addition, Mr. Matsui and Mr. Uchida will give us this topic about the GISPF maintenance cost based on the previous meeting.

6. The RFP, O&M and Cost for GISPF

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

We will discuss more about what kind of data to input in Web GIS. Besides, we will discuss the cost with Dr. Viengnam.

Mr. Chanthavangso, Deputy Director General / PTI

Regarding GISPF that experts proposed, will it respond to the three CPs' (DPWT, DHUP, PTI) work?

→ Mr. Phouvong, Deputy Division Director / DPWT

The work presented by the expert is based on the consensus. The information on GISPF is necessary and responsive to us. But we understand the difficulty of the maintenance after the project completion. Consultants needs to prioritize GISPF functions with the limited budget. This work will reveal the problem of using GIS. This is the first time for us to use the GISPF.

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

I have asked IT companies to reduce the cost by removing IT technical services.

Mr. Chanthavangso, Deputy Director General, PTI

I am concerned about the following four things:

1. GISPF usage goals include how long we will use this GISPF.
2. The technical matter is beyond our control, such as Windows systems.
3. GISPF should be simple, user friendly and easily taught to the next generation. Because if the use of the system is difficult, the technical staff here cannot hand over it to the younger generation.
4. The budget is the most important because the system will eventually be abandoned if there is no budget to update the data.

I would like us to use the system to maximum effectiveness. The experts should specify the budget so we can plan each year. I want the system to be easy to use and sustainable.

→ Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

We will hire an IT consultant company to develop the GISPF and to train C/P staff for GISPF maintenance. Regarding the cost, we need an official statement; we will discuss it with Dr. Viengnam first. We are preparing the RFP for IT companies regarding the requirement with technical matters. O&M users will access GISPF with Windows PC. On the other hand, web portal guest users can access it by Windows, Android, and iOS.

Mr. Chanthavangso, Deputy Director General, PTI

How do you PR the GISPF to the "general public"?

→ Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

I will use UMP meetings, MPWT official website and Facebook page to PR GISPF.

Mr. Chanthavangso, Deputy Director General, PTI

Experts should increase more channels to PR the GISPF. MPWT official FB page is difficult to open.

8. Progress of Area Conceptual Planning and Urban Promotion Working Team

Mr. Chanthavangso, Deputy Director General, PTI

Experts gave us good suggestion. Our pilot area project has just started. If we compare the pilot area project to the urban plan, it would be a detailed plan. Let us implement it according to the urban planning regulations.

Mr. Phouvong, Deputy Division Director / DPWT

As experts presented, three pillars of the pilot area's vision align with the state's goals, namely green cities, smart cities, and digital capital. This vision will be a model for us. DPWT will extend the 3rd version of GUP into a detailed urban plan. The pilot area will be a model for us to create a detailed urban plan.

Mr. Chanthavangso, Deputy Director General, PTI

For your reference, the state has the policy to make any state-owned area for government officers' housing, which would be discussed in the next meeting.

10. Next WG

Next WG (31st Urban WG) will be held on 1st February 2023.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants (Total: 18)

WG Leaders (1):

Mr. Chanthavangso, Deputy Director General / PTI

*DHUP could not provide the leader.

List of participants (17):

DHUP (3)	- Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning - Mr. Thavisak PHENGMALA, Technical staff, Division of Urban Planning
PTI (3)	- Mr. Bouavanh LUANGXAY, Division Director - Mr. Somchit CHERSUANTHOR, Technical staff - Ms. Phattaravady OUDOUMDETH, Technical staff
DPWT (2)	- Mr. Phouvong, Division Director - Mr. Sonpaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
JICA Project Team (8)	- Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Co., Ltd.) - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project assistant - Mr. Kongny KHAMPHILALAY, JICA Project assistant
JICA Laos Office (1) (Observer)	- Mr. Shunichiro HAYASHI, Project formulation Adviser

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

Minutes of Meeting for the 31st WG on Urban

Wednesday, 1st February 2023, 2:00 – 4:00 PM at DHUP Meeting room/ZOOM

I. Objectives

- To confirm RFP for GISPF
- To confirm the progress of Area Conceptual Planning / UP-WT
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by the leader of WG
2. Confirmation of MM for previous WG
3. Report the result of the discussion with Dr. Viengnam DOUANGPACHANH, Director General about the GISPF cost
4. The schedule for GIS-PF development
5. Q and A
6. Progress of Area Conceptual Planning and Urban Promotion Working Team
7. Q and A
8. Next WG
9. Closing

III. Documents

- Agenda No. 3, 4, and 6; (Data sharing) Presentation PPT

IV. QA and Discussion

2. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

Regarding GISPF, In response to Mr. Phouvong 's comment, we should make clear the tasks for GISPF and which C/P is responsible. In response to Mr. Chanthavangso's comment, experts should increase channels to PR the GISPF. I agree experts and C/Ps should consider expanding the way together.

Regarding the area concept plan, Mr. Chanthavangso that we should implement it according to the urban planning regulations which is exactly in line with the project goals. Promoting the Urban Collaborative Development may not require a very detail plan, we should continue to discuss what constitutes 'detail plan'.

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

Each time, I would like C/Ps to check the minute of the meeting of previous Urban WG. Then, if we see something inappropriate or not according to the idea we want, we can suggest to the project coordinator to modify it.

3. Report the result of the discussion with Dr. Viengnam DOUANGPACHANH, Director General about the GISPF cost

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

I will report on the result of the discussion with Dr. Viengnam about GISPF cost. In the meeting with Dr. Viengnam last Wednesday, I briefly explained the framework of GISPF, the rough cost of GISPF development, O&M, and the cost-bearing of the JICA team side and Lao side. We proposed that after the JICA project, the Lao side needs to secure the budget for O&M cost of around 2,500 USD per year. Dr. Viengnam agreed with my proposal. He said DHUP would propose to the government, the annual budget including the GISPF operation cost. But we will first negotiate with the IT company to reduce O&M cost. In addition, we will try to generate fee collection from GISPF users to secure DHUP revenue for maintenance.

As a result, we can proceed with the procurement process and the development of GISPF. But we need to find a way to reduce the cost of O&M and create the fee collection.

4. The schedule for GIS-PF development

Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

We are now preparing RFP. I discussed this with JICA expert two-time last Wednesday and today. We will finalize RFP in two weeks by the 15th of February. After that, we will hold Sub WG on the 17th of February, which is tentative. So, Sub WG members, please keep this Sub WG's schedule. If you need to re-schedule Sub WG, please notify me or Ms. Yui. After that, we will report on the RFP in the 32nd UWG. After the 32nd UWG, we will deliver RFP to the candidate IT developers by the 23rd to the 24th of February. After delivering RFP, we will receive proposals in two weeks, from the 25th of February to the 10th of March.

After receiving the proposals, we will evaluate them for a week. Then, we will hold Sub WG to discuss the proposals' evaluation and decide the best proposal. Next step, we will negotiate the price of the proposal and the contract on the 24th of March. After that, we will develop GISPF. We will divide the development of GISPF into mock-up, system, and manual development. After the contract, the developer will provide a mock-up for a month by the beginning of May. Then, we will check the performance of the mock-up system and discuss it with the developer in Sub WG. Then, the developer will proceed to develop the actual system for two months by the end of June. They will also develop a manual for operation. Finally, we will implement a trial operation after the beginning of July.

This is the latest plan of development of GISPF. We will hold Sub WG frequently during the development stage. Because we need to discuss the developer several times.

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

We are now preparing the RFP for procurement. The deadline is the 25th of February. In parallel, we proceed collection of data. We need to provide the letter to get data from other agencies. Next week I will come to Vientiane and stay for three weeks (2/5-2/25). So, we will discuss data collection. After that, we need to prepare the official letter. Mr. Uchida will come in the middle of march (3/19-4/5) to manage the procurement process and evaluate the proposal and contract. He will also organize a kick-off meeting with the IT company. Mr. Uchida will come during the system development in May, and I will arrive at the end of May. We will create a Sub WG team and manage the IT consultant's activity. After June, we will have the trial operation and training for GISPF.

Ms. Tomoko YAMAMOTO, JICA Expert

When will we start the GISPF training?

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

In July, after the development of the prototype of GISPF.

Ms. Tomoko YAMAMOTO, JICA Expert

Who is the trainee? Is it mainly the Sub WG member?

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

We have two training for users and administrators.

User training is basic training. For example, how to use GISPF. Administrator training is more advanced training to operate and manage GISPF. It includes data uploading, some modification, and data backup.

Ms. Tomoko YAMAMOTO, JICA Expert

Are all the C/P members trainees? C/P members will be busy from July.

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

We need to select trainees.

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

After we develop this system, there must be a trial. How many months will the system need a trial?

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

The trial period is for three months after development, from July to September 2023. During this period, we need to fix some errors in this system and modify it if necessary. After the trial period, we will start full operation.

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

For those who will participate in the training, I want it to be our 3 C/Ps because our 3 C/Ps will use and manage it. In the written topics or methods of training, I want experts to train them to be able to use the system and be able to solve any part of the problem. Assuming there is a small error, there may be a problem if they can only use it. Another thing I would like to leave with is 3C/Ps, which we would like to offer experts more about this system. Let's discuss this with all 3C/Ps. We must help each other. So, the system can be sustainable for a long time. Finally, let the GIS-PF development go according to the schedule. I agree with experts on the schedule for GIS-PF development.

Mr. Bouavanh LUANGXAY, Division Director

I want experts to do two training.

1. Technical training means training experts who will update the data.
2. Ordinary user training, such as training the DG or DDG to use the system and know how to open and view it.

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

We will make the program to explain more detail about training.

Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning

Regarding the budget after the end of the project, Dr. Viengnam proposed to write a PCAP to request funding from the public sector, but we are not sure if we will get it or not, and we still don't know how our system will collect revenue. Therefore, I would like to propose the project to help pay for maintenance during the 3-5 years 2024-2027 to see the problem and know how we can collect the income.

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

I cannot answer the request. I think the JICA project cannot extend by two years only for the reason of the maintenance of GISPF. During the JICA project, we try to give technical transfer to your staff, including operation skills, for almost one year after developing the system.

6. Progress of Area Conceptual Planning and Urban Promotion Working Team

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

Now we are preparing a community workshop, which will be held on 11th February, next Saturday. But first, I need to confirm with Mr. Somchit the progress of the official letter and list of participants.

→ **Mr. Somchit CHERSUANTHOR, Technical staff**

Regarding the pilot area allocation work, Urban Promotion Working Team visited the District Administration Office on January 20 to report on this work and to organize the community workshop. The District Administration Office proposed the project to make a proposal letter to implement the work. So yesterday, DPWT made a letter to the district for making an invitation letter to all five villages in the target area.

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

So, we can hold a community workshop on the 11th of February.

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

If the mayor is the chairman, it is best that he can summarize the content.

→ **Mr. Somchit CHERSUANTHOR, Technical staff**

The Mayor of the Xaysetha district will be the chairman. The venue is the District Administration Office. Because it is impossible to hold a meeting in the Village Administration Office. Participants may include the village head, the deputy village head, and people in the area.

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

We will hold an UP-WT meeting next week to confirm the preparation of the community workshop.

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

How many people are on the UP-WT team?

→ **Mr. Somchit CHERSUANTHOR, Technical staff**

There are DHUP, DPWT, PTI, and OPWT.

<LAO-THAI RAILWAY LAND UTILIZATION>

Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Co., Ltd.), presented LAO-THAI Railway Land Utilization.

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

It is a good idea. But I see on page 8 of the presentation it is written that the target area is 7ha, but the pilot area has 800ha. Is the actual implementation 800ha or 7ha?

→ **Mr. Somchit CHERSUANTHOR, Technical staff**

7 ha is the land of the Lao-Thai railway station. We will implement 800 ha.

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

If it is a conceptual plan, if we have 800 ha, we should plan 800 ha. Urban planning law has two types: general and detailed urban planning. Will 800ha be made as a general urban planning and 7ha be made as a detailed plan? We must implement not to avoid the law. So, I would like experts and C/Ps to review the law to see what urban level this pilot area is because there are five levels in the urban planning law.

→ **Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Co., Ltd.)**

The Lao-Thai railway area has approximately 7 ha. If we implement this project, we need to divide the several development phases, such as the first phase is 1ha or 2ha.

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

Will you go to Tokyo for training in Japan, and how many people will go?

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

There are fifteen people. Eight people from C/Ps from the CDUDCP project. Another seven people from the Vientiane transport master plan project (VTMP).

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

I would like experts to take the trainees to see Kanagawa prefecture, where Mr. Muto presented in the Case Study of Land Utilization, to see how they do.

→ **Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Co., Ltd.)**

Due to the scheduled tour, we don't plan to visit this site.

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

According to the expert's concept plan, land use has a suitable combination, such as public transport, environment, and urban development. When implementing it, I want experts to consider using the proportions appropriately. For example, how we allocate public transportation to connect from the city center to the Lao-Thai railway and from the Lao-Thai railway to the Chinese railway. I want experts to explain this idea to people.

According to the actual condition of the area, there may be rice fields or different areas; how we can use the area, so I want us to see the laws or regulations related to agriculture because some places may be reserved for farming to ensure food. For urban development, the allocation of areas such as railway stations, shops, and residences must be based on the urban planning and approved development plan of Vientiane Capital.

→ **Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Co., Ltd.)**

This concept plan is an initial design. We need a more detailed survey. First, we need to confirm the availability of the Lao-Thai railway's land.

8. Next WG

Next WG (32nd Urban WG) will be held on 24th February 2023 (Tentative). The start time will change from 9:30 am.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants (Total: 18)

WG Leaders (1):

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

*DHUP could not provide the leader.

List of participants (17):

DHUP (2)	- Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning - Mr. Thavisak PHENGMALA, Technical staff, Division of Urban Planning
PTI (3)	- Mr. Bouavanh LUANGXAY, Division Director - Mr. Somchit CHERSUANTHOR, Technical staff - Ms. Phattaravady OUDOUMDETH, Technical staff
DPWT (1)	- Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
JICA Project Team (10)	- Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Co., Ltd.) - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project assistant - Mr. Kongny KHAMPHILALAY, JICA Project assistant - Mr. Chayyang CHUVEA, JICA Project Assistant - Mr. Vanxayxiong NAOLORXIONG, JICA Project Assistant
JICA Laos Office (1) (Observer)	- Mr. Shunichiro HAYASHI, Project formulation Adviser

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 32nd WG on Urban

Wednesday, 27th February 2023, 9:30 – 11:30 AM at DHUP Meeting room/ZOOM

I. Objectives

- To approve RFP for GISPF
- To report on Data Collection
- To confirm the progress of Area Conceptual Planning / UP-WT
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by the leader of WG
2. Confirmation of MM for previous WG
3. The RFP of GISPF / Data Collection status
4. Q and A
5. Progress of Area Conceptual Planning
 - Report of Stakeholders meeting
 - Next step for UPWT activities
6. Q and A
7. Next WG
8. Closing

III. Documents

- Agenda No. 2, 3, and 5; (Data sharing) Presentation PPT

IV. QA and Discussion

2. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

In previous WG, regarding the GISPF RFP, Mr. Uchida provided its documentation schedule, regarding the GISPF Data collection, Mr. Matsui explained the procedure. So that we would like to be reported on the data collection status today. Regarding the GISPF training, first, we should clarify who is responsible for managing and modifying the data. So, let's discuss the responsibility of GISPF maintenance today. Regarding the Area Conceptual Planning for the pilot area, we had a stakeholder meeting on 14th February. So, Mr. Matsui will report on this today.

3. The RFP of GISPF / Data Collection status

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

Have three counterparts already consulted each other on the experts' proposal?

→ **Mr. Somchit CHERSUANTHOR, Technical staff**

We held the meeting to discuss this in the morning. Regarding the person in charge of O&M of GIS-PF, I want DG to help guide us because we can't judge or identify.

Regarding the data collection, it is challenging because the data of the GIS-PF is related to urban development and infrastructure. So, we need the digital data in a file, but the relevant agencies provide the physical data in paper form. They sometimes don't want to give us the data. Therefore, I propose holding a meeting with relevant agencies to make them understand GIS-PF. Because GIS-PF is used not only for MPWT but the related agencies. The data will relate to urban development planning. So, more information will do more detailed work and planning.

Ms. Tomoko YAMAMOTO, JICA Expert

Please explain more specifically the difficulty of requesting data.

→ **Mr. Somchit CHERSUANTHOR, Technical staff**

They provide us with the paper instead of the original file; some agencies can not share the data. The technical infrastructure, not only the water supply and electric line but also the fire station, is essential data for urban development.

Ms. Tomoko YAMAMOTO, JICA Expert

In Japan, we have difficulty with data management too, but they have rules such as the timing of updates and who is in charge. We want counterparts in the urban sector to be responsible for data management, so in this project, Mr. Uchida would propose some rules or guidelines for updating urban development data. On the other hand, for example, the village boundaries may be related to DONRE, and they may have the latest version, so we should discuss the timing of updated data. We should have MOU with DONRE, as necessary. This is one of the coordination works for GISPF and also should be provided in the manual or guideline book for GISPF.

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

We understood it's challenging. Because GIS-PF is a new concept Web-portal for Laos. At first, we need a small seminar to involve relevant agencies to request cooperation to share the data. Data collection will take time. So, we need to clarify the currently available data. Current data might have some issues. So, we need to fix data problems such as which data is the latest version of the urban plan. Before starting GISPF development, we will collect the data. For GISPF development, we will use only the currently available data. But we will proceed with data collection from another agency.

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

All three counterparts should consult each other first and propose to each department DG.

Regarding requesting data from other agencies may be difficult, as mentioned. Sometimes they don't want to give us because it may be copyright, but we should not give up. We may organize a meeting to invite them to discuss whether they agree with us.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

It is not easy to obtain data from other agencies. Instead, for example, fire station may publish data or websites. Then, we can link to get the updated data. So, we should research further. But first, we should manage the current data of the three counterparts that we have first.

Ms. Tomoko YAMAMOTO, JICA Expert

Could WG Leaders assign a person in charge from counterparts tentatively?

→ **Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

MPWT Website will be managed by IT department who has about five people as coordinators. Whenever we want to upload information, we will ask for permission from the department DG and then upload the contents. DHUP doesn't have IT technical staff. So, I want to know how they manage it like a kind of GISPF in Japan.

Ms. Tomoko YAMAMOTO, JICA Expert

Mr. Uchida, do you have a session about GISPF management in Japan?

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

That topic includes in the training.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Can three counterparts be responsible together? For example, one person from PTI, one from DHUP, and one from DPWT. Each counterpart should be their data management owner.

→ **Mr. Somchit CHERSUANTHOR, Technical staff**

We also discussed that the person updating the data should be good at GIS.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

We don't need to be good at IT if it's only uploading data same as a general advertising system.

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

The GISPF is different from the advertising system. It is software that needs to modify. If we get data, we need to adjust it. And those who will update the data must know about GIS and be able to modify the data. So, we have to consult each other carefully. I want the counterparts to consult each other first, and then report to the DG. In addition, we need to create more successors.

4. Progress of Area Conceptual Planning (Report of Stakeholders meeting / Next step for UPWT activities)

Mr. Somchit CHERSUANTHOR, Technical staff

Regarding the five villages in the pilot area, we checked and found that Nakhuay-tai village is outside the area. So, should we invite them to participate or cut them off in the next meeting?

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

We should consult with OPWT.

→ **Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI**

Please re-check it carefully. Please review the minutes of the meeting again. Experts would give the way to re-survey.

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

It doesn't affect the survey itself. This survey report identifies the correct name of five villages.

→ **Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

We should not invite Nakhuay-tai village next time.

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

We delivered the questionnaire to these villages. But in the analysis, we will separate the questionnaire from Nakhuay-tai village and just use it for reference.

7. Next WG

Next 33rd Urban WG will be on 29th March 2023. The start time will change from 9:30 am.

8. Conclusion

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

We need to continue to discuss the identifying the person in charge of GISPF O&M, which has been given to three counterparts to consult in detail and then make further decisions to manage GISPF to be sustainable and effective. Actual data obtained from 5 villages is used as a reference, but we may change from Nakhuay-tai village to Xiengda village the next time.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants (Total: 13)

WG Leaders (2):

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

List of participants (11):

DHUP (0)	
PTI (1)	- Mr. Somchit CHERSUANTHOR, Technical staff
DPWT (1)	- Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
JICA Project Team (8)	- Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Co., Ltd.) - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project assistant
JICA Laos Office (1) (Observer)	- Mr. Shunichiro HAYASHI, Project formulation Adviser

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 33rd WG on Urban

Wednesday, 29th March 2023, 9:30 – 11:30 AM at DHUP Meeting room/ZOOM

I. Objectives

- To discuss MPWT/UMP Facebook page
- To report on the procurement status for GISPF
- To confirm the O&M roles and progress of data collection for GISPF
- To confirm the progress of Area Conceptual Planning / UP-WT
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by the leader of WG
2. Confirmation of MM for previous WG
3. MPWT / UMP Facebook page
4. Report on the procurement status, O&M roles and progress of data collection for GISPF
5. Q and A
6. Progress of Area Conceptual Planning
 - Plan for Stakeholders meeting
7. Q and A
8. Next WG
9. Closing

III. Documents

- Agenda No. 2, 3, 4 and 6; (Data sharing) Presentation PPT

IV. QA and Discussion

2. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

The previous Urban WG mainly discussed GISPF and Area Conceptual Planning.

Regarding GISPF, we addressed O&M responsibility and data collection. Mr. Uchida proposed the person in charge of each role of O&M for GISPF based on the pre-meeting with each Counterpart. Mr. Somchit suggested arranging meetings with the target organizations to accelerate data collection, which Mr. Matsui agreed with. We will hear today about the progress of the official letter drafted by counterparts.

Regarding Area Conceptual Planning, Mr. Matsui reported on the questionnaire from five villages in the pilot area. He would update the status of the questionnaire and share the schedule for Area Conceptual Planning today.

As the achievement of training in Japan, what tips did you obtain on GISPF O&M and Area Conceptual? Let me know your running point of GISPF or data management.

→ **Mr. Somchit CHERSUANTHOR, Technical staff**

We, participants from Laos found different from Chiba prefecture such as organization structure and duty of divisions of urban planning and management administration. For example, they have two divided departments for urban planning and construction permit.

Regarding the management of GISPF, Chiba prefecture initially had the similar situation to what we are. But the database we saw at their office, has integrated all data as one. Their planed GISPF and its data development would be implemented by a private company.

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

Since things are different, the good practice of Japan doesn't always apply to Laos. You could find your own way of managing GISPF. Next training in Japan is scheduled for February or March 2024.

3. MPWT / UMP Facebook page

WG members discussed the possibility of setting up a UMP, MPWT Facebook page.

Mr. Dao KEOSUKAN, Director, Division of Urban Planning

If anything, UMP needs their own Facebook page since general public can get information from it.

Mr. Yuta AIHARA, JICA Expert

Although it needs to be careful in communicating with people, SNS is free and easy to start and run.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

The government in Laos has already faced many difficulties in managing their official Facebook pages, such as fake news and cracking. Make sure good practices, penetration, and regulations in Laos.

Mr. Yuta AIHARA, JICA Expert

The capacity of media literacy utilizes social media well. Both the government and people would be trained by cybersecurity administration organizations. We can start small to get experience and lessons learned. Expert team will support the capacity development of media literacy for the government officials.

Ms. Tomoko YAMAMOTO, JICA Expert

Although SNS can be one of the functions of GISPF, let's start with a case study of the government official Facebook page in Laos.

4. Report on the procurement status, O&M roles and progress of data collection for GISPF

Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

I found a PC server owned by MPWT, which is the candidate of IT environment to develop GISPF on. As DoR in MPWT developed their IT system on the server, we want to utilize it, which is a solution reducing costs. Expert teams request Mr. Nalongxay to negotiate beyond the section with the manager of MPWT ICT sector to use it as soon as possible. We need to make contract with a subcontractor this week. We would stop developing GISPF if the server issue remains unclear.

Regarding data collection, let me ask Mr. Vasaly on the result of the discussion on infrastructure data.

→ **Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning**

Three counterparts have discussed. We are drafting an official letter to send it next week to relevant agencies to meet and work with them.

Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

Which sections should we send a request letter to?

→ **Mr. Somchit CHERSUANTHOR, Technical staff**

- Water supply from Vientiane capital water supply state enterprise

- Sewage line/ Main drainage may be from DPWT
- Electric line from Lao Electric State Enterprise (electricity du Laos-general)
- Fire station may be from Vientiane Police Department (fire prevention and suppression division)

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Have you already selected the subcontractor? Why does the company offer four times bigger than the other one? Have SubWG teams checked in detail whether each section we will send the official letter has the data we need? Do three counterparts agree on specifying the staff for all roles for O&M of GISPF?

→ **Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

We have not selected a subcontractor yet. However, we would make contract with Innova Fortuna once we find the MPWT 's physical server available.

Mr. Yuta AIHARA, JICA Expert

If we lost this chance, we have no choice but start over. While experts can hardly request anything to ICT division unappointed as a project member, Mr. Nalongxay is instead, the very right person who can negotiate with its head and/or higher position.

6. Progress of Area Conceptual Planning

- Plan for Stakeholders meeting

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

We have already collected questionnaires from the community, which counts 165. Collecting questionnaires is supported by the village leader. We already prepare an analysis of the questionnaire. Tomorrow, we have UP-WT meeting. We will discuss the result of the questionnaire. Then draft an urban structure plan. After UP-WT meeting, we will prepare a second stakeholder workshop for the pilot area. We originally planned a stakeholder workshop at the end of this month but did not have much time for preparation, so that the second workshop will be held after the Lao New Year. However, Before Lao New Year, we will improve our urban structure plan with UP-WT. In addition, we need to survey and interview private business operators relating to the pilot project.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

How many questionnaires did you send? And how many percent do you receive answers?

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

We sent 200 questionnaires and received 165 responses (82%).

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

What is the total population of five villages? What percentage of the total population in five villages answered the question?

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

How did experts make sampling?

(How did experts select people to answer 200 questionnaires?)

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

We asked the village leader then the village leader selected.

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

Will this sampling method be effective?

Experts should have a method of selection.

8. Next WG

Next 34th Urban WG will be on 26th April 2023. The start time will change from 9:30 am.

* Next 34th Urban WG will be arranged on 25th due to a meeting on the Housing Act on 26th. (WG Leader informed after 33rd WG)..

9. Conclusion

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Counterparts must give the answer on utilizing MPWT 's server and data collection. Before the next meeting, I will provide an answer on utilizing MPWT 's server.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants (Total: 19)

WG Leaders (2):

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

List of participants (11):

DHUP (3)	- Mr. Dao KEOSUKAN, Director, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning
PTI (2)	- Mr. Somchit CHERSUANTHOR, Technical staff - Ms. Phattharavady OUDOMDETH, Technical staff
DPWT (0)	
JICA Project Team (12)	- Mr. Tetsuji GOTO, JICA Senior Adviser / Expert - Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Miki HOMMA, JICA Expert (Nippon Koei Urban Space Co., Ltd.) - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant - Mr. Chayyang CHUVEA, JICA Project Assistant - Mr. Vanxayxiong NAOLORXIONG, JICA Project Assistant - Mr. Vilaysak Hakpasith, JICA Project Assistant
JICA Laos Office (0) (Observer)	
JICA HQs (0) (Observer)	

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 34th WG on Urban

Tuesday, 25th April 2023, 9:30 – 11:30 AM at DHUP Meeting room/ZOOM

I. Objectives

- To discuss MPWT/UMP Facebook page
- To confirm the progress of data collection for GISPF
- To confirm the progress of Area Conceptual Planning (Participatory approach)/ UP-WT
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by the leader of WG
2. Confirmation of MM for previous WG
3. Report on the procurement status and data collection for GISPF
4. Q and A
5. Participatory approach to planning
- Coordination for Stakeholders Meeting and Area Conceptual plan (Draft)
6. Q and A
7. Next WG
8. Closing

III. Documents

- Agenda No. 2 and 3; (Data sharing) Presentation PPT
- Minutes of the previous WG

IV. QA and Discussion

2. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

In terms of GISPF, we discussed MPWT's server resource usage. Mr. Nalongxay negotiated with the ICT division, and we also had a meeting with them. But we need to confirm a few technical things about the server, which Mr. Uchida or GIS SubWG members will explain later and report on the selection and contract of the Subcontractor. Regarding data collection, Mr. Somchit identified the relevant organizations in the previous meeting and met the water supply yesterday. Let me ask Mr. Somchit about the status of the coordination meeting for the sewage, main drainage, electricity, and fire stations.

→ Mr. Somchit CHERSUANTHOR, Technical staff

We sent the official letter to the water supply and EDL last Thursday. The meeting with the water supply reveals they have used a GIS-based database since 2012. They agree to provide us with their data, which we will request experts to verify. So, they want our base map data at first.

→ Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment

We, DPWT, have the main drainage data and will provide that data.

Ms. Tomoko YAMAMOTO, JICA Expert

Regarding the Area Conceptual Plan, we will draft an urban structure plan based on information we collected from the questionnaire supported by the village leader. We plan to have more stakeholder meetings to update the plan by participatory approach. Mr. Matsui will explain the second stakeholder meeting. The consultant team also plans to interview the private sector for a pilot project to collaborate with a private agency.

In terms of the FB page for MPWT, counterparts agreed that UMP's own FB page. Whereas Mr. Nalongxay is concerned about the difficulty of its management. So, we ensure good practices in Laos at first and, we will small start to get experience and lessons learned. Let me ask Mr. Aihara to share the status of this task.

→ **Mr. Yuta AIHARA, JICA Expert**

I have already drafted the list of the Ministries of Laos official websites. However, I am still seeking the guidelines and regulations for managing SNS. I will share them next UrbanWG.

3. Report on the procurement status and data collection for GISPF

Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

We negotiated with Innova Fortuna, the subcontractor, on 11th April, and we contracted them last week. We had the kick-off meeting with them and SubWG members last Thursday, 20th April. Now we are preparing the server environment and domain name for Innova Fortuna. I want to discuss and decide domain name at this UrbanWG. We need to decide by the end of this week.

Regarding data collection, we met the water supply enterprise yesterday. They will provide us the data on the Water treatment plant map, Service area map, Elevated water reservoir map, and Hydrant point. As Mr. Sonpaseuth mentioned, DPWT will share the main drainage data. We need to meet EDL for electric line data and DoL to approve using their current land use data. I already have data for the mock-up version of GISPF so we can hand it over to the subcontractor.

Regarding tasks and roles for O&M GISPF, I requested SubWG members to assign at least two people for each task.

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

Can we set the domain name to the Lao language?

→ **Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

The domain name is commonly used simply in English.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Counterparts agreed to set the domain name as **"urbangis.gov.la"**

The staffs for the task and roles for O&M GISPF are as below.

- | | | |
|------|---|-----------------------------|
| DHUP | - | Mr. Vasaly SISAVATH |
| | - | Mr. Thavisak PHENGMALA |
| PTI | - | Mr. Somchit CHERSUANTHOR |
| | - | Ms. Phattharavady OUDOMDETH |
| DPWT | - | Mr. Sonpaseuth PHOTHISAN |
| | - | Mr. Vientihane BANTHONGXAY |

5. Participatory approach to planning

- Coordination for Stakeholders Meeting and Area Conceptual plan (Draft)

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

Now we are preparing the second community workshop for the pilot area. The date is temporarily fixed on 9th of May. The main topic is formulating the vision and drafting a concept plan with the community representatives. We expect 20 participants to join this workshop.

Regarding the pilot project, we have been discussing it with Japanese experts. We propose five candidates for the pilot project. Now we are selecting several pilots based on discussion. The viewpoint is the capacity for the development of counterparts. The responsivity of counterparts is not covering all everything. The point of the pilot project is that counterparts will enhance their capacity through pilot project activity to implement that project. We propose an urban development project utilizing the railway land, but MPI controls this investment. Counterparts will be the one stakeholder of the project. In our pilot project, we will cooperate with private business operators. Next, we will conduct an interview survey to confirm their interest in our pilot project. We will meet LOCA on the 2nd of May to discuss one of the candidate projects is the EV station project. We will confirm the ability from the viewpoint of private business through the dialog.

End of this or next week, we will have UP-WT to discuss the preparation of the community workshop. Regarding village boundaries, there are several problems. We will confirm whether the village boundary is in the project boundary in the next UP-WT.

Mr. Somchit CHERSUANTHOR, Technical staff

Our team confirmed that Xiengda Village is outside our pilot area. Our pilot area covers only four villages. So, we consent to hold the 2nd community meeting at the Meuangnoy village office, which can contain 60-70 participants. The participants are five people per village.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

How do you select the participants? How many people are in the four villages, and what percentage will we select? What are Japan's criteria for selecting examples for the purpose of a community workshop?

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

In my experience, there are several ways. However, I propose the village leader choose participants such as leaders of the community, shopping area and so on. Otherwise, we have the public announcement by using a website or leaflet. This is the common in Japan to announce stakeholder meetings.

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

In my experience, they choose the head of the family, a land owner who has lived for a long time in the village and understands the community's demand. In this project, we need various people, even those with a negative mind. We are not so nervous about the selection of participants.

→ **Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

It is OK if that is enough for the required data. So, we agree with Mr. Matsui.

Ms. Tomoko YAMAMOTO, JICA Expert

Mr. Somchit, could you share the progress of the invitation to hold a community meeting?

→ **Mr. Somchit CHERSUANTHOR, Technical staff**

We discussed this with Mr. Desa. Tomorrow or the day after, we will discuss with Mr. Desa the content of the 2nd stakeholder meeting. The District Administration Office will prepare the invitation letter, but we must send them the official letter.

Ms. Tomoko YAMAMOTO, JICA Expert

Mr. Matsui, could you draft the invitation letter indicating the purpose of the meeting and the participants' selection points? The village leader said that they need the letter at least one week before the meeting.

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

We will prepare the letter for the village.

7. Next WG

Next 35th Urban WG will be on 16th May 2023. The start time will change from 9:30 am.

Consultant team experts will come to Vientiane on the following date.

Mr. Matsui: 3rd - 20th May

Mr. Uchida, Mr. Muto, and Ms. Homma: 8th May - to be fixed

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 35th WG on Urban

Tuesday, 23rd May 2023, 2:00 – 4:00 PM at MPWT No. 2 Meeting room/ZOOM

I. Objectives

- To confirm the progress of development and data collection for GISPF
- To confirm the progress of Area Conceptual Planning (Participatory approach) / UP-WT
- To discuss MPWT/UMP Facebook page
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by the leader of WG
2. Confirmation of MM for previous WG
3. Monitoring report on the development
Data collection for GISPF
4. Q and A
5. Report on Stakeholders Meeting
 - Strategy and Area Conceptual plan
 - Comments for Pilot project (Draft)
6. Q and A
7. Announcements MPWT/UMP Facebook
8. Next WG
9. Closing

III. Documents

- Agenda No. 2, 3, 5 and 7; (Data sharing) Presentation PPT
- Minutes of the previous WG

IV. QA and Discussion

2. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

We had two main topics on GISPF and the Area Conceptual Plan. First, regarding GISPF, SubWG members had a meeting with Innova Futuna, the subcontractor, to be reported by Mr. Uchida. Moreover, let's discuss the data collection today. DPWT will share the main drainage dataset. Urban WG has already decided the domain name and person in charge of O&M.

Regarding the Area Conceptual Plan, we had the community workshop on the 9th of May, to be reported by Mr. Matsui. We will create the conceptual plan based on the pilot area community representative opinions that the consultants collected. Additionally, Mr. Aihara will add UMP SNS utilization.

3. Monitoring report on the development / Data collection for GISPF

Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

Regarding subcontractor workplan, SubWG confirmed that they would install GeoNode once the server is provisioned. Therefore, we again ask LANIC to grant the domain via ICT division.

Regarding data collection, we are as below and will keep in contact with the relevant agencies.

- Electric line dataset: Still requesting a meeting with EDL
- Latest Land Use Planning dataset: Still waiting for DoL
- Drainage dataset: Not yet. DPWT is ready to provide, according to Mr. Sonepaseuth

Regarding the virtualized urban information uploaded to GISPF, SubWG picked up six from the long list by data collection availability and information usability. Furthermore, I want to choose three of the six today to design SubWG content creation activities.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Regarding MPWT's server, DHUP discussed it with the ICT division. Now, the server network system is something wrong. We will inform the experts of the progress by Wednesday.

I want Mr. Vasaly to report further on the data collection that we have yet to receive from DPWT and EDL, to which DHUP has already submitted the official letter to the relevant agency.

After we have approved the official use of the server, I want to know about the PR activity of GISPF. How do you plan to disseminate GISPF to the public and private sectors?

→ **Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning**

Main drainage and electric line are not yet. DPWT is responsible for the main drainage. Regarding electric line data, DHUP has already submitted the official letter on behalf of MPWT to EDL's submission office but has yet to receive a response from them. The submission office may not know the department in charge. So, we will specify the department in charge and submit the letter directly.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

We should do data collection like the world bank project or ADB project. The counterparts don't go alone; they offer to lead experts to collect data.

→ **Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning**

We brought experts along for data collection.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

For example, when the ADB project goes to collect the data, they have experts to accompany them, and DG or DDG will make the official letter. Their project experts clearly understand the data they need, and the required data must be sent to the relevant agency first.

→ **Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning**

Regarding requesting data from DoL, they suggested MOU to ask for the use of data together.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Let's draft the MOU and then report to DG.

Mr. Bouavanh LUANGXAY, Director Division / PTI

Regarding GISPF, according to what I have been training in Japan. It is a good lesson we should use in this project. We should separate the information that can be published and the information that cannot be published, such as the landowner's information. Regarding data collection, we have a committee consisting of MONRE. So, in data management, there may be DoL to

participate. So, we must inform MONRE that they are a committee which may be a condition for us to get information quickly.

Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

Initially, we will provide O&M training for general users and administrators. The subcontractor will conduct training in parallel with the development. They develop the document of the training manual. The person is acceptable for counterpart's member can train after the development of the demo system. After developing the demo system, we will start the trial operation in about two months. SubWG can train during the trial operation period.

5. Report on Stakeholders Meeting

- **Strategy and Area Conceptual plan**
- **Comments for Pilot project (Draft)**

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

I have questions and something to share. Regarding the area conceptual plan, the needs of the people in the pilot area are good and reasonable needs that are what facilitate their lives.

First, among pilot projects, some activities require land. I would like to know if the experts have observed and considered the land that will be used for activities.

Second, the needs of the community, for example, an educational institution and a large shopping centre; Have Expert teams observed the environment around the pilot area? I saw that Mueangnoy Village to ThatLuang Road has a large market; Dong Pho Si Road will also have an educational institution of medicine. So please do more research and compare to the surrounding areas whether we need more these needs.

Thirdly, this project is a PPP project, so in addition to the project money and the private sector's money may have an additional amount from the public sector after we design the detailed plan and know a budget plan. So, we propose to the public sector, especially Vientiane Capital, to combine into a PPP.

Fourth, do experts consider the situation of the problem, such as social security, like drugs and thieves? Is this information optional for our project?

Will there be a general plan after we define the area and a detailed plan after collecting opinions, or will we just collect ideas to design?

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

The area concept plan also considers social security based on community WS discussion. Some participants said that the lighting. For example, security cameras need to be installed in the pilot area. We can propose the facility in the area concept plan.

Mr. Somchit CHERSUANTHOR, Technical staff

According to the village leader and community on the second community WS, most of the vacant land is private. Therefore, we need to invite the landowners to participate in the third WS.

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

I agree with Mr. Somchit; we just heard the idea from the deputy leader of the village. However, some owners want to change the land use, especially the agriculture zone, so we need to listen to the individual opinions of the landowner.

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

Will this area conceptual plan be detailed, general, or community plan. If it belongs to community plan according to the urban plan law, it needs approval by the provincial governor. The question is whether this pilot project must be approved before implementation. If approval required, it would take a long time, so I am worried about the project period.

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

The area conceptual plan is not a detailed urban plan. It is just a concept plan, not an official plan. We don't expect to get approval from the government.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

As I understand, the general plan of Vientiane Capital that MPWT studied and designed has already been approved and passed by the council. The detailed plan has been given to DPWT as a researcher, design, and approval. But this area conceptual plan is not an urban plan but a trial plan.

Mr. Bouavanh LUANGXAY, Director Division / PTI

I want to share my experience creating a community plan in Savannakhet province, which is being approved. The governor must approve the urban plan at the community level. The council adopts the district level or province. Regarding our area conceptual plan, if it is a community plan, it must be officially approved by the government as well as the mayor to meet the principles and will be able to be used. For the approval process, the plan must be submitted at the district level. The process of this requires representatives of various offices from the district to participate in commenting. After being unified at the district level, it will be submitted to DPWT for the following process: before the governor approves, it must be through another meeting, which is a meeting of the committee of the relevant departments in the Vientiane Capital. The governor will sign the approval after agreeing internally. I think experts will support the planning then DPWT will proceed with the approval process. If we use our area conceptual plan according to the principle, it must be approved.

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

I don't know the community plan. I think urban plan law has a general and detailed urban plan. There is no urban community plan. What is the community plan?

Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning

From a personal point of view, our project is a pilot project. The project is analysing and collecting details for us to be the data of the pilot project. The approval depends on us using the project's data for further use. DPWT must carry out the part of the approval.

Ms. Tomoko YAMAMOTO, JICA Expert

Let's recall the purpose of the area conceptual plan. This is one of the opportunities to try or challenge collaborative urban development. When we conduct collaborative urban development, we need the dialog with the private sector, so we need the key concept in this dialog. That is why we create this area concept plan. This is an important purpose of the area conceptual plan. In the urban planning law, my understanding the same as Mr. Matsui, the planning law doesn't define the community plan. After the project, if necessary, you may proceed with this procedure. In this occasion, for our purpose, we should discuss the area's direction with the community and private sector in this project.

Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment

I agree with Mr. Bouavanh. After the general urban planning ver. Three have been approved; it will be developed into a detailed plan for each area. This is what DPWT wants. The (functional) allocation in the area means the area conceptual plan. First, we will take ideas from the village as we used to do through a meeting of each village, then pass through the district level, and then pass through various technical levels, which is DPWT. DPWT will invite the relevant departments to participate. Then, we will propose to Vientiane Capital through the Vientiane Capital Committee. This one will not go through the council because it is a community. The law states that after passing through the Vientiane Capital, it is submitted to the governor for approval. After this is approved, DPWT plans to expand in various areas. The new Master Plan 2030 will do the same. Current plans are being made regarding allocating detailed plans for each location.

7. Announcements MPWT/UMP Facebook

Mr. Yuta AIHARA, JICA Expert

I suggested utilizing SNS for UMP/MPWT. If you accept it, I can proceed to the next step. If you reject it, I will stop this activity. I can continue to work for SNS utilization. I can research more and arrange the interview with the ministry, which has a good practice.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Lao PDR has 18 ministries; the National Assembly has five departments; the Department of Organization of Lao People's Front has nine departments and institutions three departments, a total of 35 departments. In the expert's research document, the website has 23 sections, 65%, and the FB page has 14 sections, 40%, compared to the actual number of state organizations we have. The information obtained is a good foundation. FB is a very good channel. Making a FB page requires education, planning, and management. Please continue it.

8. Next WG

Next 36th Urban WG will be on 20th June 2023. The start time will change from 9:30 am.

9. Closing

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

There are pending issues, such as Mr. Chanthavangso's comment, assigned to DHUP and DPWT for detailed research and report in the 36th UWG. Let's look at the necessity. If it is necessary to propose approval, our internal process may not be related to the project. The project has limited time, so let the project continue to follow the expert's process. The approval process is our internal process.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants (Total: 24)

WG Leaders (2):

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

List of participants (11):

DHUP (4)	- Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning - Mr. Thavisak PHENGMAHA, Technical staff, Division of Urban Planning
PTI (3)	- Mr. Bouavanh LUANGXAY, Director Division - Mr. Somchit CHERSUANTHOR, Technical staff - Ms. Phattharavady OUDOMDETH, Technical staff
DPWT (1)	- Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
JICA Project Team (13)	- Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Akihito MUTO, JICA Expert (Nippon Koei Co., Ltd.) - Ms. Miki HOMMA, JICA Expert (Nippon Koei Urban Space Co., Ltd.) - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant - Mr. Vilaysak Hakpasith, JICA Project Assistant - Mr. Chayyang CHUVEA, JICA Project Assistant - Mr. Vanxayxiong NAOLORXIONG, JICA Project Assistant
JICA Laos Office (1) (Observer)	- Mr. Shunichiro HAYASHI, Project formulation Adviser
JICA HQs (0) (Observer)	

V. Participants (Total: 17)

WG Leaders (2):

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

List of participants (11):

DHUP (3)	- Mr. Dao KEOSUKAN, Director, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning - Mr. Thavisak PHENGMALA, Technical staff, Division of Urban Planning
PTI (2)	- Mr. Somchit CHERSUANTHOR, Technical staff - Ms. Phattharavady OUDOMDETH, Technical staff
DPWT (2)	- Mr. Phouvong VIENGVILAY, Division Director - Mr. Sonpaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
JICA Project Team (8)	- Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant - Mr. Vilaysak Hakpasith, JICA Project Assistant
JICA Laos Office (0) (Observer)	
JICA HQs (0) (Observer)	

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 36th WG on Urban

Tuesday, 27th June 2023, 9:30 – 11:25 AM at DHUP Meeting room/ZOOM

I. Objectives

- To confirm the progress of development and data collection for GISPF
- To confirm the progress of Area Conceptual Planning (Participatory approach) / UP-WT
- To prepare for the 3rd JCC
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by the leader of WG
2. Confirmation of MM for previous WG
3. Monitoring report on the development and Data collection for GISPF
4. Q and A
5. Strategy and Area Conceptual plan
6. Preparation for 3rd JCC
 - Agenda and main topics / Chairpersons and Participants list / Candidate date etc.
7. Q and A
8. MPWT/UMP Facebook for GISPF
9. Next WG
10. Closing

III. Documents

- Agenda No. 2, 3, 5, 6 and 8; (Data sharing) Presentation PPT
- Minutes of the previous WG

IV. QA and Discussion

1. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

Previous WG discussed the following three topics:

- Progress of the GISPF development and data collection,
- Area conceptual plan
- MPWT/UMP Facebook page

Regarding GISPF development, finally the MPWT server resources provided by the ICT division. Regarding GISPF data collection, SubWG needs to follow up remaining DoL (MOU is required), EDL, and DPWT, which Mr. Uchida or Mr. Vasaly later explains. UMP meeting and open seminar scheduled after the JCC would conduct GISPF public awareness, which importance pointed out by the chairperson.

Regarding MPWT/UMP Facebook page, Mr. Aihara, Mr. Vasaly, and Ms. Manyvone are preparing a survey of the official Facebook page, to which the chairperson agreed with their initiative.

Secondly, for the pilot project, the chairperson said that some pilot projects require the land and external factor of the surrounding area. Thus, Mr. Somchit is leading the UPWT team to collect further information. Regarding the road pavement activity as one of the candidates of the pilot project, OPWT requested different locations. Experts will discuss it to ensure it reaches the deadline and feasibility. Hence, we want to discuss this in the next WG.

Moreover, for area conceptual plan, Mr. Chanthavangso asked whether the area conceptual plan is regarded as a general plan, details plan, or community plan and needs an official approval. As Mr. Matsui explained this is not a statutory plan, we don't need any approval in the project. Mr. Nalongxay also mentioned that this is a trial plan, not an urban plan, and the process of approval depends on the C/Ps side. In conclusion, the necessity for approval was to be discussed within C/Ps because approval is outside the project's scope.

<For the scope of Area conceptual plan in the project and the approval as a community plan in the future.>

These four different plans may be confusing us. Experts are unsure the community plan because it is not clearly stated in the urban planning law, I would like to clarify it.

- Area conceptual plan,
- General plan,
- Details plan,
- Community plan.

According to law on Urban Planning, firstly, article 9 describes the urban level, which consists of 5 levels; the fifth is the district community. Articles 14 and 16 define two types of urban planning as general and detailed plans. These two types of plans would be created for five urban levels. In short, a community plan, which referred to in the last working group, falls under 'a general plan created for the district community'. If my understand is different from yours, let me know after the meeting.

Additionally, we have described the conceptual plan in the R/D signed between the Japanese and Lao governments on 12/July/2021. Also, the scope of the concept plan has also been discussed in Urban WG so far, and it was described in the last JCC's materials ; An area conceptual plan is one of the tools to promote urban collaborative development in line with a general urban plan rather than for regulatory purposes, the plan itself is simple and does not go into detail. We will use this plan to design processes and mechanisms involving stakeholders in the area's development.

From the above, we can say that the area conceptual plan is not either a general plan, details plan, or community plan at this moment. However, after the project end, if the C/Ps want to modify this area's conceptual plan and get it approved as one of these plans in the future, I would respect your plan. All plans need to have a concept, this conceptual plan would be very useful. We will now develop a conceptual plan in line with the R/D.

Mr. Chantavangso OUDOMDETH, Deputy director general of PTI

The point is we will not force experts to design following our procedures. We are concerned that after planning, it will not be able to be taken implemented if it does not get approval. If it does not get approval, it will not be a juristic act, and that's just concerning from C/Ps. In terms of getting approval, the Lao side can act ourselves. I want to say that it is a concern from C/Ps and

proposed to the experts that we have urban planning law, and if it is just only conceptual plan, it is not a problem for us. We just want to implement what experts have designed.

Ms. Tomoko YAMAMOTO, JICA Expert

Thank you. This project should concentrate on formulating the plan. But I would like to respect C/Ps to take action to get approved in the future. In the JCC meeting, with our chairpersons (the vice ministers, vice mayor), there will be at least a consensus on this area conceptual plan.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Can all participants agree with Mr. Chanthavangso, or do you still have additional comments? As you know, Mr. Chanthavangso and I are new to this project, but you have been working since the beginning of this project. You may know well that this project is a capacity development project; it is a pilot project, not an urban plan project; it seems like training for C/Ps on how to promote urban development with the involvement of the area's residents and private sector. It is not a project that needs to get passed by the urban planners to get approval for our procedures. This project has already set the scope before starting the project. Experts can technically follow up on the scope and project plan because the project has limited time; in terms of getting approval, we can take action by ourselves following the law.

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

Basically, this project is for capacity development. Of course, we hope that after planning, it can take implementation to be useful. For example, in terms of planning, if the district or administration section agrees, it can be approved because it will be a model for us. We just assemble the document and propose to the district following Article 48 of the urban planning law. However, planning should follow the technical work scope if it aligns with planning. Although it is not a detailed plan, it can be a general plan in Article 38. If the experts create a manual as a sample for C/Ps, then we can propose this to the local administration to be used. I don't want to leave it behind. Anyway, in terms of planning, I would be an expert in following the general plan, details plan, and related laws.

Ms. Tomoko YAMAMOTO, JICA Expert

JICA project can provide all the materials and data of this conceptual plan to C/P so that it can be modified and approved.

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

I heard that the data from DPWT is not yet provided to the project; I want to know the coordination status because I heard the project had coordinated with DPWT many times but had not gotten the data yet. I'm not attending to this work but assigned to Mr. Sonepaseuth. So, which more data that the project still needs from DPWT?

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

Regarding GISPF and its data collection, Mr. Uchida will report on it later.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Before going to the next topic, I want to finalize getting approval, and I want to make it clear here. This project had set the scope, budget, people, and everything. It will be complicated if we want to change something outside the scope. Let the project conduct technical work following the project plan. The process of getting approval is democrat to be for Lao side ourselves. We will let the project conduct activities plan comfortably, and if we need related documents from the project, we can ask them.

Regarding getting approval, we must act by ourselves, as we know getting approval may take a very long time and have many procedures. Therefore, we should demarcate between the project work and the approval procedure. It is different from what Mr. Bouavan did in Savannakhet province. Let's be clear that the project will no longer be confused.

Mr. Chantavangso OUDOMDETH, Deputy director general of PTI

In terms of technical work, the project can continue to conduct the following project plan, but we must inform experts because if it is not getting approval, the plan cannot be taking implementation. So that the project may have been blamed on Lao's side. It is the same as the 3rd edition of the Vientiane urban plan that took one and a half year to get approval. I want experts to understand the approval process because, based on the R/D sign, it is not mentioned about this point. We just informed experts, and if this plan cannot be implemented, we want the project to have no complaints or blame on the Lao side. We just informed them about our procession to the experts.

Mr. Somchit CHERSUANTHOR, Technical staff

Relying on the R/D sign between both governments, we should let the project work following the project plan, and in terms of getting approval, it should conduct by the Lao side. We need to have an internal meeting to discuss specification about this, but I also have concerns, as we can see, about the 3rd edition of the Vientiane urban plan, which is similar to what we are doing. After the project completion, we cannot implement the plan because it doesn't get approval. So, the Lao side must create a plan following the regulation that maybe in 1st at the urban level, which will take a long time. Second, setting urban planning is related to the current situation. If we leave data for a long time, it may have a problem. Is it possible that I need the Lao side to consider doing it in parallel?

Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning

I think we should divide it into different works. In terms of regulations creation, the Lao side must work together more. And technical work of planning, experts can continue following the project plan because time is limited in the project. If we do two things in parallel, it may make slowly.

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

When the experts conduct the technical planning, I would like experts to conduct in the scope of the urban plan and follow the regulations. When the project is completed, experts should create a manual and provide the documents to us. Then we can propose the process of getting approval.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

In conclusion, first, assign the JICA project to conduct the activities following the scope and project plan. Second, in getting approval, this is a community plan. If, in the future, OPWT, including DPWT, wants to propose the process of getting approval following urban plan regulation, it can be taken action by using the data from the project. Third, in terms of planning activities by the project, it must be in line with urban plan law. We will not mix up anymore because the project has limited time. If it needs to modify something, it must also have approval, which is not easy to change. We must follow the document that we have signed in the beginning.

2. Monitoring report on the development / Data collection for GISPF

Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

Firstly, I'd like to confirm the domain name with working members.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Regarding the presentation by experts, we will discuss three main points. First, regarding domain name as the expert proposed using `urbangis.mpwt.gov.la` instead of `urbangis.gov.la` because it needs to have a charge if it uses the first domain name. Second, it is about MOU with MONRE that I already have comments on, but what is the problem? Let Mr. Vasaly report more, and the third one is about the data collection from EDL. Can we make MOU the same as with DoL, then report to the DG, and if it gets approved, it can be signed by me? And the last one is about the GISPF that is seemingly running on the schedule, including training and mock-up/demonstration.

Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning

Regarding two domain names, the first domain name that we selected in the meeting, but as we've discussed with the ICT division and consultant team about the domain name if we request a new registration of the domain name as "`urbangis.gov.la`" we have to add more charge for the rental fee, and ICT also offer other condition to use as a subdomain of the ministry without cost to reduce our compensate.

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

We must see how different the use between "`urbangis.gov.la`" and "`urbangis.mpwt.gov.la`". Based on the consensus, we can now use the subdomain to go forward and save the budget. But can we use the MPWT's server? If MPWT approves, then we can use it.

Mr. Somchit CHERSUANTHOR, Technical staff

If the first domain name needs to have cost, then we can use an alternative domain name. And I would like to report on the data collection briefly. We need data from 3 sectors: data from the water supply that we coordinated on the 24th of April, and we got data from them, and data from DoL that we discussed with them on the 10th of May.

Our team has drafted the document, and maybe Mr. Vasaly will report more detail. The last sector is EDL. DHUP submitted the official letter on the 27th of April, but we didn't keep in contact with each other. Last week, I went to the EDL headquarters at the technical office in Nong Beuk village, and tomorrow at 9:00, we will meet with them about the data collection and report more about the details.

Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning

Let me report more about the data collection from DoL regarding the MOU of working with them. DHUP already submitted the document to DoL last week, and we got a response from them, especially on the technical data, that they've checked the content and have additional questions. They need details of the data as:

1. Data of the GIS that we need from DoL.
2. The project's work is related to DoL.
3. The budget for GISPF
4. Output regarding GISPF and cooperation in the future between MPWT and MONRE.

Firstly, they need to have technical meetings on the above topic, and we must draft a report for DoL. It may need to have more technical meetings with them.

As we asked them at the beginning on the GIS data, especially data on the land plan in our pilot area, DoL does not have a digital map yet, it still is a handing skate that they hurry to create data, and we will ask more information from experts or project assistants to draft a report for DoL.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

I want to sum up this agenda into 3 points. First, regarding the domain name, we agree to use an alternative subdomain as proposed by the expert. Second, the data collection from EDL, we have to take more serious action and enhance the cooperation with them. Third, we've drafted MOU for the data from DoL, and I already added the comment. Regarding the question from the DoL, please hand over the question to the experts to draft the answer. Then DHUP will prepare the official letter on behalf of the department to hold a technical meeting with them, and I will sign the document. It seems like this work is slow, and we cannot have JCC meeting yet as planned. I'd encourage everyone to work harder, and if there is any problem, you can report me directly; no need to wait for Urban WG.

3. Strategy and area Conceptual plan

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

In terms of working with the village by experts and technical staff, do you face some difficulties that we can help with?

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

My impression, I don't feel difficulty. Conversation and coordination with villages leader through the WS. They are good will to participate in our activities. But I'm excepting difficulty with landowners. I heard private companies own the land, and we don't know their intention for future land use. Currently, they are using the agriculture business. I don't know if they want to continue the agriculture business or change the land for commercial or residential use. Another difficulty based on the area conceptual plan, we will make an action plan to describe the role of each agency and some development schedules we need to discuss more implementation methodology.

4. Preparation for 3rd JCC

- **Agenda and main topics / Chairpersons and Participants list / Candidate date etc.**

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

I agree with the agenda proposed by the expert.

Firstly, can we fix the date because we will report to the committee to schedule as a plan?

Secondly, although the person who will report on the project's progress is Dr. Viengnam DUANGPHACHAN in the agenda, normally, when we hold a meeting, the reporter should be the department's Director General if the minister is a chairperson. If the vice minister is a chairperson, the reporter should be the department's Deputy Director General. It can be Ms. Visaphone or me following the protocol.

Thirdly, regarding the agenda, it includes outputs 1,2,3, and 4. It's quite a lot. When we make a presentation material, please make it short, and if possible, we should make the order following output 1,2,3,4.

Fourthly, regarding the GISPF, can the participants have a trial use on the meeting day? There may be a lecturer from the university to participate. So, it is a good opportunity to have a trial/demonstrate use.

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

We expect the demonstration to be directly accessed. The participants would access directly to GISPF by their smartphones.

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI

I want to comment on the time and the topic to be presented. It should be a match because, in the actual meeting, we must control the time and, if possible, would like to have the document or report to us in advance about the presentation's content.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

The Lao side will give all the presentations, which we must prepare with experts. We will present this time, and the experts will add additional information. The presentation will be in the Lao language, and I will propose experts' team modify the agenda more.

5. Announcements MPWT/UMP Facebook

Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning

Who manages the FB page? Each ministerial Facebook page has a specific regulatory sector. For example, MPS's Facebook page is managed by MPSTV, and MPWT Website is operated and maintained by the ICT division.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Can we assign the same person of GISPF as DHUP, PTI, and DPWT?

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

It depends on that where the center will be located.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

We can discuss it more later.

Mr. Yuta AIHARA, JICA Expert

The same person is suitable.

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

When the interview, ask who or which section is responsible for their Facebook page management.

Mr. Yuta AIHARA, JICA Expert

I need to specify who is responsible for Facebook page O&M.

6. Next WG

Next 37th Urban WG will be on 18th July 2023. The start time will change from 9:30 am.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants (Total: 23)

WG Leaders (2):

Mr Chanthavangso OUDOMDETH, Deputy Director General / PTI *Online

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

List of participants (11):

DHUP (4)	- Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning - Mr. Thavisak PHENGMAHA, Technical staff, Division of Urban Planning
PTI (3)	- Mr. Bouavanh LUANGXAY, Director Division - Mr. Somchit CHERSUANTHOR, Technical staff - Ms. Phattharavady OUDOMDETH, Technical staff
DPWT (2)	- Mr. Phouvang VIENGWILAY, Deputy Director, Division of Housing-Urban Planning and Environment - Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
JICA Project Team (11)	- Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant - Mr. Vilaysak Hakpasith, JICA Project Assistant - Mr. Chayyang CHUVEA, JICA Project Assistant - Mr. Vanxayxiong NAOLORXIONG, JICA Project Assistant
JICA Laos Office (1) (Observer)	- Mr. Kingsada SIPHANTHONG, Program Officer
JICA HQs (0) (Observer)	

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 37th WG on Urban

Friday, 21st July 2023, 9:30 – 11:30 AM at DHUP Meeting room/ZOOM

I. Objectives

- To confirm the progress of development and data collection for GISPF
- To confirm the progress of Area Conceptual Planning (Participatory approach) / UP-WT
- To prepare for the 3rd JCC
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by the leader of WG
2. Confirmation of MM for previous WG
3. Preparation for 3rd JCC
4. Q and A
5. Monitoring report on the development and Data collection for GISPF
6. Progress of UP-WT activities
Status of Pilot Project F/S and future direction
7. Q and A
8. Next WG
9. Closing

III. Documents

- Agenda No. 2, 3, 5, and 6; (Data sharing) Presentation PPT
- Minutes of the previous WG

IV. QA and Discussion

1. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

Regarding the Area Conceptual Plan, the Urban WG member confirmed the scope of the Area Conceptual Plan. The leader concluded with three points:

1. JICA project can conduct the activities following the scope and project.
2. It is getting approval as a community plan by counterpart in the future.
3. The planning activities must be in line with urban plan law.

Regarding the 3rd JCC meeting, unfortunately, it is delayed. We will discuss the agenda to update and materials as Mr. Chanthavangso's request. I have already shared all the JCC material in the DropBox folder.

Regarding GISPF data collection, we finally obtained EDL dataset, but DoL dataset still remains, which Sub-WG members would report. Therefore, we should make more effort to get

cooperation with other sectors, as Urban WG leaders concluded. Also, the consultant team is ready to demonstrate the website. Moreover, Mr. Matsui will report on the next stakeholder meeting and the progress of the discussion on the pilot project today.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

How is the MOU with MONRE for data sharing?

Mr. Somchit CHERSUANTHOR, Technical staff

Let me briefly report on the collected dataset as below.

Data source	Content	Status
Water Supply State Enterprise	Water supply pipeline and fire hydrant	Collected
EDL	Transmission line, electric line, and substation	Collected
DoL	(To be identified)	Ongoing

Although DoL agreed to give us the dataset in the technical meetings on 10th of May and 12th of July, they requested again to send the official letter with the list of required data. Mr. Vasaly is preparing the document to send it to them. In addition, DoL needs data from MPWT as well. We will discuss it with the DG of both parties later.

2. Preparation for 3rd JCC

- **Modified Agenda and Participants list**
- **Outline of material contents: Overview / GISPF Progress and Demo / Area Conceptual Plan (Proposal) / Priority activities & projects (Proposal) / Others**

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Let's determine the date for the 3rd JCC meeting. Even if we set the date, if the higher-level assigns other work to the chairperson, they must prioritize it. The working method of the Lao PDR is that we cannot fix the date for the chairperson, but they will set it in their plan. Let's select a date first, so that we can work conveniently. On the day of the meeting, if the chairperson is not available, the person who attends will be the chairman. Second, based on the participants in the last JCC meeting, I would like to increase the time of the discussion session from 45 to 60 minutes. I suggest combining the agenda of reporting on UMP and UWG into one, with Mr. Chanthavangso as a brief presenter.

Ms. Tomoko YAMAMOTO, JICA Expert

Experts side agree to combine UMP and UWG reports. Could Lao side assign a presenter?

Mr. Chanthavangso OUDOMDETH, Deputy Director General

I agree with Mr. Nalongxay.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

We can put the name of Mr. Chanthavangso. If not available, it would be me as the second; if not again, it would be Ms. Visaphone as the third. We don't need to fix it. How is the date?

Ms. Tomoko YAMAMOTO, JICA Expert

Urban Promotion Working Team will hold an area conceptual plan stakeholder meeting on the 24th. In addition, we would like to explain our progress briefly to the Vice Mayor and Vice Minister in advance. Thus, the 3rd JCC meeting would be 31st of July or the 7th or 8th of August as the first candidate.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Please fix the date. Then, the Deputy Minister and Director General can set the plan. I suggest the 8th of August. If the higher-level assign something new to the Vice governor or the Vice Minister, it become higher priority than the date we fixed.

Ms. Tomoko YAMAMOTO, JICA Expert

We will select the 8th of August. We plan to explain Dr. Viengnam as project director on the 24th, we will propose to have the pre-meeting with the chairperson who are Vice Mayor and Vice Minister, and the date.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Regarding Output4 (Building Code), first, Ms. Visaphone has already returned, so she can continue working on the building code, or I can join sometimes if she is unavailable.

Second, we have held a few meetings on building codes. We have yet to receive some of the data, especially from the association of architects, to which the DG already submitted the letter. If they want to offer the data for us, they will do that, but if they do not, we can skip it. Moreover, I propose preparing the internal meeting report for the ministry after receiving oral and written comments from related sections. Then, we can hold an open meeting nationwide. The Minister will be able to approve it so that it can be implemented because this legislation is a decision of the Minister, which step must go through a nationwide open meeting, especially the other sectors related to housing and urban planning. After going through the nationwide open forum, we should modify and propose BC to the minister for signature by the end of 2023 because our project will be until 2024.

Thus, four documents must be prepared:

1. The Summary report of the DG regarding the Lao building code (4-5 pages)
2. The complete draft building code with annexes
3. The presentation
4. The question for making participants discuss the point.

All documents for the meeting must be prepared for around 35 participants. After preparing, we ask for one original so that the department will make a report to the minister to bring to the meeting. If approved, then it can be brought to the forum.

3. Monitoring report on the development and Data collection for GISPF

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Regarding GISPF data collection, please continue it. Experts, please report to me directly and don't wait for the next Urban WG to speed up the progress.

Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

Mr. Viengkhone, ICT division has already requested LANIC to register the domain. We are waiting for registering the subdomain now. We must monitor the progress.

Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment

DPWT has participated in each meeting. If GISPF can be completed, it will be best for entrepreneurs and businesspeople to access and use MPWT 's data. It will be the most useful in applying for various construction permits, especially knowing the extent of land use and what kind of construction can be built. I agree with experts on the manual for issuing construction permits because I discussed it with experts before coming to the meeting. Regarding the JCC, I have no comment.

4. Progress of UP-WT activities

Status of Pilot Project F/S and future direction

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

We are discussing with JICA on the pilot project. We need consensus from our counterparts. We won't have a hard component facility project such as pavement construction and we will research Urban Collaborative Development activity. Through discussion, we have some difficulty in implementing the pilot project in the area. The difficult part is cooperation and funding from private sites. We need to study more about the matching between the public and private sectors. We must clarify the public's needs, private's demands, and the issues. We plan to categorize the type of Urban Collaborative Development and include this study activity in the guideline for the future implementation of Urban Collaborative Development.

5. Next WG

Next 38th Urban WG will be on 22nd August 2023. The start time will change from 9:30 am.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants (Total: 19)

WG Leaders (2):

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI *Online

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

List of participants (11):

DHUP (1)	- Mr. Dao KEOSUKAN, Director, Division of Urban Planning
PTI (2)	- Mr. Bouavanh LUANGXAY, Director Division - Mr. Somchit CHERSUANTHOR, Technical staff
DPWT (1)	- Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
JICA Project Team (11)	- Mr. Tetsuji GOTO, JICA Senior Adviser / Expert - Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Akihito MUTO, JICA Expert (Nippon Koei Co., Ltd.) - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant - Mr. Vilaysak Hakpasith, JICA Project Assistant - Mr. Chayyang CHUVEA, JICA Project Assistant - Mr. Vanxayxiong NAOLORXIONG, JICA Project Assistant
JICA Laos Office (2) (Observer)	- Mr. Shunichiro HAYASHI, Project formulation Adviser - Mr. Kingsada SIPHANTHONG, Program Officer
JICA HQs (0) (Observer)	

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 38th WG on Urban

Wednesday, 23rd August 2023, 9:30 – 11:30 AM at DHUP Meeting room/ZOOM

I. Objectives

- To confirm the progress of development and data collection for GISPF
- To confirm the progress of improvement of Construction Permit Management System
- To coordinate the 4th and 5th UMP meeting
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by the leader of WG
2. Confirmation of MM for previous WG
3. Quick Review the 3rd JCC
4. [OP1] Coordination for the 4th and 5th UMP meeting
5. Q and A
6. [OP1] Monitoring report on the development and Data collection for GISPF
7. [OP2] Progress and way forward of Improvement of Construction Permit Management System
8. Q and A
9. Next WG
10. Closing

III. Documents

- Agenda No. 2, 3, 4, 6 and 7; (Data sharing) Presentation PPT
- Minutes of the previous WG

IV. QA and Discussion

1. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

Thanks to your cooperation, the 3rd JCC meeting has been successfully done, which Mr. Matsui will review later. The previous UrbanWG addressed the JCC preparation.

Regarding GISPF, we are still collecting agreement to publish the obtained data, which Mr. Uchida and SubWG members will explain.

Regarding the Area conceptual plan, we don't have a Hard component facility project, including pavement construction, as Mr. Matsui and Mr. Desa mentioned in the JCC. Instead, we will research Urban Collaborative Development activity, which Consultant team and JICA headquarters have been discussing.

2. Quick Review the 3rd JCC

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

The main point of discussion in the JCC is the sustainability of the Project's outputs after completion. So, Counterparts need to learn more through technical cooperation activity.

By the way, let me report on the planned third-country training for Output 4 in Singapore cancelled since the host agencies rejected our request of training.

3. [OP1] Coordination for the 4th and 5th UMP meeting

Ms. Tomoko YAMAMOTO, JICA Expert

We would like to propose the concept of the next Joint plan for 4th and 5th UMP. The common theme is 'Open Urban Development in Vientiane ~ Give it a go, GISPF~' and the candidate dates are; 4th UMP/ Open Seminar on 26th Sep (Tue), 5th UMP/ Open Lecture on 28th Sep (Thu).

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Can we combine 4th and 5th UMP meeting on the same date? Who is the target group of citizens?

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

Each UMP meeting has a different target; the 4th UMP is an open seminar formal for citizens including private sector, and the 5th UMP is an open lecture casual for students.

The 4th UMP's target groups are the district office in Vientiane Capital, the private sector, and the agencies from whom we will execute their agreement to publish the data on GISPF. We would invite about two representatives from each district. Could Mr. Nalongxay and Mr. Chanthavangso preside at the meeting for 4th UMP?

→ **Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

We will plan the 4th UMP on 26th, 5th UMP on 28th.

Mr. Chanthavangso OUDOMDETH, Deputy Director General

How do you select participants of 4th UMP (Public seminar)?

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

Village leader or district would choose the representative. For the private sector, let's ask Vientiane Capital Chamber of Commerce and Industry, invited in previous UMP.

→ **Mr. Chanthavangso OUDOMDETH, Deputy Director General**

Could you consult with the Architects' Association who knows and manages construction companies?

Ms. Tomoko YAMAMOTO, JICA Expert

I will consult with Mr. Matsui and contact them.

Mr. Chanthavangso OUDOMDETH, Deputy Director General

How do you choose the school?

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

Is there any candidate school?

Ms. Larphet DOUANGKHEMTHORNG, Deputy Director, Division of Urban Planning

Regarding the agenda of the 4th UMP meeting, I recommend reducing the presentation time up to 15 minutes per presentation but increasing the discussion section. 25 minutes are not enough for some participants, who wanted but couldn't give more comments in the previous meeting.

Choosing a high school, How's Nong Douang High School as a candidate? Because I know the contact person, who is a potential coordinator to ease the coordination.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

The presentation time depends on the subject and content. If it is too short, people cannot understand the content. What grade of the high school student would be?

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

How is eighteen year old student?

By the way, can we hold weekly coordination meeting on Monday or Tuesday in September?

→ **Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

Every Monday is OK. Coordinators, please confirm the time in the Morning or afternoon.

Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning

High school students may not be as deeply aware of urban development and urban planning as university students. They may not know what to use at the secondary level. Therefore, I recommend university students.

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

In the case of Japan, university student has already chosen their future, but High school students are considering their major. So, they may be more suitable in this case. We can invite university students as a volunteer to join an open lecture.

→ **Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

University students have already chosen their profession, so high school students are better because they are considering their careers.

Is Nong Douang high school, okay? What about Vientiane High School?

→ **Mr. Chanthavangso OUDOMDETH, Deputy Director General**

I have no problem choosing any school as a basis first. If we see good results and have a budget, we would continue lecturing more in the future.

Ms. Tomoko YAMAMOTO, JICA Expert

Mr. Matsui, who do you want to assign as a person in charge of the 4th UMP coordination from your assistant?

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

Ms. Thodsakhone, Mr. Chayyang, Mr. Vanxayxiong, and Mr. Vilaysak are all OK.

4. [OP1] Monitoring report on the development and Data collection for GISPF

<Corporate Color and Logo of GIS-PF>

Mr. Bouavanh LUANGXAY, Director Division

I agree to choose "VirGo." We should not choose the same name as others, such as LUX, as a soap brand name.

Mr. Chanthavangso OUDOMDETH, Deputy Director General

1. I agree with choosing "VirGo", but when we explain the reason, I don't want an expert to present it as an astrological symbol because they will say that we believe in faith.
2. I like the 3rd pattern, Blue and Green wave
3. If we show the flower as a symbol of the nation, we should put the color of the flower, such as light yellow.

Ms. Larphet DOUANGKHEMTHORNG, Deputy Director, Division of Urban Planning

I agree with choosing "VirGo" and the 5th pattern with the word "LAOS" at the top because we are going to expand to other provinces, but for the letter "O" of "VirGo," I want to put it as a globe with an urban map.

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

I would revise as recommended.

Mr. Thavisak PHENGMAHA, Technical staff, Division of Urban Planning

Can I propose a new logo design as a candidate?

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

We should not imitate other logo maps. I will revise to the best version and send several candidates for design in WhatsApp.

Ms. Tomoko YAMAMOTO, JICA Expert

Mr. Matsui, please indicate the deadline to choose it in WhatsApp.

Mr. Yuta AIHARA, JICA Expert

Mr. Matsui, why don't you ask a Subcontractor to design the logo?

They can update your idea to be better. Usually, in Japan, companies or governments outsource logo design.

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

The logo should be proposed by us, not the IT company. It is better to design through discussion.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

The logo abbreviation should relate to our project. Don't use anything irrelevant to the project. If we start from Vientiane, we should start from "Vientiane" first. If we put Lao PDR within the title but not yet to get information on another province, we would receive many questions from people.

By the way, green and blue as the main colour is OK. Don't put a lot of colours confusing us. It must be easy to remember. Please research more for combining Mr. Thavisak's idea, then design three candidates for selection again.

< Data collection for GISPF >

Ms. Tomoko YAMAMOTO, JICA Expert

In conclusion of Mr. Uchida's presentation, we should have a meeting to confirm the policy of publishing data until the middle of September.

→ **Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning**

The experts want to confirm whether we can use the dataset for dissemination. We should hold a joint meeting between the owners of the dataset to reconfirm what kind of data we can publish and what kind of data we only use in technical staff work. And then, we will take a Minute of the Meeting not to repeat the same work many times. We should invite them to a meeting and decide when.

→ **Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

It is better to meet with the data source agency to confirm the publication policy.

→ **Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

I agree to hold a meeting with them.

Mr. Chanthavangso OUDOMDETH, Deputy Director General

I think the electricity or water supply dataset is public information, so we should modify the dataset after getting it from other agencies. For example, we adjust to exclude water pipe data connected to important places such as government offices. In addition, we should add the water intake point of the fire hydrant, as presented at the JCC meeting by the fire department.

5. [OP2] Progress and way forward of Improvement of Construction Permit Management System

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

The guidelines should also be written in Lao language, and the procedures should follow the existing regulations.

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

I agree with the expert's presentation because we have worked closely with the expert. Therefore, I will continue discussing further.

6. Next WG

Next 39th Urban WG will be on 20th September 2023. The start time will change from 9:30 am.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants (Total: 20)

WG Leaders (2):

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI *Online

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

List of participants (11):

DHUP (3)	- Ms. Larphet DOUANGKHEMTHORNG, Deputy Director, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning - Mr. Thavisak PHENGMAHA, Technical staff, Division of Urban Planning
PTI (3)	- Mr. Bouavanh LUANGXAY, Director Division - Mr. Somchit CHERSUANTHOR, Technical staff *Online - Ms. Phattharavady OUDOMDETH, Technical staff *Online
DPWT (2)	- Mr. Phouvong VIENGWILAY, Deputy Director, Division of Housing-Urban Planning and Environment *Online - Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment *Online
JICA Project Team (9)	- Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project Assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant - Mr. Chayyang CHUVEA, JICA Project Assistant - Mr. Vilaysak Hakpasith, JICA Project Assistant
JICA Laos Office (1) (Observer)	- Mr. Shunichiro HAYASHI, Project formulation Adviser
JICA HQs (0) (Observer)	

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 39th WG on Urban

Tuesday, 19th September 2023, 9:30 – 11:30 AM at DHUP Meeting room/ZOOM

I. Objectives

- To confirm the progress of development and data publication for GISPF
- To confirm the progress of improvement of Construction Permit Management System
- To coordinate the 4th and 5th UMP meeting
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by the leader of WG
2. Confirmation of MM for previous WG
3. [OP1] Coordination report of the 4th and 5th UMP meeting
4. [OP1] Monitoring report on the development and Data publication for GISPF
5. Q and A
6. [OP2] Activity report of Construction Permit Management System
7. Q and A
8. Next WG
9. Closing

III. Documents

- Agenda No. 2, 3, 4 and 6; (Data sharing) Presentation PPT
- Minutes of the previous WG

IV. QA and Discussion

1. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

In the previous meeting, we discussed three main topics:

1. Regarding the 4th and 5th UMP coordination, we decided to have the 4th UMP on 26 September as an open seminar and the 5th UMP on 28 September as an open lecture. We finally selected Vientiane High School for the 5th UMP because Nongduang High School is outside GUP. The coordination teams already discussed it with Vientiane High School. The school agreed that we could hold the 5th UMP meeting at the school.
2. Regarding the GISPF development and data collection, we agree to select “VirGo” as the name for the GISPF. We already had a joint meeting with data providers to confirm data publishment. We will have a detailed report later.
3. Regarding the improvement of construction permit management system, Mr. Matsui will report on the progress of the activity later.

2. [OP1] Coordination report of the 4th and 5th UMP meeting

<Pre-meeting with Vice mayor>

Ms. Tomoko YAMAMOTO, JICA Expert

I would like to ask DPWT about the coordination progress for Vice Mayor pre-meeting.

→ **Mr. Sonpaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment**

I received the draft official letter from the project assistant and am modifying it. Then, I will request the Director General of DPWT to sign it by today and I will send it to the Cabinet Office of Vientiane Capital by tomorrow.

Ms. Tomoko YAMAMOTO, JICA Expert

Can we hold the Vice Mayor meeting this week or later after the 4th UMP meeting?

→ **Mr. Sonpaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment**

I will confirm the vice-mayor 's schedule with his secretary first.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Mr. Sonpaseuth should call Vice Mayor's secretary and prepare an official letter at the same time.

→ **Mr. Sonpaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment**

I have already called his secretary, Mr. Somsanouk. I will send him the official letter and agenda after getting the signature of DPWT 's Director General.

Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant

I heard that the Vice-mayor would go abroad on 26th September.

< Coordination report of the 5th meeting>

Ms. Tomoko YAMAMOTO, JICA Expert

Should we send the 5th UMP invitation letter and how can we prepare it?

→ **Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

DHUP has already issued the official letter for a pre-meeting with Vientiane High School. We should meet with Vientiane High School and send them the material before the 5th UMP. We should prepare students' and teachers' water and snacks.

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

The coordination team will prepare the material and check the venue before 5th UMP.

Ms. Tomoko YAMAMOTO, JICA Expert

Does the Lao protocol permit no chairperson for the 5th UMP but just deputy directors of division as facilitators and moderators?

→ **Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

Yes, because teachers are not directors.

< Coordination report of the 4th meeting>

Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning

We should make an agenda for the presentation of Professor Ph.D. Bounleum SISOULATH.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

He is so significant as an adviser to MPWT 's minister and the chairperson of the Council of Lao Architects and Civil Engineers. So, he should have an agenda for comment about 10 minutes before my conclusion agenda. Mr. Vasaly will coordinate with Ph.D. Bounleum SISOULATH. We should confirm participant lists and materials again before the 4th UMP meeting.

3. [OP1] Monitoring report on the development and Data publication for GISPF

Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

I have two discussion topics:

1. The joint meeting's Minute of Minute with the signature of participants.

*The WG confirms that the level and scope of publication of each of data is described in this MM and is considered an approved document.

2. To change the domain name for VierGo.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

I am checking and will sign the Minutes attaching the participant lists including their signature we collected already. I need to understand clearly about changing the domain name.

→ **Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

The subcontractor company suggests changing the domain name to the same as the website's title, 'Virgo,' because the difference between the title and domain names will confuse the user. But in my opinion, we don't need to change.

Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning

If we change the domain name now, it will not be in time for the 4th UMP meeting because the ICT division process takes quite a long time. So, in technical terms, could it link to the domain name as 'Urbangis' if we search as 'Virgo'? Could we change the 'Virgo' title of the website to another in the future?

Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

I am unsure whether the domain name affects the Google link so I will ask the subcontractor company and Mr. Aihara.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Let experts consult with the subcontractor company for more information on the reason to change the domain name. We cannot decide this now.

Ms. Tomoko YAMAMOTO, JICA Expert

We will ask the subcontractor company and Mr. Aihara again. We should keep this domain name for the 4th UMP.

What about the publication level of the transportation sector's data?

→ **Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

Mr. Sonpaseuth has already confirmed the publication level with the Department of Transportation. I will obtain the approval letter for publication with the Department of Transportation. *It was later confirmed that transport data is also mentioned in the MM of the Joint Meeting and the separate approval letter was not required to be obtained. However, as a result of discussions within the C/P, the village boundary data would not be disclosed at this time

(4th and 5th UMP) as it would need to be confirmed with the Lao National Geographic Department.

4. [OP2] Activity report of Construction Permit Management System

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Construction Permit Management System is not a program, just a folder directory, right? How do we see and input the land data?

→ **Mr. Sonpaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment**

Searching the name in ArcGIS, we can see all the data, such as location, which urban planning zone the house is in, and the company who designed the house. We will scan the data into the system after the approval of the construction permit. Previously, just one technical staff member responded to input the data into the system, which took a lot of work. We want to make the system links, which means that any technical staff's PC can link to the server PC. Previously, we collected the data in paper based. Sometimes, we couldn't find the data. Therefore, we started using the server PC in 2020 to collect data. It will be good if the JICA project supports improving the construction permit management system. Previously, OPWTs also collected the data, but it was paper based. When we had a report to the Vientiane capital on the number of constructions permits, it encountered difficulties because the data of OPWTs didn't match. After this system is complete, we will continue disseminating it to OPWTs to use data linked to each other.

Ms. Tomoko YAMAMOTO, JICA Expert

After the Project completion, this kind of code will officialise and help disseminate the system to be nationwide in the future. The code of construction and land use data this sector's digitization.

< **Banhao newsletter** >

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

1. We should write 'Virgo' in the full name. so, people can understand easily.
2. Please change/confirm the photo of the vice minister to an official photo or a suitable one.
3. Please change the font of the Lao text to Phetsarath OT.

5. Next WG

Next 40th Urban WG will be on 24th October 2023. The start time will change from 9:30 am.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants (Total: 16)

WG Leaders (2):

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI *Online

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

List of participants (11):

DHUP (3)	- Mr. Dao KEOSUKAN, Director, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning - Mr. Thavisak PHENGMALA, Technical staff, Division of Urban Planning
PTI (1)	- Ms. Phattharavady OUDOMDETH, Technical staff *Online
DPWT (1)	- Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment *Online
JICA Project Team (9)	- Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project Assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant - Mr. Vanxayxiong NAOLORXIONG, JICA Project Assistant - Mr. Vilaysak Hakpasith, JICA Project Assistant
JICA Laos Office (0) (Observer)	
JICA HQs (0) (Observer)	

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 40th WG on Urban

Tuesday, 24th October 2023, 9:30 – 11:30 AM at DHUP Meeting room/ZOOM

I. Objectives

- To review UMP meeting and confirm the ways forward
- To confirm the progress and ways forward for OP3 activities
- To confirm the progress of GISPF development and O&M
- To find the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by the leader of WG
2. Confirmation of MM for previous WG
3. [OP1] Review UMP#4#5 and way forward and Quick Report of LNUF/NUOL Science Day
4. Comments and Discussion Q and A
5. [OP3] Progress and way forward of OP3 (Conceptual plan, Strategy, Action Plan, Guideline)
6. Q and A
7. [OP1] Monitoring report and Training plan for O&M (TOR etc..)
8. Q and A
9. Next WG
10. Closing

III. Documents

- Agenda No. 2, 3, 5 and 7; (Data sharing) Presentation PPT
- Minutes of the previous WG

IV. QA and Discussion

1. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

<UMP>

The previous WG mainly discussed the 4th and 5th UMP meetings. Finally, CDUDCP has successfully done them. Vice Mayor appreciated for UMP and VirGo, which will help citizens and government officers and agreed to disseminate them to citizens and even students.

<GISPF>

The joint meeting succeeded in the approval of data publishment. In the 4th UMP, Mr. Matsui suggested issuing the official document, which clarifies the scope and responsibility and helps information security. In addition, Mr. Uchida will report on the domain migration and village

boundary data to publish. Let us know if SubWG has contacted National Geographic Department already or what is the plan.

<Construction permit>

It is making good progress, we will skip its topic today.

<BanHao Newsletter>

Since Vice Mayor and Vice Minister have already confirmed to put their portraits in the newsletter, it is ready to print after final checking by C/P.

2. [OP1] Review UMP#4#5 and way forward and Quick Report of LNUF/NUOL Science Day

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Regarding the National University Day in November, can the Project exhibit events?

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

Yes, it is for publicity. But we would expect C/P's ownership for this exhibition. The Project resource is limited, but Ms. Phanida can join you as the coordinator on this if C/Ps are interested in.

→ **Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

How much is the budget for this event?

→ **Mr. Yuta AIHARA, JICA Expert**

I don't know the scale of the event and the booth fee. It is reasonable to join this event if it effectively disseminates our project activity and the VirGo website. Let me consider how much we can contribute.

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

We have posters, standees, backdrop, leaflets, stickers in stock. Let me request Mr. Dao to assign someone from DHUP as a coordinator for this event if you are interested in.

→ **Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

It doesn't cost that much because we already have all the materials. Mr. Dao is interested in this event as a good opportunity.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

This and next year, Laos will be the chairman of ASEAN. Around November 7-10, MPWT will host the ASEAN Transport Conference in Luang Prabang, and they will invite DHUP to participate. Is our project interested in this event?

We will not attend this event because we have no budget. If the CDUDCP project is interested in this event, it is a good opportunity for us to expand our project to Asia. I will send you the invitation letter from MPWT. This event is for 200 people and has many booths. Our project should be one of the options.

→ **Mr. Yuta AIHARA, JICA Expert**

Let me consult with the experts' team and calculate expenses.

<Monitoring sheet>

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

We formulated a monitoring sheet Ver. 4, from March to August 2023. We need to submit it to the JICA Lao office every six months. The Lao side should develop the report, but we have already drafted and submitted it to the JICA Laos Office. We will share it with Dr. Viengnam, the Project director.

3. [OP3] Progress and way forward of OP3 (Conceptual plan, Strategy, Action Plan, Guideline)

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Collaborative Urban Development activity implementation is not easy, but it is a good opportunity to encourage the private sector to be involved in urban development. Please continue following the plan; if there is any problem, please discuss it together.

Ms. Tomoko YAMAMOTO, JICA Expert

OPWT expected a pilot project, such as a physical construction project, but now we are conducting a pilot study. We discussed it in UPWT, and Mr. Desa PHOMMASAK understood this situation now.

Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

In the last JCC, everyone agreed that we shifted a hard component facility project to a pilot study. Although Mr. Desa proposed a pavement construction project, the time is limited, so we rejected this proposal.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

I want everyone to understand that this project is a capacity-building project, not a construction project.

Mr. Dao KEOSUKAN, Director, Division of Urban Planning

I propose creating a General Management Regulation of 523ha pilot area and Subdivision for Urban blocks for MPWT to study further.

→ Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

I cannot imagine what kind of regulation it is. However, we can discuss this.

→ Ms. Tomoko YAMAMOTO, JICA Expert

It is not only regulation but also a proposal from CDUDCP to DPWT/OPWT, such as how landowners follow the concept plan when they submit construction permits. We will discuss it.

4. [OP1] Monitoring report and Training plan for O&M (TOR etc..)

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Regarding GISPF, many details still need to be updated. Mr. Vasaly will support filling the member list of VirGo Operators. DDG is suitable for Information Manager.

Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning

1. I want the administration department to participate in training session #3 because they are related to budget planning.
2. I want DPWT to find more technical staff to participate in training session #3.
3. After the project is completed, the information on GISPF must be updated at least once a year. Therefore, a joint meeting with the data supplier must be held annually.

→ Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

We will discuss the inside of DHUP first.

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

I want three counterparts to work together, train to understand, and re-evaluate to ensure knowledge transfer to other technical staff. I request experts to prepare enough computers for the trainees.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

I request experts create a manual book for O&M of GISPF. I want counterparts to update the information as ownership before handing the GISPF to the Laos side.

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

During the project, Experts team can support.

5. Next WG

Next 41st Urban WG will be on 21st November 2023. The start time will change from 9:30 am.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants (Total: 21)

WG Leaders (2):

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI *Online

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

List of participants (11):

DHUP (2)	- Mr. Dao KEOSUKAN, Director, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning
PTI (2)	- Mr. Somchit CHERSUANTHOR, Technical staff*Online - Ms. Phattharavady OUDOMDETH, Technical staff *Online
DPWT (1)	- Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment *Online (Leaving midway)
JICA Project Team (12)	- Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Mizuho INUKAI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assitant - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project Assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant - Mr. Vanxayxiong NAOLORXIONG, JICA Project Assistant - Mr. Vilaysak Hakpasith, JICA Project Assistant
JICA Laos Office (2) (Observer)	- Mr. Shunichiro HAYASHI, Project formulation Adviser (Leaving midway) - Mr. Kingsada SIPHANTHONG, Program Officer
JICA HQs (0) (Observer)	

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 41st WG on Urban

Tuesday, 21st November 2023, 9:30 – 11:30 AM at DHUP Meeting room/ZOOM

I. Objectives

- To confirm the progress of development and O&M for GISPF
- To confirm the progress of OP3 activities
- To discuss the way forward UMP meeting
- To find the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by the leader of WG
2. Confirmation of MM for previous WG
3. [OP1] Monitoring report and Training plan for O&M (TOR etc..)
Handover VirGo to C/P
4. Comments and Discussion
5. [OP3] Progress report of OP3
Result of questionnaire and preparation for the seminar on pilot study
6. Q and A
7. [OP1] Concept of the next UMPs
8. Q and A
9. Next WG
10. Closing

III. Documents

- Agenda No. 2, 3, 5 and 7; (Data sharing) Presentation PPT
- Minutes of the previous WG

IV. QA and Discussion

1. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

The previous Urban WG discussed the topics of OP1&3, a review of the UMP, National University Day, and the Asian senior public works and transportation conference that we provided the poster to exhibit in the venue, which I guess was successfully done.

<OP3>

We discussed the road network in the subdivision blocks.

<GISPF>

Mr. Uchida proposed an O&M structure for the counterparts. In addition, we discussed the training program and the participants for training session#3. We agreed to invite the ICT division,

but I am not sure whether the administration department is suitable for this training or not because it is quite technical. Mr. Uchida will provide detailed information on training session#3 later. Experts agreed with Mr. Vasaly 's proposal to hold joint meetings with data providers at least once a year. Mr. Chanthavangso proposed to prepare enough computers for the training. The consultant team prepared computers and tablets for each sector and it is enough for this time, but if you still need any equipment, you can contact experts in advance. Regarding the O&M manual book, Mr. Uchida will prepare and describe more detail in the training session.

2. [OP1] Monitoring report and Training plan for O&M (TOR etc...)

Handover VirGo to C/P

Mr. Chikara UCHIDA, JICA Expert

I would like to ask Mr. Vasaly on domain name migration status. Is it available or not?

→ Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning

I have already coordinated with Mr. Viengkorn. He asked LANIC to change the domain name. I think the issue that Innova Fortuna company cannot access a new domain name is a technical issue, so I request Innova Fortuna company to coordinate with Mr. Viengkorn directly.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Will we invite MPWT's ICT division to participate in training session#3? How many participants from the ICT division do we invite? We should send them an official letter.

→ Mr. Chikara UCHIDA, JICA Expert

We do not limit the number of participants from the ICT division but expect not many.

→ Ms. Tomoko YAMAMOTO, JICA Expert

We divided training session#3 into two sessions. The first session is for the ICT division and the second session is for only counterparts, so anyone from the ICT division can join.

→ Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning

First, I will inform the ICT division about training session#3 and then send them an official letter.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

What is the issue on the list of VirGo Operators?

→ Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning

I am waiting for the name list from PTI and DPWT.

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

Have three counterparts discussed and consensus on the list of Virgo Operators?

→ Mr. Somchit CHERSUANTHOR, Technical staff / PTI

We have discussed this.

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

We, PTI only have three technical staff (Mr. Somchit, Ms. Phattharavady, and Mr. Bounpon)

Mr. Somchit CHERSUANTHOR, Technical staff / PTI

I would like to ask Mr. Uchida if three technical staff from PTI are enough for the Virgo Operator.

→ Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

PTI can assign the same person for each role.

Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning

I want to build more personnel to learn together because the role of Virgo Operator is not too difficult. I suggest DDG to set the name list.

Should we nominate this name list as an agreement document or decide it at this meeting?

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Let's three counterparts discuss in detail first and then report to the Urban WG Leader.

Ms. Tomoko YAMAMOTO, JICA Expert

Regarding inviting the administration department to participate in a training session, I think we should have a small meeting and just explain the outline of Virgo to them during Mr. Uchida's stay in Laos.

What do you think, Mr. Vasaly?

→ **Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning**

I agree with you.

3. [OP3] Progress report of OP3

Result of questionnaire and preparation for the seminar on pilot study

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

The target respondents are 22 associations, but we got responses from 18 companies. Is it considered completely?

→ **Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

At first, we put the deadline on the 20th, but we expanded it to the 24th of this month to wait for more responses.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Which level will join the seminar?

→ **Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

The main participants are the urban promotion working team. Now we are considering who will be the chairperson for the opening and closing remarks. I would like to get your opinion for this seminar.

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

This pilot study is very important for the Lao side because such kind of urban collaborative development has never been done in Laos. I appreciate the project.

Regarding the questionnaire survey, I couldn't find ALACE and CLACE. Don't we need their opinion?

They are working on urban collaborative development and will continue to expand this work.

Regarding the seminar, now is the end of November, it would be good to hold it in the middle of December because we will have time for preparation. The technical staff from 3 C/Ps should join this seminar to learn the lesson from the experts to be able to use this knowledge in the urban development in Laos.

→ **Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

Now we sent the questionnaires to the LNCCI. They distributed it to 22 associations. Then, the associations distributed it to their company members. This week we will directly contact the association, mainly construction and design companies related to urban collaborative development.

We will contact both ALACE and CLACE to explain the scope of the pilot study and our project and collect their opinions.

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

We've invited ALACE to the 4th UMP meeting and may have their contact. Mr. Muto can ask Mr. Matsui.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Let's discuss in detail the format of the seminar with UPWT.

Urban Collaborative Development is new for our country. In Laos, only the government has invested. It is difficult for the public or private sector to participate. We also don't have any kind of decree or regulation on the PPP. Therefore, we encourage the project keeping continue work following the project's plan. We will fully support you.

<Progress of Construction Permit Management System Improvement>

Now, the Consultants team supports restructuring the current dataset. The base Map and Geodata are completed. The document structure is ongoing with a progress of 50%.

4. [OP1] Concept of the next UMPs

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Let's follow your schedule.

Don't you combine the 7th UMP and the 8th UMP?

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

I would like to discuss with Mr. Muto the 7th & 8th UMP. Regarding the 6th UMP, I know that we cannot disclose the building code itself, but citizens and private companies should know about building safety and the law of construction permits.

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

We understood the construction permit system well, but we don't know the progress of building code.

Regarding the guest speaker, Ms. Visaphone is suitable as a speaker on building safety. I would like Mr. Nalongxay or DPWT to be the speaker for the construction permit system because they are related to this work and may understand better than the university's professor.

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

We will discuss this with DPWT. The 6th UMP meeting discussion should be simplified because it is for the public.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

The concept of UMP is multi-stakeholder collaborative development. DPWT is appropriate for the speaker of the construction permit system, but they will explain what they are doing. What we want to do is to present ideas, improvements, and participation. We should make the theme for DPWT and remain a speaker from the university's professor.

→ **Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI**

I want Mr. Nalongxay to be a speaker on the importance of the construction permit system. If Mr. Nalongxay is unavailable, we will invite DPWT to be a speaker because we are related to this work and understand it well.

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

Let's discuss this on a detailed agenda.

5. Next WG

Next 42nd Urban WG will be on 19th December 2023. The start time will change from 9:30 am.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants (Total: 15)

WG Leaders (2):

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI *Online

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

List of participants (11):

DHUP (3)	- Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning - Mr. Thavisak PHENGMAHA, Technical staff, Division of Urban Planning
PTI (2)	- Mr. Somchit CHERSUANTHOR, Technical staff*Online - Ms. Phattharavady OUDOMDETH, Technical staff *Online
DPWT (0)	
JICA Project Team (8)	- Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Manyvone DUANGCHAK, JICA Project Assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant - Mr. Vanxayxiong NAOLORXIONG, JICA Project Assistant - Mr. Vilaysak Hakpasith, JICA Project Assistant
JICA Laos Office (0) (Observer)	
JICA HQs (0) (Observer)	

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 42nd WG on Urban

Tuesday, 19th December 2023, 9:30 – 11:30 AM at DHUP Meeting room/ZOOM

I. Objectives

- To discuss the way forward of UMP meeting: OP1
- To confirm the O&M manual for GISPF (VirGo): OP1
- To confirm the progress of Construction Permit Management System: OP2
- To confirm the progress of the Study on Collaborative Urban Development: OP3
- To find the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by the leader of WG
2. Confirmation of MM for previous WG
3. [OP1/VirGo] Monitoring report and Training and manual for O&M
Handover VirGo to C/P
4. Comments and Discussion
5. [OP2] Progress report of OP2
Draft of Operation Manual for Construction Permit Management System
6. [OP3] Progress report of OP3
Result of questionnaire and preparation for the seminar on pilot study
7. [OP1/UMP] Coordination of the 6th UMP
8. Q and A
9. Next WG
10. Closing

III. Documents

- Agenda No. 2, 3, 5, 6 and 7; (Data sharing) Presentation PPT
- Minutes of the previous WG

IV. QA and Discussion

1. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

Previous meeting mainly discussed 3 topics as:

<GISPF>

We need to regenerate the previous URL (urbangis.mpwt.gov.la) because we already distributed the old one in newsletters, flyers, tote bags, and many events. We asked the ICT division.

Regarding TOT (Hereinafter as Training of Trainer) for O&M, we had invited the ICT division to join the training based on the suggestion in the previous meeting, but due to their unavailability, they couldn't participate. However, we finally had a meeting with the MPWT's ICT division and

DHUP's Planning and cooperation division to discuss the domain name, the role of the Virgo and securing the budget.

Mr. Uchida will explain more detail the responsibility of the VirGo operation today.

We want to make sure of the securing of the budget for the maintenance of Virgo after the project is complete. I believe that our DG and DDG understand how important and how much we need to maintain this system.

<Pilot study (seminar)>

The seminar for the pilot study will be on this week, 22nd December. Regarding the chairperson's proposal last meeting, the consultant team coordinated with ALACE and CLACE to ask for their suggestions and opinions. Mr. Muto will report more details on the outline and participants of the seminar today.

<Next UMP>

We reached a consensus to invite Ms. Visaphone and Mr. Nalongxay as special speakers for the 6th UMP, but we need to confirm with them. We will continue to discuss this topic more today.

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

I confirmed this minute of the meeting. It is accurate as I want to communicate.

**2. [OP1] Monitoring report and Training and manual for O&M
Handover VirGo to C/P**

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

I would like Counterparts to confirm the name of Mr. Bouavanh on the VirGo's operator list should be Mr. Bounpone.

Regarding the TOT, I would like to ensure that counterparts understand well, and they can O&M of Virgo after the handover.

Do counterparts have anything still not understand?

→ **Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

I am determining their understanding through a questionnaire.

Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning

User correspondence replying to users when they have some issues should be more than twice a week.

→ **Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

Let me change it to every morning.

Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning

Regarding securing the budget, I have already discussed it with Mr. Nalongxay MYVAPADITH, Deputy Director General. DHUP submitted a budget application to MPI, but they rejected it. So, we will use DHUP's internal purchasing equipment budget, but this budget is limited. Dr. Viengnam DOUANGPACHANH, Director General will allocate the budget for the O&M of VirGo but we need an internal meeting in DHUP.

Ms. Phattharavady OUDOMDETH, Technical staff, Division of Technical Research on Civil Engineering and Transportation / PTI

Regarding the TOT, I can edit the style of the dataset. I want to have more training on dataset external use for ArcGIS or QGIS.

→ **Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

I can support you. Please write down in a questionnaire.

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

Ms. Phattharavady is an excellent trainee. I suggest counterparts to train for another technical staff.

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

Please coordinate next TOT further because PTI's technical staff has a plan to go to another province.

Ms. Tomoko YAMAMOTO, JICA Expert

Could Mr. Phouvong confirm the support staff from DPWT on the list of persons in charge of operating VirGo?

→ **Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment**

I agree with the list of people in charge of operating VirGo. Mr. Vientihane and Mr. Sinthanou can be the support staff.

3. [OP2] Progress report of OP2

Draft of Operation Manual for Construction Permit Management System

Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment

We were supposed to have the training session last week, but we couldn't. It moved to tomorrow morning. DPWT lacks PCs for operating the Construction Permit Management System. I want to know the status of the consultant team's PC allocation. The Permit Data Management System is not complete yet. We will discuss this with the consultant team further.

→ **Mr. Vanxayxiong NAOLORXIONG, JICA Project Assistant**

The consultant team is preparing two PCs for operating the Construction Permit Management System.

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

Let DPWT summarize the requirements for experts and send personnel to participate in training.

4. [OP3] Progress report of OP3

Result of questionnaire and preparation for the seminar on pilot study

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

Let's coordinate with the presenter and facilitator further.

→ **Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

Today we will discuss with Mr. Somchit and finalize the materials.

Ms. Tomoko YAMAMOTO, JICA Expert

Is there an interpreter in the discussion session?

→ **Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)**

We don't need an interpreter. If participants ask JICA site, our assistants will translate.

Ms. Tomoko YAMAMOTO, JICA Expert

Is Mr. Nalongxay available for this seminar?

→ **Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning**

I will ask him.

5. [OP1/UMP] Coordination of the 6th UMP

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

Let experts continue coordinating for the 6th UMP.

Many people may take leave and prepare to celebrate at the end of the year.

6. Next WG

Next 43rd Urban WG will be on 23rd January 2023. The start time will change from 9:30 am.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants (Total: 20)

WG Leaders (1):

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

List of participants (11):

DHUP (3)	- Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning - Mr. Thavisak PHENGMAHA, Technical staff, Division of Urban Planning
PTI (3)	- Mr. Bouavanh LUANGXAY, Director Division, Division of Technical Research on Civil Engineering and Transportation - Mr. Somchit CHERSUANTHOR, Technical staff, Division of Technical Research on Civil Engineering and Transportation *Online - Ms. Phattharavady OUDOMDETH, Technical staff, Division of Technical Research on Civil Engineering and Transportation *Online
DPWT (2)	- Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment - Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
JICA Project Team (10)	- Mr. Tetsuji GOTO, JICA Senior Adviser / Expert - Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project Assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant - Mr. Vanxayxiong NAOLORXIONG, JICA Project Assistant - Mr. Chayyang CHUVEA, JICA Project Assistant
JICA Laos Office (1) (Observer)	- Mr. Kingsada SIPHANTHONG, Program Officer
JICA HQs (0) (Observer)	

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 43rd WG on Urban

Thursday, 25th January 2024, 9:00 – 11:00 AM at DHUP Meeting room/ZOOM

I. Objectives

- To report of UMP#6: OP1
- To report and discuss the O&M for GISPF(VirGo): OP1
- To confirm the progress of Construction Permit Management System: OP2
- To confirm the progress of the Study on Collaborative Urban Development: OP3
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by the leader of WG
 - Greetings from Mr. Oguma and Mr. Aihara
2. Confirmation of MM for previous WG
3. [OP1/VirGo] Monitoring report and Training plan for O&M
4. Comments and Discussion
5. [OP2] Progress report of OP2
Draft of Operation Manual for Construction Permit Management System
6. [OP3] Progress report of OP3
Result and way forward of the seminar on pilot study.
7. Q and A and Discussion
8. [OP1/UMP] Breaking Report of the 6th UMP and way forward
9. Next WG
10. Closing

III. Documents

- Agenda No. 2, 3, 5, 6 and 7; (Data sharing) Presentation PPT
- Minutes of the previous WG

IV. QA and Discussion

1. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

Previous meetings mainly discussed the topics:

<GISPF>

We have successfully handed over VirGo to the counterpart, but as in the previous working group, the chairperson pointed out about the TOT that it needs to ensure that the counterpart understands well and can conduct O&M after the handed over. Today Mr. Uchida will evaluate the understanding of the technical through the questionnaire.

Regarding the budget for the O&M system, Ms. Larphet mentioned that DG would allocate the budget for VirGo, but it is not sure yet from this August.

For the progress of the OP2 (Construction Permit Management System) and OP3 (Result and way forward of the seminar on pilot study), experts will report more progress in today's meeting.

→ **Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning**

Regarding the budget, the Department of Planning has submitted to the Planning and Cooperation division of DHUP the proposal letter for using the administrative budget. Now it is waiting for the result of whether it will be approved or not due to the limitation of the budget, but we also attached the quotation for O&M after July (from August - December), it's around 1000 USD (23.000.000 kip) that they must allocate for O&M. As budget plan is set for year per year, and for 2025 we may draft budget plan for all year and propose the actual budget for O&M (around 3500 USD).

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

In terms of budget, PTI will be the main person for the training responsible. We may need to have training once a year, we should consider which sector is the target for training and how much budget we need for the training because DHUP must set a budget plan provided by MPWT if we plan late, we will receive the budget late or not at all. We should consider the budget for training as well.

2. [OP1/VirGo] Monitoring report and Training plan for O&M

Mr. Somchit CHERSUANTHOR, Deputy Director of the Secretariat of the Lao Council of Architects and Civil Engineers

Firstly, in the practical implementation, I would like to ask experts or three sectors to have a specific meeting to have a clear understanding and invite the board of Directors including the related person in charge to understand what each part must be responsible for. After that, conducting implementation, which I think will have good results.

Secondly, regarding training, so far experts have tried to make maximum effort in the training to ensure that their counterparts can use the system exactly after the project completion, and which counterparts are also very concerned about that. But it's good that we still have the manual that the project has given us. So, throughout the past period, we can see that this work is still very new, and each sector is also very busy, and it seems like We have not yet spent the full time trying to use the system. I see that if we operate the system ourselves, we can do it, but it may not be as efficient as that should be. Therefore, I propose that all three parties try to do it in practical terms, if we see where the issues are, then we must have more training. Thirdly, PTI will be the main person who responds to the training in the future. I want to exchange my opinion with experts that when we conduct the training at the local level as well as provincial, what further data will be gathered in the training if the training is conducted in Vientiane, we may have enough data, but do we need other data for the local level.

Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning

Based on the presentation by experts I think:

1) We should re-appoint the responsible committee, now it is still a general committee because the work is related to future management, it is necessary to have a board of directors and responsible persons. We must do the details especially, clearly divide the responsibilities because based on the plan we need to have daily reports on operating status and user correspondence lastly is about how much the budget is to be used for management must be specified as well and must make an agreement and the agreement must be approved by the minister.

2) regarding the operation manual, it is still a general manual. I would like to ask to technical to have a practical using it yourself first to know where the problem is and to see what point is not clear to propose to experts to help improve the manual and I would like to ask technical from three sectors to practical train in the part that you are responsible for, It is not necessary to practice everything because it may not go deep, I think it is enough to know and understand well the duties that that under the responsible. And about the working methodology I also propose to make a detailed plan of what to do each week and each month, and who the board of directors for monitor to be able to track and see where the problem occurs Therefore, it will make the experts confident that the Lao side can manage this system.

3) The important thing is for the experts to advise the Lao side that in case the system fails, what is the troubleshooting that we must do including data backup which is the key point of this system.

4) Regarding the trademark, we have discussed and proposed this thing to the board director, and they questioned whether it is necessary to have a trademark because it is quite a new thing for us as well. Connected to our system, is a public administration system. There is an application called GovX managed by the government and Virgo is also activated in that application as well. For the management in the future, do we need to have TOR or additional costs or any obligations between us and application developers?

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

The proposal by experts on the training is considered a good thing and I can see that the understanding of the system is more than 50 %, but it seems like PTI is needed to try more.

In terms of what we still do not understand about the system, I want to leave a question to the technical how we can get some knowledge from experts, which is three sectors must discuss more to see the issues and how we can ask for the support from the experts throughout 5 months before the project completion. Therefore, I would like to request that technical staff try to have practical use by following the manual provided for the project to see where a problem is still.

Following the proposal by Mr. Vasaly about the re-appoint board director for the system management, I considered it a good idea because it will be a reference for us to propose to a high level for acknowledgment, not only DHUP, PTI, and DPWT but also the leadership of the ministry must realize what we are doing. So, it is needed to have an appointment or let each party appoint themselves. It is necessary to have more discussion.

Lastly, we must plan for training at a local level as Mr. Somchit mentioned, what data should we gather in the training when PTI provided the training program on using GIS for construction management in Sekong province, we also introduce Virgo at the training, which we can see that it got interested in this website and it is the dissemination of our work both Lao side as well as JICA. Thus, I request that each party request each part work and help each other to make this system sustainable.

3. [OP3] Progress report of OP3

Result of the questionnaire and preparation for the seminar on pilot study

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

I consider this a good activity for DHUP, PTI as well DPWT because this kind of work as proposed by experts is something that we didn't have experience it. So, I would like to encourage three sectors to attend to learn about the experience that can be expanded in the future for our working area.

Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

Based on the result of the seminar, we will select the candidate project for collaboration. So, we need to discuss how to select that which project has potential in Laos.

4. [OP1/UMP] Coordination of the 6th UMP

Mr. Somchit CHERSUANTHOR, Deputy Director of the Secretariat of the Lao Council of Architects and Civil Engineers

Since I attended the meeting so far, there has been an interesting atmosphere because, in the past period, the publication of this kind of work has been few. People are interested and want to have more frequent and wider meetings.

Talking about involvement from PTI as a requirement from the project to have some wrap-up or any session in a meeting. I would like to exchange with the project team whether it is possible to cut off the wrap-up session because the chairperson is taking this action. Is it possible to add one more session for PTI after the building session because building code work is related to PTI especially, construction management and urban planning? Therefore, I would like to emphasize the topic of structural and fire standards because it is related to building codes. Currently, PTI has a manual introduction on fire reduction in the building that was approved by the minister. So, I want to give some introduction in such a manual to expand more.

Ms. Tomoko YAMAMOTO, JICA Expert

We can discuss this together more.

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

Regarding reporting by experts, I can see that this is a very effective meeting as we can see many questions from the people because this kind of work is related to their livelihood, especially construction, and in the past, there may never have been such a publication before. After we hold the meeting in districts, we could have a lesson learned and a way forward for improvement in the next meeting, as Mr. Somchit also proposed to me. Now PTI has a manual on the Management of the risk of fire in the building which the manual has been completed and the Minister has signed and approved and given advising direction to disseminate to the public. So, I think this time is a good chance for us and I delegated to Mr. Somchit having summarize the manual and assembling in the meeting because this work may relate to building to be useful together.

5. Next WG

The next 44th Urban WG will be on 20 February 2024. The start time will change from 9:30 am.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants (Total: 19)

WG Leaders (1):

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

List of participants (11):

DHUP (3)	- Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning - Mr. Thavisak PHENGMALA, Technical staff, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning
PTI (1)	- Mr. Somchit CHERSUANTHOR, Deputy Director of the Secretariat of the Lao Council of Architects and Civil Engineers
DPWT (2)	- Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment - Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment
JICA Project Team (12)	- Mr. Tetsuji GOTO, JICA Senior Adviser / Expert - Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Yuta AIHARA, JICA Expert - Mr. Makoto OGUMA, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project Assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant - Mr. Vanxayxiong NAOLORXIONG, JICA Project Assistant
JICA Laos Office (1) (Observer)	- Mr. Kingsada SIPHANTHONG, Program Officer

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 44th WG on Urban

Tuesday, 20th February 2024, 9:00 – 11:30 AM at DHUP Meeting room/ZOOM

I. Objectives

- To review for UMP#6: OP1
- To report and discuss the O&M for GISPF(VirGo): OP1
- To confirm the progress of the Construction Permit Management System: OP2
- To confirm the progress of the Study on Collaborative Urban Development: OP3
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by the leader of WG
2. Confirmation of MM for previous WG
3. [OP1/UMP] Feedback from the 6th UMP and way forward
4. Q and A
5. [OP1/VirGo] Monitoring report and Training plan for O&M
6. [OP2] Progress report of OP2
Towards an improved construction permit management system
7. [OP2] Progress report of OP2
Survey Report in center Zone
8. [OP3] Progress report of OP3
Result and way forward of the seminar on pilot study
9. Q and A
10. Next WG
11. Closing

III. Documents

- Agenda No. 2, 3, 5, 6, 7 and 8; (Data sharing) Presentation PPT
- Minutes of the previous WG

IV. QA and Discussion

1. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

The previous meeting mainly discussed 3 topics:

<GISPF>

The counterparts request an O&M manual for studying by themselves. If the person in charge of O&M doesn't have the manual yet, please let experts know. Mr. Uchida will follow up on the troubleshooting and the trademark for Virgo and will explain the monitoring sheet in this meeting.

→ **Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning**

We are currently drafting the assignment agreement for a person in charge of O&M. I want experts to organize training during the draft because we will know who is suitable to be responsible for what task. It is a regular task for every month and year. I see that someone in the list of people in charge that the experts sent before didn't attend the training regularly.

<OP3 Pilot Study>

We will continue to seek the methodology of collaborative urban development. Mr. Muto will explain about the next seminar in this meeting.

<The 6th UMP>

The 6th UMP was successfully done. We will discuss the lesson learned and the way forward in this meeting.

<BanHao, the 6th Issue>

Let me know if you have any ideas or comments in this meeting or after.

After this meeting, we will conduct a checking reading with counterpart.

→ **Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

Let Mr. Vasaly check BanHao on the Number of laws.

2. [OP1/UMP] Feedback from the 6th UMP and way forward

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

I agree with making the poster. How many pages of posters? Can you read the steps of the construction permit in the poster?

Due to people's worry about the design fee and its being expensive, I want to add this point to the poster. such as residential accommodation with an area of less than 120 square meters can take the old model for applying for a construction permit. Regulation No.2241 has been identified on this point.

→ **Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

How much is the fee?

→ **Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment**

The construction fee depends on the type of building according to the regulation. There will be some administration fees. I will check the price again because they updated it on the one window.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Regarding the brochures of the construction permit, we had the brochure supported by the World Bank and JICA. The previous one is simple and not very technical. so, people can understand the procedure. In Lao, there are gaps in construction fees. such as the fee of the village, the design company, OPWT, and DPWT. The fee totals around 10 or 15 million kips (1000USD)

How about the cost in Japan? Does it take a lot of money like this?

Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.)

In Japan, when we use bank loans for housing, the bank needs evidence documents. So, we must apply for a construction permit.

Mr. Kingsada SIPHANTHONG, Program Officer

I would like to have clear information about applying for construction permits. We should consider the target reader. I suggest reducing the letters because too many letters are not good. The illustration is more important. The writing in detail on the poster is not necessary. Regarding

the construction fee, it is very expensive when the resident wants to proceed with this. There is a gap like construction tax. I would like the officer to inform the price of the construction permit.

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

I think it is not appropriate to put the price on the poster because the price will be updated frequently. If we write a lot of information, people may not understand. Therefore, we should only write important information because the poster size is not too big.

Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.)

This poster doesn't need to put the cost, but we need to attract small paper of the cost. One problem with a construction permit is people don't want to pay the fee because they don't know how much they must pay.

→ **Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment**

I can't answer yet whether we can put the price on the poster, but I think the price should not be shown on the poster.

Mr. Kingsada SIPHANTHONG, Program Officer

It is not only the construction permit fee but there is also an additional service charge depending on the type of building, so it is difficult for an officer to fix the price.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

In conclusion, this poster is too technical for people to understand. Please refer to the previous brochure. I suggest making two types of brochures. Technical one for technician and Simple one for people. The fee shouldn't be put on the poster.

3. [OP1/VirGo] Monitoring report and Training plan for O&M

Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.)

Counterparts should update the capability checking sheet using VirGo and submit it to the JICA team by the end of this project. Experts will use the capability checking sheet to consider additional training for counterparts.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Do counterparts start filling in the capability checking sheet and have a detailed understanding of this sheet?

→ **Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning**

We had a meeting about filling in the capability checking sheet, but the counterparts did not yet understand the format well, so we suggested the experts edit this monitoring sheet again. Let counterparts monitor the task each day and then we will hold a meeting to report this monitoring sheet.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Do the counterparts submit experts the monitoring sheet until the end of the project?

→ **Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.)**

They have to send a monitoring sheet every month until July.

Mr. Hirohisa KONDO, JICA Laos Office

Will you get feedback from each division to design training?

How many people use Virgo?

→ **Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.)**

We will use the result of the monitoring sheet for organizing the training.

three or four from each organization use Virgo.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Regarding upgrading the internet line to VirGo, will we do this within our project?

→ **Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.)**

The Lao government doesn't recommend the use of Lao Telecom due to Lao government policy and security reasons. Lao Telecom is covered 50 % by a Thai company but Sky Telecom is covered 100% by a Lao company.

→ **Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

There is no regulation like that. Let Mr. Vasaly get more information from the ICT division.

→ **Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning**

MPWT made a contract with Sky Telecom. I will discuss this with Mr. Viengkorn, ICT division.

4. [OP2] Progress report of OP2

Towards an improved construction permit management system

Mr. Phouvong VIENG VILAY, Deputy Director, Division of Housing-Urban Planning and Environment

I agree as the experts have concluded construction issues and implemented them in the past.

We are organizing training on the use of the new database. Training takes time because some technical staff are not experts in it. I request an expert to speed up the making of the manual.

We have various policies and measures, but the implementation of measures is still limited. We will continue to improve the legislation to make it stricter.

We will try to coordinate between the construction permit and the issuance of land titles for Alley Road to answer the people's complaints about the issues of Alley Road, land title issuance, and construction covering the road reserve area.

→ **Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.)**

We have a workshop to discuss with DPWT staff.

Mr. Tetsuji GOTO, JICA Senior Adviser / Expert

I am happy that the project team and counterparts discuss this issue. I understand construction permits have many issues, especially limited human resources but we should focus on improving the construction permit system and procedure. This is the project's purpose. It is important to discuss again which activity that project covers.

→ **Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.)**

We understand the covering of the project's activity. I am concerned about the re-construction permit system that DPWT is in charge of medium and large buildings. Another issue in the 6th UMP is a signboard on the construction site. There is no example signboard in the regulation. We can support development material. We will do such kind of support.

5. [OP2] Progress report of OP2

Survey Report in Center Zone

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

How much percentage does the height of the building range 61 or over cover?

How much percentage does this survey accurate?

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

The height of the building range of 61 or over covers 0.03%, the margin of is 2 meters.

I bought the satellite data. Let me share the report later.

6. [OP3] Progress report of OP3

Result and way forward of the seminar on pilot study

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

This pilot study is like dreaming of an idea. I want to ask how to comply with this idea in reality. We should start the real of this pilot study from a small point. According to our urban planning law, when you design the area, it needs to be accepted by the Xaysettha district governor. The process is not too difficult.

Can you help the Xaysettha district do this process?

What profit can people get in this area?

→ **Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.)**

We don't have much time to do that process. This area conceptual plan is not a government plan, so we need to propose a roadmap after this project. Xaysettha district can formulate detailed urban planning based on this Area's Conceptual Planning. We will consider the roadmap.

Mr. Kingsada SIPHANTHONG, Program Officer

This project is a technical cooperation to support government officials. This pilot activity is a kind of exercise with government staff such as how to set up the conceptual planning and how to realize it. The implementation of this conceptual planning may be another step in the future.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

At least we get to proceed with how to develop the area in the future. When investors want to develop this area, they will own all the land by themselves. The land is very expensive, so people don't want to share or sell it. We don't have a good mechanism to solve this problem.

Ms. Tomoko YAMAMOTO, JICA Expert

I think the private company will submit the construction permit or any procedure when they develop this area. In this procedure, we should describe the conceptual plan and ask them to follow it like a regulation. In my understanding, if the conceptual planning gets approval in the Xaysettha district, it is possible to conduct it in Laos based on the Urban Planning Law.

Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning

This kind of project is new for our country. We may try to mobilize the idea of landowners who have land but no investment money.

Mr. Kingsada SIPHANTHONG, Program Officer

The Area of Conceptual Planning is necessary before implementation. We should consider the big event in Laos to involve people.

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

Although this project only has a document, I want experts to make it like a report, management regulations, and urban planning to be left for us to continue to proceed with the official approval. We can continue implementing experts' ideas if we have such a document.

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

We will provide a set of report. We create many materials when we formulate the conceptual planning. Counterparts could use the report or document for the approval process. Parallely counterparts should finalize the regulation for General Urban Planning.

7. Next WG

The next 45th Urban WG will be on 26th March 2024. The start time will change from 9:30 am.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants (Total: 21)

WG Leaders (2):

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI*Online

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

List of participants (19):

DHUP (3)	- Ms. Larphet DUANGKHEMTHORNG, Deputy Director, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning - Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning
PTI (1)	- Ms. Phattharavady OUDOMDETH, Technical staff, Division of Technical Research on Civil Engineering and Transportation *Online
DPWT (2)	- Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment*Online - Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment*Online
JICA Project Team (11)	- Mr. Tetsuji GOTO, JICA Senior Adviser / Expert - Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Makoto OGUMA, JICA Expert - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.) - Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project Assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant - Mr. Vanxayxiong NAOLORXIONG, JICA Project Assistant - Ms. Siliphaphone SIVONGXAY, JICA Project Assistant
JICA Laos Office (2) (Observer)	- Mr. Kingsada SIPHANTHONG, Program Officer - Mr. Hirohisa KONDO, JICA Expert
JICA HQs (0) (Observer)	

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 45th WG on Urban

Tuesday, 26th March 2024, 9:30 – 11:30 AM at DHUP Meeting room/ZOOM

I. Objectives

- To report training in Japan
- To report and discuss the O&M for GISPF(VirGo): OP1
- To confirm the progress of Construction Permit Management System: OP2
- To confirm the progress of the Study on Collaborative Urban Development: OP3
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by the leader of WG
2. Confirmation of MM for previous WG
3. Report Training in Japan
4. [OP1/UMP] Continuation of the UMP and revision of the TOR
5. Q and A
6. [OP1/VirGo] Monitoring report and Training plan for O&M
7. [OP2] Progress report of OP2
Towards an improved construction permit management system
8. [OP3] Progress report of OP3
Way forward of a pilot study
9. Q and A
10. Next WG
11. Closing

III. Documents

- Agenda No. 2, 3, 4, 6, 7 and 8; (Data sharing) Presentation PPT
- Minutes of the previous WG

IV. QA and Discussion

1. Confirmation of MM for previous WG

**Ms. Tomoko YAMAMOTO, JICA Expert
<GISPF>**

Mr. Uchida will report on the progress of the monitoring sheet in today's meeting. Please share the result of the discussion with the ICT division on the internet line to Virgo. Dr. Viengnam DOUANGPACHANH said in training in Japan that DHUP has already secured a budget for the O&M of GISPF. Do you know about the project on GIS supported by ADB because Dr. Viengnam mentioned this?

→ **Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning**

This project is carried out in the Paksan district and Thakaek district. The system cannot be available yet.

<An improved construction permit management system>

Mr. Matsui will report on the progress of the Construction Permit Management System Manual. We should keep in mind the scope of the project as Mr. Goto mentioned.

<OP3 Pilot Study>

Mr. Muto will report on the progress of the 2nd seminar in today's meeting. We will discuss the contribution of each sector to realize the area conceptual planning at the 7th and 8th UMP.

<The 6th UMP Follow-up Plan>

We provided posters, booklets, and brochures on construction permits for all villages under GUP. OPWT will distribute villages.

2. Report Training in Japan

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

If we compare the implementation methods of Laos and Japan, what are the things that Laos can use, what are too far for our country and what are our countries more advanced than Japan?

→ **Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning**

If we compare Laos and Japan, what Japan is more modern or more advanced than our country is technology and the discipline of Japanese people is strict, such as maintaining cleanliness and protecting the environment. Although the place is cramped and crowded, we can see that there is no littering and no pollution. The first lesson that we want to learn from Japan is the transportation system because in our country, sometimes we plan the urban and don't plan the transportation system together, so the implementation of the urban planning is not as good as it should be, so people come to use private cars and cause traffic congestion. The second lesson is Japan's determination of principles or the issuance of various technical measures because Japan relies on the actual situation of their country. We must define the principles by considering the appropriateness to the actual situation of our country.

→ **Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI**

We must think about how we can realize the lessons learned.

Ms. Tomoko YAMAMOTO, JICA Expert

Our project's OP2&OP3 is an activity for the implementation of urban planning in Vientiane.

Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.)

Mr. Sulikorn's comment on the difference between Japan and Laos is true. Japan started public transportation development 100 years ago. Japan's government and private sector promote it. Now JICA or ADB projects are supporting public transport in Laos which is a good chance. The study case of Utsunomiya is a good example of Vientiane for public transportation promotion.

Mr. Hirohisa KONDO, JICA Expert

How will you use the scheme of Japan for Laos? For example, how to encourage people to use GISPF?

→ **Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI**

The lesson we learned from training in Japan is the lesson of digitization, which we are currently trying to digitize as well. For example, DPWT has used a GIS system to manage construction permits and is trying to create a database. PTI also has a training plan on the use of GIS systems

in the management of construction. We have a building database such as building owner information, building location, year of construction, whether the building is permitted or not, year of extension, etc. But to make effective use of it forward, there is still a lack of personnel to be responsible, a lack of budget to be used continuously, and a lack of serious implementation of the law. These are our main factors, so I think in the future we must encourage together and improve it little by little.

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

We can use GISPF to enforce dissemination and promote understanding for the public.

3. [OP1/UMP] Continuation of the UMP and revision of the TOR

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

Let's continue to coordinate for preparing the 7th and 8th UMP to complete the goal.

4. [OP1/VirGo] Monitoring report and Training plan for O&M

Towards an improved construction permit management system

Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.)

We want to know the idea of counterparts on training.

→ **Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning**

This training is for O&M of GISPF. I propose to organize training on how to protect the system from external attacks such as viruses or hackers. The second is training on how to solve system malfunctions.

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

As Mr. Vasaly requested, Long-term expert teams plan to have training on basic cyber security. We plan to conduct a training program two times around May. Long-term expert teams will prepare for this training because the resources of consultant teams are not enough. Please describe the training program in addition to this program in the monitoring sheet. It is an opportunity to receive training about O&M of GISPF because the consultant team can consider it.

Mr. Somchit CHERSUANTHOR, Technical staff, Division of Urban Planning

I would like to hold a discussion meeting between the three counterparts, especially to invite the DDG of each counterpart and the technical team to participate in the discussion. The goal of the meeting is to make DDGs understand the O&M of GISPF and know what tasks each department is responsible for and the problems that we have implemented in the past. Our team is not doing well yet because it is a new task.

→ **Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI**

Initially, I would like Mr. Vasaly to coordinate with Mr. Somchit and Mr. Sonepaseuth to discuss the tasks of each department and then organize a meeting to report to DGs.

5. [OP2] Progress report of OP2

Towards an improved construction permit management system

Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.)

We completed the dataset operation manual. Now we are preparing a manual for all processes of construction permit. In the workshop with DPWT, we will focus on the topic of the operation manual.

→ **Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI**

Let the experts continue to coordinate with DPWT to improve this work.

6. [OP3] Progress report of OP3

Way forward of a pilot study

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

This work is important and new. Laos had urban development such as government assigned the private sector to develop, but the development style with many private sectors participating is not yet. I would like the experts to analyze this study in detail and write a precise report or make a manual so that counterparts can implement it and adjust it to be used in practice.

7. Next WG

The next 46th Urban WG will be on 30th April 2024. The start time will change from 9:30 am.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants (Total: 18)

WG Leaders (1):

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

List of participants (19):

DHUP (3)	- Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning - Mr. Thavisak PHENGMAHA, Technical staff, Division of Urban Planning
PTI (2)	- Mr. Somchit CHERSUANTHOR, Deputy Head of the Secretariat of the Lao Council of Architects and Civil Engineers - Ms. Phattharavady OUDOMDETH, Technical staff, Division of Technical Research on Civil Engineering and Transportation
DPWT (0)	
JICA Project Team (11)	- Mr. Tetsuji GOTO, JICA Senior Adviser / Expert - Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Makoto OGUMA, JICA Expert - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.) - Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project Assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant - Mr. Vaxayxiong NAOLORXIONG, JICA Project Assistant - Ms. Siliphaphone SIVONGXAY, JICA Project Assistant
JICA Laos Office (1) (Observer)	- Mr. Hirohisa KONDO, JICA Expert
JICA HQs (0) (Observer)	

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 46th WG on Urban

Tuesday, 30th April 2024, 9:00 – 11:30 AM at DoT Meeting room/ZOOM

I. Objectives

- To discuss UMP#8 and #9
- To confirm the progress of the Study on Collaborative Urban Development: OP3
- To prepare the final JCC and evaluation of CDUDCP project
- To discuss the ways forward to implement the project (Output 1-3)

II. Agenda

1. Opening remarks by the leader of WG
2. Confirmation of MM for previous WG
3. [OP1/UMP] Coordination for UMP#8 Collaborative urban development Guideline and Revise TOR(Signing)
4. [OP1/UMP] Coordination for UMP#9 GISPF seminar at NUOL
5. Q and A
6. [OP3] Progress report of OP3
Area Concept Plan and Guideline(draft)
7. Q and A
8. Preparation of Final JCC, and Announcement of Questionnaire for evaluation of project
9. Next WG
10. Closing

III. Documents

- Agenda No. 2, 3, 4, 6, and 8; (Data sharing) Presentation PPT
- Minutes of the previous WG

IV. QA and Discussion

1. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

<GISPF>

Mr. Somchit suggested to have a meeting SWG members and DDG to report on the O&M of GISPF. I want to ask the progress of this.

→ **Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

I want to know the purpose of this meeting. We may discuss this later.

<UMP>

We plan to have the 8th and 9th UMP. The counterparts suggest the GISPF seminar at NUOL as the 9th UMP.

2. [OP1/UMP] Coordination for UMP#8 Collaborative urban development Guideline and Revise TOR(Signing)

JICA Expert proposed the concept of UNP#8 and drafted revised TOR.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

I have four questions.

1. Have the counterparts already checked the revised TOR in detail?
2. How much is the budget for organizing UMP? It will be a reference for counterparts to organize the UMP in the future. I suggest combining UMP with the National Urban Forum to save money. The UN will be the organizer. The National Urban Forum will be held every first week of October.
3. Regarding the 9th UMP, we shouldn't fix the number of students by ourselves. We should let them select the students by themselves or any students who interested can be join not to fix like this. We should coordinate and discuss with NUOL for information in detail.
4. Will JICA support the budget after the project is complete?

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

1. The counterparts don't confirm the revised TOR yet. I would like DDG to confirm it and discuss it with their counterparts.
2. The budget depends on the style. The cost could be only for coffee break and printing material if any. If you use the hotel as a venue it is around 2000 USD, but we can save the cost if we organize the meeting at the MPWT meeting room. It is a good idea to combine UMP with the National Urban Forum.
3. We should confirm the number of students by mid of May. We need to issue a request letter to NUOL to have a meeting for discussion with professors. The counterparts suggest this UMP. The experts would like them to coordinate by themselves and the project will provide financial support for the 9th UMP.
4. Before the project is complete, JICA will secure the budget for the 9th UMP. It is difficult for JICA to secure the budget after the project is completed, but JICA could provide technical advices for UMP.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

I request three counterparts to check the revised TOR in detail and discuss it with the DDG of each counterpart before presenting it at the 8th UMP. Let's coordinate with NUOL in detail for the 9th UMP. I recommend signing the revised TOR at each department. There is no need to hold the signing ceremony at a meeting venue.

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

I prefer to have the signing ceremony at the 8th UMP for TOR because it is the final UMP, but it depends on DG's convenience.

→ **Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

I agree if they can attend the 8th UMP.

3. [OP1/UMP] Coordination for UMP#9 GISPF seminar at NUOL

Mr. Thavisak as representative SWG member presented the concept of UMP#9.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Let's coordinate with NUOL for more information in detail.

Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.)

Especially the 9th UMP is one of the trials for the sustainable operation of UMP after this JICA project. The 8th UMP has important topics for the guideline of Collaborative Urban Development. The schedule is very tight. Please cooperate in preparing this UMP.

4. [OP3] Progress report of OP3

Area Concept Plan and Guideline(draft)

JICA Experts explained the draft of reporting document of Area Concept Plan and draft framework of Collaborative Urban Development Guideline.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

I request three counterparts to work with experts to consensus on the topic, outline format, and content of the Guideline. I would like experts to use the outline format of Laos based on the document Law on the Creation of Legislation No. 06, dated 16/11/2021. Regarding the endorsement, we may make a single agreement, and signed by one person or make a Minute of Meeting with the signing of three counterparts.

Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.)

We will prepare the Lao version for the Area Concept Plan and Guideline. I request counterparts to clarify the process of the officialization of the area conceptual plan and guidelines.

Ms. Tomoko YAMAMOTO, JICA Expert

Regarding the contents of the guideline, I have a question on the role of each counterpart in budgeting. In the case of O&M for GISPF, DHUP is responsible for securing the budget for maintenance. PTI also secures the budget for training. In this case of Collaborative Urban Development, PTI may need to budget for promotion and DPWT may also secure the budget for general projects from the public sector.

→ Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

According to the urban planning law, there is a hierarchy of urban planning work. For the urban planning of Vientiane, DHUP is responsible for budgeting. For district-level planning, the DPWT of the province is responsible for budgeting. For village planning, OPWT will be responsible. In the implementation of this guideline, I think DPWT is responsible for budgeting because it is the definition of the area and the detailed plan for the area. When we are going to work on any project, there will be a responsible committee appointed, even if DPWT is in charge, but a part of the responsible committee will be responsible for the budgeting.

→ Ms. Tomoko YAMAMOTO, JICA Expert

In the case of this guideline, we focus on small-scale collaborative urban development, so OPWT is also an important sector for budgeting.

Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.)

Each organization needs budgeting depending on its purposes. We can add budgeting for each organization, but we need to clarify the object and purpose. The purpose is infrastructure development. PTI is for training and promotion activities. DHUP is for national-level investment.

Ms. Tomoko YAMAMOTO, JICA Expert

This is a collaborative urban development and we would consider Value For Money (*Improvement value of service by collaboration) and it is not additional budgeting. We may create the project cheaper than the original budget depending on the scheme. This is one of the concepts of collaborative urban development.

→ Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.)

Reducing the government's budget is not the main concept for collaborative urban development. The main concept is to improve current public service. As a result, the government's budget will be

smaller. It is not an additional budget. For example, road pavement will be done by collaboration, but the government needs budgeting as usual for road pavement.

→ **Ms. Tomoko YAMAMOTO, JICA Expert**

How about a clearer description of budget' in the guidelines?

5. Preparation of Final JCC, and Announcement of Questionnaire for evaluation of project

JICA Experts proposed the draft agenda, participants list of the final JCC and questioner for evaluation of the project.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

1. I request to combine two topics (UMP and GISPF) for my presentation.
2. I recommend Mr. Goto present the way forward in the management of sustainable urban development for Dr. Viengnam 's session.
3. Please determine the content of the meeting by the time. I don't want the meeting to be long.
4. I agree with the questionnaire, but I would like the experts to make it online to facilitate answering and evaluation.
5. I want the report of the project's results with accurate comparisons and show success as a percentage.
6. The JCC meeting is a steering committee meeting. Therefore, I don't want presenters to report detailed techniques. Please report an overview and easy to understand.
7. I recommend Mr. Goto to introduce and report the project to the new vice minister.
8. We should add a discussion session.
9. Please keep in mind that we cannot fix the date of JCC for the vice minister although he confirms because if he receives an order from a high-level, his work will be a priority. We should issue the letter early.

→ **Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.)**

The presentation focuses on the achievement and what counterparts learn at this capacity development project. We will prepare the rough material. I will add a discussion session before the closing remark. I will revise the agenda and share it later.

Is it possible to invite the vice minister as chairperson? We will prepare the summary report on the main point of this JCC for the Vice-minister. I request counterparts to arrange a meeting with the vice minister for reporting.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

First, we will report to DG on the presentation of the way forward in the management of sustainable urban development, then we will let you know soon.

7. Others

<Recording for vice minister 's comment>

DDG will report to the vice minister. Let's DHUP and the project team coordinate and prepare the letter and the report signed by DG.

<Cybersecurity training by LANIC >

The training is scheduled to take place from May 15 to 17th, UWG leader urged the team to coordinate and prepare for the training.

8. Next WGcdnonly

The next 47th Urban WG will be on 21st May 2024.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants (Total: 22)

WG Leaders (2):

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI (Online)

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

List of participants (19):

DHUP (3)	- Mr. Dao KEOSUKAN, Director, Division of Urban Planning - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning - Mr. Thavisak PHENGMAHA, Technical staff, Division of Urban Planning
PTI (1)	- Mr. Somchit CHERSUANTHOR, Deputy Head of the Secretariat of the Lao Council of Architects and Civil Engineers (Online)
DPWT (2)	- Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment (Online) - Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment (Online)
JICA Project Team (13)	- Mr. Tetsuji GOTO, JICA Senior Adviser / Expert - Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Makoto OGUMA, JICA Expert - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.) - Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Thodsakhone RAZMOUNTRY, JICA Project Assistant - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project Assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant - Mr. Vanxayxiong NAOLORXIONG, JICA Project Assistant - Ms. Siliphaphone SIVONGXAY, JICA Project Assistant - Mr. Thongphanh THOUMMALY, JICA Project Assistant
JICA Laos Office (1) (Observer)	- Mr. Kingsada SIPHANYHONG, Program Officer
JICA HQs (0) (Observer)	

The Project for Capacity Development on Urban Development Control and Promotion (CDUDCP)

Minutes of Meeting for the 47th WG on Urban

Tuesday, 21st May 2024, 9:00 – 11:20 AM at DHUP Meeting room/ZOOM

I. Objectives

- To report coordination for UMP#8 and #9
- To prepare the final JCC
- To confirm the achievement of the project (Output 1-3)

II. Agenda

1. Opening remarks by the leader of WG
2. Confirmation of MM for previous WG
3. [OP1/UMP] Coordination Report on UMP#8
Publication of Guideline and Revise TOR
4. Q and A
5. [OP1/UMP] Coordination Report on UMP#9
GISPF seminar at NUOL
6. Q and A
7. [Overall]
Preparation of Final JCC
 - ◇ Confirm the agenda and materials
 - Overview the overall activities
 - Report on activities (OP1-4)
 - Verification of the achievements
 - Way forwards for the sustainable urban development management
 - ◇ Discussion point
 - ◇ Pre meeting with vice minister and coordination for vice mayor
 - ◇ Others
8. Q and A
9. Upcoming Schedule
10. Closing

III. Documents

- Agenda No. 2, 3, 5, 7, and 9; (Data sharing) Presentation PPT
- Minutes of the previous WG

IV. QA and Discussion

1. Confirmation of MM for previous WG

Ms. Tomoko YAMAMOTO, JICA Expert

<GISPF>

I would like to follow up on the progress of the meeting of SubWG members with DDGs for reporting on the O&M of GISPF.

→ **Mr. Somchit CHERSUANTHOR, Deputy Head of the Secretariat of the Lao Council of Architects and Civil Engineers**

I would like the project team to help organize a meeting with DDGs so that they can recognize and follow up on the roles of three counterparts for O&M of GISPF.

→ **Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI**

I would like SubWG leaders to discuss their respective roles first, and if any issues have not been agreed upon, hold a consultation meeting with DDGs. I would like SubWG leaders to list and separate the roles of each department and how many tasks there are, then make a minute meeting for consensus.

→ **Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

We may hold an internal meeting. Let's Mr. Somchit be the host of the meeting.

→ **Ms. Tomoko YAMAMOTO and Mr. Minoru MATSUI, JICA Expert**

If you need experts' advice or support, please let us know the date and time of your meeting. We are welcome to assist during the project period.

<OP2>

Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.)

The officialization of the manual of construction permit management by DPWT is enough. We will have a meeting with DPWT.

<OP3>

Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.)

We submitted the counterpart's guideline of the Area Conceptual Plan. We need the comments from counterparts. We will prepare all documents to officialise this guideline.

→ **Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP**

The GMS2 project also created the guideline of landfill management and price collection that is officialised by the project's director. In the case of our project's guideline, the signature of DG is OK for officialise. Please refer to other projects.

2. [OP1/UMP] Coordination Report on UMP#8

Publication of Guideline and Revise TOR

Ms. Tomoko YAMAMOTO shared the progress of coordination, the agenda and the draft of revised TOR that will be presented in the UMP by DHUP.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Please check the participants' confirmation for attending. Let presenters check the material again before presenting.

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

I request experts to prepare Open & Closing remarks for me.

<Revised TOR>

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

In the structure of the Urban Management Platform, I suggest revising "Deputy Director of Vientiane Cabinet" to "Representative of Vientiane Cabinet". We will check again before signing it.

Ms. Tomoko YAMAMOTO, JICA Expert

We received the comment for the draft of revised TOR by DHUP and PTI. Let me know the DPWT's opinion.

→ **Mr. Phouvong VIENG VILAY, Deputy Director, Division of Housing-Urban Planning**

and Environment

I agree with the content of the revised TOR.

3. [OP1/UMP] Coordination Report on UMP#9 GISPF seminar at NUOL

Mr. Thavisak PHENGMAHA, explained the progress of coordination, the agenda and the draft of poster and promotion Video for GISPF 'VirGo'.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

I request the project provide a Wi-Fi connection during UMP#9. The symbols of the four contents in the poster should be the same as the symbol in Virgo. We should add VirGo's QR or URL in the poster. Let experts check the poster again before printing. Regarding the user video, please revise the responsible sector from MPWT to DHUP, PTI, and DPWT.

Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.)

Please use the original logo of Virgo in the poster.

4. [Overall] Preparation of Final JCC

Mr. Minoru MATSUI explain the draft of agenda and materials for the final JCC.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Regarding the report on the activities and outcomes of Sub-WG on GIS-PF, please add the month of handover Virgo. We should invite the Vice Mayor of Vientiane Capital, but we must prepare the agenda for him.

Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment

We should invite the Vientiane Cabinet, but now the Vice Mayor is not H.E. Phoukhong BANNAVONG.

5. Upcoming Schedule

The 8th UMP, on 23rd May

The 9th UMP, GISPF seminar for NUOL

The final JCC, on 18th June

<Schedule for O&M of GISPF>

Ms. Tomoko YAMAMOTO reported Cyber Security training on 15th and 16th, May to WG members.

In addition, Mr. Chikara UCHIDA explained the expected schedule for O&M of GISPF.

Mr. Chikara UCHIDA, JICA Expert (Nippon Koei Urban Space Co., Ltd.)

The subcontractor will develop a mirror site of VirGo by using MPWT 's server after DHUP sends the requested letter to the ICT division as soon as possible. After JCC, SubWG members plan to conduct training on user management and data upload by the subcontractor.

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

Let Mr. Vasaly help experts clarify the process for closing the project by referring to the rules of JICA, MPI, and MPWT.

<Others>

Ms. Tomoko YAMAMOTO asked C/P side that if the new vice minister is unavailable by the end of May, the recording will be cancelled because of the budget deadline and other schedule. Mr. Nalongxay MYVAPADITH will recheck his availability by the end of May and inform JICA Expert.

*In any differences between the English and Lao versions of the minutes, reference shall be made to the contents of the English version.

V. Participants (Total: 22)

WG Leaders (2):

Mr. Chanthavangso OUDOMDETH, Deputy Director General / PTI

Mr. Nalongxay MYVAPADITH, Deputy Director General / DHUP

List of participants (19):

DHUP (3)	- Mr. Sulikorn XAYXANA, Technical staff, Division of Urban Planning (Online) - Mr. Vasaly SISAVATH, Technical staff, Division of Urban Planning - Mr. Thavisak PHENGMAHA, Technical staff, Division of Urban Planning
PTI (4)	- Mr. Bouvanh LUANGXAY, Director Division, Division of Technical Research on Civil Engineering and Transportation - Mr. Somchit CHERSUANTHOR, Deputy Head of the Secretariat of the Lao Council of Architects and Civil Engineers - Ms. Phattharavady OUDOMDETH, Technical staff, Division of Technical Research on Civil Engineering and Transportation - Ms. Sengchane LUSA, Technical staff, Division of Technical Research on Civil Engineering and Transportation
DPWT (2)	- Mr. Phouvong VIENGVILAY, Deputy Director, Division of Housing-Urban Planning and Environment (Online) - Mr. Sonepaseuth PHOTHISA, Technical staff, Division of Housing-Urban Planning and Environment (Online)
JICA Project Team (11)	- Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Makoto OGUMA, JICA Expert - Mr. Chikara UCHIDA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Mr. Minoru MATSUI, JICA Expert (Nippon Koei Urban Space Co., Ltd.) - Mr. Akihito MUTO, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Miki HOMMA, JICA Expert (NIPPON KOEI Urban Space Co., Ltd.) - Ms. Phanida SINGLIVONGSA, JICA Project Assistant - Ms. Manyvone DUANGCHAK, JICA Project Assistant - Mr. Kongny KHAMPHILALAY, JICA Project Assistant - Mr. Vanxayxiong NAOLORXIONG, JICA Project Assistant - Ms. Siliphaphone SIVONGXAY, JICA Project Assistant
JICA Laos Office (0) (Observer)	
JICA HQs (0) (Observer)	

Annex 12-2

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP) WG:4 (Building)**

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Minutes of Meeting

Date: 24. January 2022, 11:00AM – 12:00 AM by remote/zoom

Attendance:

L-side: Dr. Viengnam DOUANGPHACHANH, DHUP/MPWT, Director General

Ms. Vitaphone INTHALATH, DHUP/MPWT, Deputy Director General

J-side: Mr. Tetsuro NISHIMURA, Nippon Koei, Building Regulation/Fire Safety

Mt. Yuji KUSAWASE, Nippon Koei, Structure Safety

(JPT) Mr. Tetsuji GOTO, JICA Senior Adviser / Expert (Remote)

Ms. Tomoko YAMAMOTO, JICA Expert

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I. Objectives

- To discuss the proposed activities of WG4
- To discuss the request from L-side and to find available ways

II. Agenda

1. Introduction of WG4 from Ms. Yamamoto
2. Proposed Activities of WG4 from Mr. Nishimura
3. Q/A

III. Documents

- Introduction of WG4, by Ms. Yamamoto
- WG4: Pre-Discussion, by Mr. Nishimura

IV. Q/A and Discussion

1. 法令は All in one がよいか by Volume がよいか。D. Dr. Viengnam

Mr. Nishimura

・ Safety の観点からは「構造」と「消防」が最も緊急である。英国式に Separate 分割して「構造」「消防」を優先するのが速効性はある。「建築」「設備」「材料」などは追って増補する。

・ All in one であれば、BC の項目は全てを網羅しておく。「構造」「消防」を重点的に記載する。他は簡単に記述して、「追って規定する」などとする。

・ 作業を進めながら、話し合いの中で決めたい。

2. LBC は 3~5 年で更新するか、しないか。Mr. Nishimura

・ 今回、数年後に改訂版を出す事で、BC Draft を簡潔にまとめる方法がある。

・ 削ぎ落した部分は、Technical Guidelineなどで毎年追加してゆく。

・ Separate なら Volume ごとに発行、改定が出来る。All in one なら、毎回全文を見直す

手間がかかる。

D. Dr. Viengnam

- ・数年毎に見直すことになる。

3. 1st Draft が 1 年後とあるが、2022 年内に出来ないか。 D. Dr. Viengnam

- ・CP の知識と力量、Draft の纏め方にもよる。その様な希望があれば、これを目標に作業を進める。 Mr.Nishimura

4. 対象建物を選定してはどうか。小規模建物は規制対象外、超高層は専門委員会で審査するなど。 Mr.Nishimura

- ・外資系建設による、超高層ビルや大規模建物が急増したが、彼らは自国の基準で設計している。これ監視する LBC を至急作ることが事の発端である。これまで、中規模建物では事故も少なかったこともあり、超高層ビルや大規模建物を除外するのは難しい。

D. Dr. Viengnam

- ・超高層ビル等は「構造」「消防」ともに大掛かりな規制となる。基準は多くのページが必要。審査するにも専門知識が必要。結局、「海外の基準に従って正しく設計すること」とかの記載となる。 Mr.Nishimura

- ・現状では、高さ：20m、面積：10,000m² を構想・大型建物としている。D. Dr. Viengnam

- ・構造的には十数階、消防でも梯子車が届かなくなる 30m 程度か。Mr.Nishimura

- ・複雑になれば検査する側にも人材や技術力が必要になる。他方で、上層部の意向に従って、超高層を含める事で引っ繰り返される可能性もある。Mr.Goto

- ・記載するとしても

5. 第三国研修では既にタイに 2 回行っている。近隣国ならベトナムはどうか。D. Dr. Viengnam

- ・法令は五月雨式で「建築」と「消防」に分かれて、複雑。希望として検討する。

Mr.Nishimura

6. CP2 名（各省）は選定されたか。氏名と簡単な CV を送って欲しい。Mr.Nishimura

- ・すぐに指令状がでて任命される。D. Dr. Viengnam

7. 次回 MTG

- ・質問状を今週中に送るので、その回答を待って、2 週間後に MTG を持ちたい。

Mr.Nishimura

以上

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

Minutes of 2nd Building Working Group

February 28th, 2022, 09:00AM – 11:00AM (Remote session)

Participants

DHUP:

- Mr. Nalongxay MYVAPADITH, Deputy Director General,
- Ms. Visaphone INTHILATH, Deputy Director General,
- Mr. Akhom PHONGPASEUTH,
Acting Director, Division of Building Construction Control,
- Mr. Phayboun SOUNAKEN, Technical Staff, Division of Building Construction Control
- Mr. Thavisouk PHOMVILAY, Technical Staff, Division of Building Construction Control
- Mr. Souksavanh HANEPHOM, Technical Staff, Division of Urban Planning

DPWT:

- Mr. Sinthanou PHANTHAVONG
- Mr. Xaysana PHETXIENGDA
- Mr. Vientihane

PTRI:

- Ms. Phattharavady UDOMDETH

JICA Laos Office:

- Mr. Shunichiro Hayashi

CDUDCP:

- Ms. Chieko Matsubara, JICA HQ
- Ms. Yamamoto Tomoko, Long-term expert
- Mr. Minoru MATSUI, Team leader,
- Mr. Chikara UCHIDA, Co-Team Leader
- Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention
- Mr. Yuji KUSAWAKE, Building Structure
- Ms. Kunika KONAKA, Training Management/Administration
- Ms. Thodsakhone RAZMOUNTRY, Coordinator/Interpreter

1. Meeting agenda and materials

The meeting was held to identify the direction of working group on output-4, introduce Structure Safety and Building Safety and discuss among WG members for ways forward to implement the Lao Building Code

The meeting followed agenda as following:

- Orientation of the Working-Group-4 on Building Safety
- Introduction of Building and Fire Safety Control
- Introduction of Building Structure Safety

2. Discussion content

- Orientation of the Working-Group-4 on Building Safety

The meeting recognized the necessity of working group to be comprised of 2 working teams for building structure and fire safety respectively. The member list of each team shall be provided in the later stage after the internal meeting among building-WG

As of outside specialist shall relate to Educational Institution, Association of Lao Architects and Council of Lao Architects and Civil Engineers. In a protocol way, Counterparts shall prepare proposal letter and outside specialist will be working as non-standing officials and invited in some sessions as necessary, probably quarterly WG session

One of WG activities, study tour will be carried out in the third country, Thailand. However, the study tour shall not only limit in Thailand in addition to counterparts has experienced and learned from Thai building administration. From the view point of explore more, study tour in the third country could come up with different country.

The proposed regular meeting session in April 13th shall consider to postpone due to the Lao New Year Holiday to be taking place for a week from mid of April

For the next session of WG, WG members shall together prepare a presentation for Lao Building detailing on outline of LBC, issues, expectations and outputs from the project preparation survey.

- Introduction of Building and Fire Safety Control

The meeting highly evaluated the works by Japanese side and admitted some requirements/items are lacked on the LBC especially fire resistance for high-rise building as well as large-scale building

The meeting questioned on the idea or form of fire safety design and equipment to be considered on LBC. The answer was not identified due non-experience of new technical form, however, such presentation explored more on how to shape LBC especially the requirements to ensure the safety

of users, residents, surrounding buildings and areas. After learning the foreign codes, LBC has not covered detailed requirements, as of current situation, large-scale buildings have been designed by design company which seeking for the approval of investment, as a result, the management and enforcement could not be unable to do something well as a consequence of NO LBC.

- Introduction of Building Structure Safety

The importance of structural code has been sighted particularly structural design. The meeting questioned the technical aspects of structural design to be applied in the new building construction and what type of buildings are strictly applied.

In general, the meeting realized the wooden structure in Laos which highly believe such structure could be constructed up to Two-Story Building and in case of reinforced concrete structure, the wooden only use for window-frame and door-frame. As learning from LBC, structure safety is applied to 20meters-high building and the floor area of 10,000sq.m, however, detailed calculation must be done.

Eventually, for a better preparation and leading to constructive comments, the meeting urged to provide meeting material beforehand

3. Follow-up activity

- Member list of WG4
- Preparation of presentation from Lao-side to be carried out in the next session of WG

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

Minutes of 3rd Building Working Group

March 16th, 2022, 09:00AM – 11:00AM (Remote & Onsite session)

Participants

DHUP:

- Mr. Nalongxay MYVAPADITH, Deputy Director General,
- Mr. Akhom PHONGPASEUTH,
Acting Director, Division of Building Construction Control,
- Mr. Thavisouk PHOMVILAY, Technical Staff, Division of Building Construction Control
- Mr. Souksavanh HANEPHOM, Technical Staff, Division of Urban Planning
- Mr. Saykham
- Mr. Phavilay

DPWT:

- Mr. Sinthanou PHANTHAVONG
- Mr. Vientihane

PTRI:

- Ms. Phattharavady UDOMDETH

CDUDCP:

- Ms. Chieko Matsubara, JICA HQ
- Mr. Minoru MATSUI, Team leader,
- Mr. Chikara UCHIDA, Co-Team Leader
- Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention
- Mr. Yuji KUSAWAKE, Building Structure
- Ms. Thodsakhone RAZMOUNTRY, Coordinator/Interpreter

1. Meeting agenda and materials

The meeting was held to sight on the background of LBC formulation, to hear the proposed composition on chapters of fire and structure safety and to obtain supervision on the betterment of LBC

The meeting followed agenda as following:

- Background on the Formulation of LBC
- Configuration of Fire Safety Chapters

- Configuration of Structure Safety Chapters

2. Discussion content

Prior the main discussed contents, schedule of building WG activities were explained in relation to composition of draft LBC to be proposed in 2nd JCC meeting.

- Background on the Formulation of LBC

The meeting stressed out the necessity on LBC formation, its significance, starting point and expected outcomes. The initial/current draft composed of building structure, fire safety, followed by implementation method and responsible agencies. However, challenging on realization of LBC completion and subsequent work plan have also been sought out

After aware of the starting point of draft LBC, the meeting urged to introduce the standard code that has been adapted into the initial draft in particular on fire safety. For a reference use, Thai BC will be proved

Under the process of drafting LBC, the meeting was able to figure the participation of outside specialists which currently the project expects to obtain such a one and be thought of the involvement and engagement in term of researcher or special engineer, added by expert. As a matter of fact, such circumstance used to undergone through the first step of conducting several technical working meeting sessions, following by Director General(s) meeting (DGs meeting) inviting representative of MPWT legislative department, outside specialists, architects, engineers and educational institutes and the National-Wide Meeting was organized by encouraging the contribution of DPWTs at provincial level and designing-surveying firms. Once a constructive and comprehensive advisory have been obtained including revision have been made and ministerial meeting for the approval consideration was also carried out. Thus, to bring in the participation of outside specialist, list of candidates will be prepared by counterparts, added by lao side.

Added by expert, in accordance with building structure, such requirement intentionally applies to high-rise, large-scale and controlled building, nonetheless such mentioned buildings have rarely observed in Laos. In addition, the meeting concerned to target buildings regardless type of building but rather its size and from the view of safety, ordinary buildings shall not be left behind. Nevertheless, the meeting questioned original body of LBC shall be retained. Added by lao side, as expected outcome, LBC shall be developed in a simplified manner seeking to issue the first CODE in Laos although no comprehensive requirement was aware yet the meeting highly believed the betterment of LBC through technical assistance shall arise with significant portions including adding additional requirement/items that can be amended time by time.

- Configuration of Fire Safety Chapters

To recognize the revision of draft LBC, 3-steps diagram has been clarified. As the first step, the meeting has together looked out and reviewed the draft for a deep understating, later, additional articles and numbering adjustment were proposed by project expert. By comprising the ideas of overall composition, counterparts were asked to study on excel version and additional items are also welcomed if any.

Owing to the overload of annex, the meeting questioned whether to develop those into technical guidance or content of LBC requirements could pick up from annex. Added by lao side, in favor of LBC reader and implementing agencies, some items could be derived from annex. Nevertheless, setting numerical numbers was one of the concerns which will be brought to a discussion in the later stage, added by expert.

- Configuration of Structure Safety Chapters

Similar outlines have been explained yet detailing on structure safety chapters including the proposal of unlisted items. However, the meeting concerned on the article related analysis and structural design particularly necessity on stipulation of mathematic formula/calculation which none of standard has been referred in LBC due to different organizations own their ways/standards of analysis. As a result, the meeting concluded no any specific standard formula/calculation shall be stipulated but rather referring to the international standard in order to define the methodology as well as other as necessary and such will be brought to a discussion in the later steps. In addition, most of local designing firms are applied MIDAS GEN Software for structural analysis.

In a conclusion, the meeting urged to prepare minutes of meeting to a reference for next step activities, in spite that, list of outside specialist's candidates including idea on proposed overall composition will be handed in the next working group session.

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

Minutes of 4th Building Working Group

March 30th, 2022, 09:00AM – 11:00AM (Remote session)

Participants

DHUP:

- Mr. Visaphone INTILATH, Deputy Director General,
- Mr. Akhom PHONGPASEUTH,
Acting Director, Division of Building Construction Control,
- Mr. Thavisouk PHOMVILAY, Technical Staff, Division of Building Construction Control
- Mr. Souksavanh HANEPHOM, Technical Staff, Division of Urban Planning
- Mr. Phavilay PHANALASY,
- Mr. Phayboun SOUNAKEN,

DPWT:

- Mr. Sinthanou PHANTHAVONG
- Mr. Xaysana PHETCIENGDA,
- Mr. Vientiane

PTRI:

- Ms. Phattharavady UDOMDETH
- Ms. Sengchane LOUSA

NUOL:

- Professor Xayoudom MEUANGPAK, Director, Division of Building Technicians, Faculty of Architecture
- Professor Doangmala KOUNSANA, Deputy Director, Division of Research and Technical Service, Faculty of Architecture
- Professor Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, Faculty of Engineering

CDUDCP:

- Mr. Chikara UCHIDA, Co-Team Leader
- Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention
- Mr. Yuji KUSAWAKE, Building Structure
- Ms. Thodsakhone RAZMOUNTRY, Coordinator/Interpreter

1. Meeting agenda and materials

The meeting was held to discuss on composition and terms of requested items

The meeting followed agenda as following:

- Overall procedure and schedule
- Presentation from counterparts on requested items
- Composition on chapters of fire safety-2
- Composition on chapter of structure safety-2

2. Discussion content

On this occasion, the meeting honored to bringing in outside professors from faculty of architecture and faculty of engineering of the National University of Laos (NUOL) for a construction of LBC

The work plan of the building WG was explained and expected to obtain advisory from the 2nd JCC meeting on composition proposal of LBC draft in order to make a progress on configuration of specific articles.

- Presentation from counterparts on requested items

On behalf of WG members, a representative from division of construction control/DHUP has prescribed on technical terms to be defined into Lao terminologies as well as the proposed outline of LBC. In general, English technical terms seems to cover sufficient further necessary controls, however, due to unfamiliar, lack of experience and uncertainty of technical terms application, thus, to define them in Lao will need to put together on the consultation with outside professors and concerned organization including further study to comprehend the definitions time by time.

As aware the outline LBC has simplified by project expert which structured 12 chapters as present body yet addition items have been written considering necessity and importance of control demands in the near future. Overall, the simplified outline has reached the consensus, in spite that, the meeting questioned and urged to clarify in regard to the followings:

- A chapter named “Chapter 3 Design of Building” has whited out “Survey of buildings” (Survey-Design of Buildings as present draft). In addition, this chapter is touched up with reference standard and the meeting spectacted on preparation of Lao standard formulation. Foreign standards will be referred considering application with controllable, however, specifications particular setting numerical values will bring to a discussion in the latter stage. Added by expert.
- “Chapter 4” shall consider on related-serviceability
- “Chapter 7 Additional requirements”, possibility to consider on connecting more type of occupancy, namely, parking building, railway station/passenger terminal, sport stadium, airport terminal
- The outline shall open for addition chapter in term of strengthening of existing - old buildings and its evaluation which allow to cover structure safety of old buildings.

To scope the discussion, the meeting asked to get through the outline chapters, articles and some of additional whereas adjustment and consideration shall be followed later.

- Composition on chapters of fire safety-2

The meeting has reviewed the scope of controlled building along with the terminologies used in construction management regulation which clearly identified the building classification. However, the proposal has been sighted considering most of buildings are subjected to be controlled in term of floor area, building height and risk building. The meeting also clarified the building type based on 2 years data collection of construction permit and happened to observe the large-scale buildings are very rare while ordinary buildings are noticeable which LBC may not be able to apply and resulting to out of control although LBC is formulated.

For a significant formulation as well as enforcement of LBC in the near future, the meeting asked to learn on the historical data of 10 years or more as be of opinion that high-rise buildings were being introduced years ago. In addition, the best practice from other country, the floor area of less than 200 sq. meters is subjected to control, as current building construction in Vientiane Capital, the preferable construction site is 400 sq. meters (20m x 20m) with the floor area of 8m x 12m.

thus, the meeting urged to determine the minimum requirement for small-scale buildings together with accessibility of fire truck in case of fire is occurred

In conclusion, counterparts understood several concerns need to be taken into account for a betterment and construction of LBC. In addition, control approach shall be considered in parallel with building classification and wish to learn such from project experts. Nevertheless, risk buildings shall be classified based on the necessity to serve the further development particularly industrial buildings, buildings for production processing and other related.

Nonetheless, the betterment of LBC will need to master the related regulations in order to realize additional article/items to be added, if necessary.

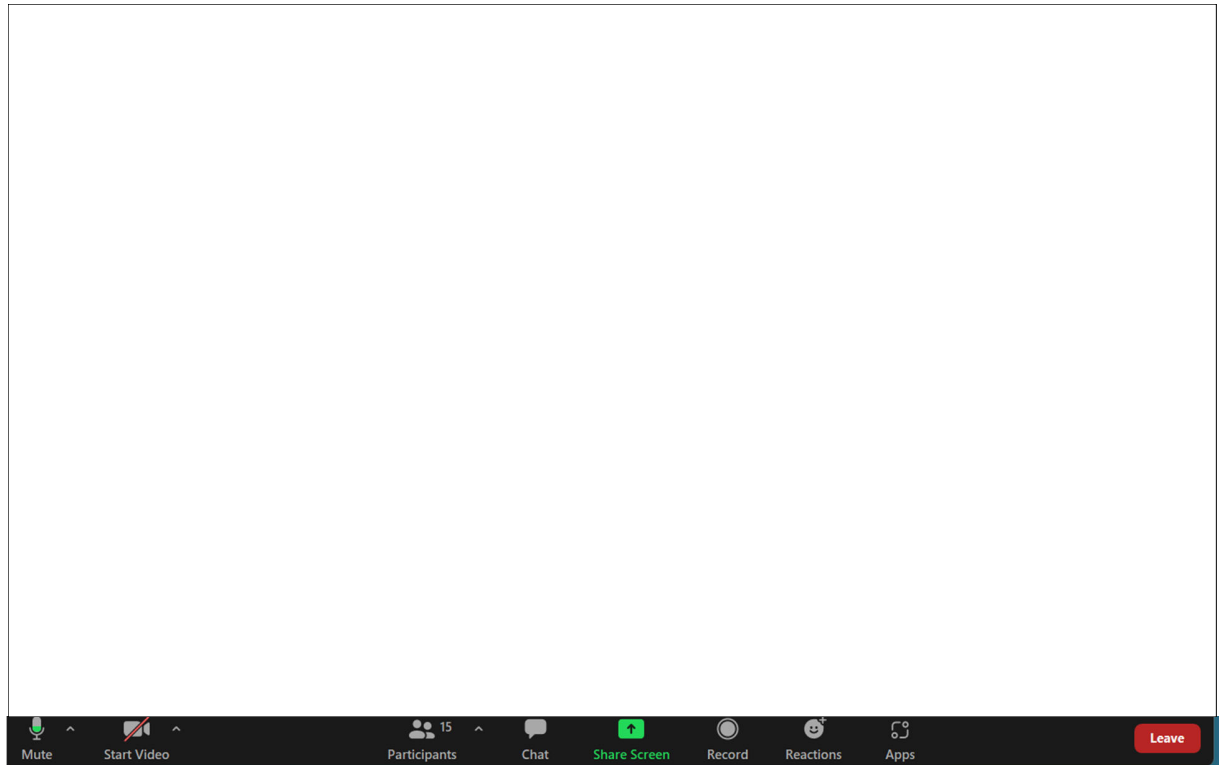
- Composition on chapter of structure safety-2

The meeting was touched on the several loads and design as well as reference standard, namely, America Society of Civil Engineers (ASCE), thereof, to identify numerical value of such loads, computing methodology shall be stipulated. The meeting also aware of natural loads in each locality especially the wind loads take into consideration of its speed, fundamental formula, standard, fundamental of setting numerical value in order to be a reference and management tool for Lao engineers as well as foreign investors.

Overall, the meeting highly evaluated the contribution from project experts and professors from the national university. In a later stage, building WG members shall incorporate such productive advisories into the betterment of LBC.

The next session is tentative scheduled on 19th April

Photo session



**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP)**

Minutes of 5th Building Working Group

April 21st, 2022, 09:00AM – 11:00AM (Remote session)

Participants

DHUP:

- Mr. Nalongxay MYVAPADITH, Deputy Director General,
- Mr. Akhom PHONGPASEUTH,
Acting Director, Division of Building Construction Control,
- Mr. Thavisouk PHOMVILAY, Technical Staff, Division of Building Construction Control
- Mr. Souksavanh HANEPHOM, Technical Staff, Division of Urban Planning
- Mr. Phavilay PHANALASY,
- Mr. Phayboun SOUNAKEN,

DPWT:

- Mr. Sinthanou PHANTHAVONG
- Mr. Xaysana PHETCIENGDA,
- Mr. Vientihane

PTRI:

- Ms. Phattharavady UDOMDETH
- Ms. Sengchane LOUSA

NUOL:

- Professor Xayoudom MEUANGPAK, Director, Division of Building Technicians, Faculty of Architecture
- Assoc. Prof. Khampaseuth THEPVONGSA, Director, Division of Public Works, Faculty of Engineering

Police Department of Firefighting and Fire Prevention, Ministry of Public Security

- Lieutenant Colonel (Lt.) Chittasone PHANTHAVONG, Director, Division of Fire Safety Inspection
- Lieutenant Colonel (Lt.) Bounlieng SOUNTHAKITH, Deputy Director, Division of Fire Safety Inspection

CDUDCP:

- Mr. Chikara UCHIDA, Co-Team Leader
- Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention
- Mr. Yuji KUSAWAKE, Building Structure
- Ms. Thodsakhone RAZMOUNTRY, Coordinator/Interpreter

1. Meeting agenda and materials

The meeting was held to discuss on composition and terms of requested items, to introduce proposed article of fire safety and proposed composition of fire safety

The meeting followed agenda as following:

- Proposed articles on “Means of Egress” for fire safety
- Proposed composition on chapters of structure safety

2. Discussion content

- Proposed articles on “Means of Egress” for fire safety

The chapter on means of egress has outlined and proposed the content of general provision, building component as well as site planning for fire safety while “mean of escape” shall be talked over in the next working group session. Such proposed articles were provided in a word file and the meeting noted such proposed has not yet compiled into the draft LBC

Taking into account on developing a simplified LBC, the meeting touched up with lao legislation style, heading system, itemizing from long paragraph, annex table to be along with regulatory bodies and explanatory figures

Added by NUOL, faculty of Engineering, the structure of LBC shall be determined in referring to lao protocol way/ lao legislation manner issued by Ministry of Justice in 2012 as well as LBC subjects to designing and construction projects and will be a management tool for civil engineers and architects. From the view point of better LBC construction together with its effectiveness of enforcement, the building structure survey shall be conducted in order to identify significant parameters to be harmonized with definition stipulated and as management purpose, the reference standard shall not limit to American yet also European and other countries.

Describing on structure safety, e.g. concrete design, parameter on force will need to be identified considering standard and quality. Nevertheless, NOUL studied on natural force particularly wind load and speed which 15years data has been obtained and such has been used as a reference for several construction projects. The study results and data can be provided if necessary.

The meeting also concerned on application of LBC for existing building in the light of its further structural renovation, LBC standard shall be able to adopt into existing building and considering on further monitoring and inspection activities.

Added by police department, police are also one of management and inspection agencies on fire safety, fire safety-related refers to law on fire suppression and firefighting which covers general provisions while its specifics have not been regulated yet. In addition, the proposed definition and terminologies on LBC and law are dissimilarity.

In addition, fire exit system shall be defined in accordance with building classification where explanatory figures must be attached in order to facilitate on dissemination once LBC is endorsed. Explanatory figures could also develop as guidance or stipulate on the other related regulatory

documents based on detailed reviews and internal agreement. Nonetheless, principle on determining the ventilation system, reserved power for emergency lift or fire lift and other relevant as well as reference standards shall be considered by learning on local design and construction firms. Added by Faculty of Architecture, NOUL.

- Proposed composition on chapters of structure safety

Prioritization of modification has been sighted by comparing to the most used standard, namely, ASCE 7-16. Some items have also been crossed out from the composition owing a reason of unnecessary for a simplified LBC version. In fact, wind load, one of cut-off items, shall not be left behind considering damages occurred by wind load such as construction structures, billboards and signboard. In addition, building structure safety shall consider on serviceability, ground motion and horizontal force by referring to the international standards.

In conclusion, the meeting provided the official legislation documents to be a reference for LBC construction including heading system as follows:

- Law on making legislation
- Ministerial decision on the impact assessment of draft legislation
- Ministerial decision on the implementation of the official gazette
- PPT on technique of drafting legislation
- Law on fire suppression and prevention
- Reference for heading system, since LBC will be formulated and endorsed as ministerial order, In term of official gazette, any codes, regulations, laws or any documents that lower and under legislation, its style shall only develop into any of two styles as follow:
 - Part, Chapter, Article and clause or
 - Chapter, article and clause

Although heading system as proposed (e.g. 5.1 or 5.1.1 and so on) is easy for understanding and further modification but will not be allowed for official gazette,

Lastly, the meeting also urged a proper interpretation from English into lao on technical terms and terminologies

The next session is tentatively scheduled on 11th May 2022.

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDP)**

Minutes of 6th Building Working Group

May 18th, 2022, 09:00AM – 11:30AM (Remote session)

- I. Objective:
 - To introduce a proposal Article of Fire Safety and Structure Safety
 - To propose Questionnaire Survey/ Hearing to Local engineers
 - To confirm on JCC presentation WG4
 - To discuss the ways forward to implement the Lao Building Code
- II. Agenda:
 - 1. Opening Remark by Ms. Visaphone INTHILATH, Deputy Director General, DHUP.
 - 2. Introduce a proposal Article of Fire Safety and Structure Safety.
 - 3. Propose Questionnaire Survey/ Hearing to Local engineers.
 - 4. To confirm on JCC presentation WG4.
 - 5. To discuss the ways forward to implement the Lao Building Code.
 - 6. Closing by Ms. Visaphone INTHILATH, Deputy Director General.
- III. Document:
 - 01_#06 WG4 Overall & Fire Safety _ 220518 ver.1
 - 02_#06 WG4 Structure Safety _ 220518 ver.1
- IV. QA and Discussion:

1. Introduce a proposal Article of Fire Safety presented by Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

During presentation he also questioned as follows:

- 1) Should the charts/tables be listed in Annex as they are currently in?
- 2) Is it a policy not to include explanatory Figures?

QA: 30 minutes and Discussion:

Dr. Douangmala KOUNSANA, Deputy Director, Department of Research and Technical Service

At the outset I would like to appreciate the presentation of the expert and give recommend as following:

- 1) To ensure the code is locally proper to the building construction environment in Laos since the construction material in Japan and Laos have different fire resistance property.
- 2) For the rebar covering thickness of the simple structure part such as column, beam, slab etc., Most of Laos local construction are familiar with the usage of 2.5 cm as such covering thickness but in case of the code specify a different

covering thickness value, it would be difficult to change such familiarity of Laos local construction.

3) I recommend listing the charts and table in the regulation of the building codes.

Assoc. Prof. Khampaseuth THEPVONGSA, Director, Division of Public Works

Due to the current variety application of building code in Laos such as applying of American, French, Japan standard etc. For example, I experienced in Lao National Assembly design, variety designers apply the code which they are proficient with such Russia Code, USA Code, Japan Code etc. So, I would like to recommend conducting survey for the standard which is used the most in Laos to be a reference for our draft of building code.

To conduct a survey for the application of standard in Laos, the university and education institute are suggested to survey. In addition, there is an architecture and engineer associate in Lao, I also would like to contribute our WG to publish our building codes to those associates.

Mr. Xayoudom MEUANGPAK, Director, Division of Building Technicians

We shall consider the long-term development of building in Laos in next 50 years whether the current utilization of material of the building elements appropriated or not and the cost of fire resistance material which would be used Laos shall be considered as well. In addition, As the expert has questioned during the presentation that “Should the charts/tables be listed in Annex as they are currently in” it is necessary to do so.

Dr. Douangmala KOUNSANA, Deputy Director, Department of Research and Technical Service

Request the police section which in charge of fire fighting to provide the historical data and information of the building fire event that has occurred previously for the reference of the research of fire resistance ability of the material which use in Laos.

Ms. Visaphone INTHILATH, Deputy Director General, DHUP

The ability of each type of fireproof material shall be clearly identify such as the fire resistance ability period of the material and purchasable place of the material. Regarding the technical terms which will be translated from English to Lao, Lao side will translate them properly under the cooperation among several sections.

In addition, under the lao legislation, any images/pictures shall not allow to be incorporated into the main body of LBC, however, technical guideline could be one of references stipulating specific requirements given the explanatory images.

Assoc. Prof. Khampaseuth THEPVONGSA, Director, Division of Public Works

I would like to share my experience in building fire safety design especially the fire wall, the fire wall is not required to be installed for all building room compartment, it is

required to install in the crowded people zone and evacuation zone only such as meeting room, emergency escape way, etc. Moreover, ventilation system which will release smoke during fire event is occurred is also necessary for fire safety design.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co., Ltd

The fire resistance ability of the material of each country are not the same. For example, the building structure which has the same concrete covering thickness in the US and Japan shall have different period of fire resistance. Therefore, Lao side must decide which code they want to follow for instance, Japan code, USA code, Singapore code etc.

2. Introduce a proposal Article of Structure Safety presented by Mr. Yuji KUSAWAKE, JICA Expert, Nippon Koei Co., ltd.

QA: 30 minutes and Discussion:

Ms. Visaphone INTHILATH, Deputy Director General, DHUP

My recommendation is to consider the building stability of the building of course we must consider the Seismic Ground Motion Values. But the Seismic Ground Motion Values in Laos might be different between northern, central, and southern part. I would also like to introduce that the historical data and information of earthquake which has been occurred in Laos is under control of the Ministry of Natural Resource and Environmental, Department of Climate Change.

Assoc. Prof. Khampaseuth THEPVONGSA, Director, Division of Public Works

Due to there is no research about Seismic in Laos therefore, to determine information for Seismic Ground Motion Values for Lao building code. I would like recommended the expert team to collect the data and information from the country which shared border with Laos such as Thailand and China.

Dr. Douangmala KOUNSANA, Deputy Director, Department of Research and Technical Service

I would like to recommend the expert team to determine the Seismic Ground Motion Values for each province of Laos separately due to the actual condition of the occurrence of earthquake in each province are different.

3. Confirm on JCC presentation WG4

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co., Ltd

As per Lao side request, I would like to confirm that I have drafted the PPT, but it is very long if compared to the time of 15 minutes for presentation.

Ms. Visaphone INTHILATH, Deputy Director General, DHUP

Due to the presentation time in JCC meeting is very limited therefore, I would like to ask for permission to re-arrange, modify, and shorten the PPT in accordance with carrying out the presentation within 15 minutes.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co., Ltd

Yes, you can modify and shorten the PPT and simplify it.

Ms. Visaphone INTHILATH, Deputy Director General, DHUP

We will make our PPT into 2 languages. Anyway, the PPT which will be shown in the JCC meeting would be the Lao language version. However, the interpreter will translate to English during the presentation.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co., Ltd

My recommendation is you can remove slides which are not necessary.

4. Discuss the ways forward to implement the Lao Building Code.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co., Ltd

The next meeting of our WG will be held on next 2 weeks, right?

Ms. Visaphone INTHILATH, Deputy Director General, DHUP

Since the next 2 weeks we also have JCC meeting so our team (Lao side) will re-schedule for the next meeting of build WG.

5. Participants

List of Participants

DHUP:	- Ms. Visaphone INTHILATH, Deputy Director General - Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control - Mr. Phayboun SOUNAKEN, Technical Staff, Division of Building Construction Control - Mr. Thavisouk PHOMVILAY - Mr. Souksavanh HANEPHOM
PTRI:	- Ms. Phattharavady UDOMDETH
NUOL:	- Mr. Xayoudom MEUANGPAK, Director, Division of Building Technicians - Dr. Douangmala KOUNSANA, Deputy Director, Department of Research and Technical Service - Assoc. Prof. Khampaseuth THEPVONGSA, Director, Division of Public Works
CDUDCP:	- Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention - Mr. Yuji KUSAWAKE, Building Structure - Ms. Yui Razmouny, Coordinator/Interpreter - Mr. Vanxayxiong NAOLORXIONG, Project Assistant

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDP)**

Minutes of 7th Building Working Group

June 07th, 2022, 09:00AM – 11:47AM (Remote session)

- I. Objective:
 - To introduce a proposal Article of Fire Safety and Structure Safety
 - To propose Questionnaire Survey/ Hearing to Local engineers
 - To discuss the ways forward to implement the Lao Building Code
- II. Agenda:
 - 1. Opening Remark by Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP.
 - 2. Introduce a proposal Article of Fire Safety and Structure Safety.
 - 3. Propose Questionnaire Survey/ Hearing to Local engineers.
 - 4. To discuss the ways forward to implement the Lao Building Code.
 - 5. Closing by Mr. Nalongxay MYVAPADITH, Deputy Director General.
- III. Document:
- IV. 01_#07 WG_B Overall & Fire Safety_220607
- V. 02_#07 WG_B Structure Safety _ 220607
- VI. QA and Discussion:

1. Introduce a proposal Article of Fire Safety presented by Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

QA and Discussion:

Dr. Douangmala KOUNSANA, Deputy Director, Department of Research and Technical Service

Firstly, I would like to respect the chairman and all participants from each section. I would like to question that if we compare the Japan standard to other country standard, are them the same?

Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention

I think almost the same but for example, for high-rise building is 31 m or higher and in Singapore is 24 m. In Japan 31 m high is the maximum water spraying capacity of the firetruck and for the building which higher than 31 m shall be installed more additional firefighting equipment.

Dr. Douangmala KOUNSANA, Deputy Director, Department of Research and Technical Service

Due to the fire safety standard of Japan is one of the highest standard so to draft Lao standard, I would like the expert to consider the economic condition of Lao people by

separately classify the firefighting equipment which are required for low-rise building, medium building and high-rise building.

In addition, I also want to share the expert that since previous 10 years only 22 high-rise buildings were constructed in Vientiane and only 1 build of these building is higher than 100 m.

Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention

As I remember, we have already discussed on the building category in the 1st and 2nd meeting. The building which higher than 20 m and the floor area is more than 20,000 sqm will be the target of this building controlled but I think it is the medium scale. so, maybe the grade 1 is 3 storey with the floor area of 400 sqm, the second grade is medium size and the grade 3 is more than 20 m high and 10,000 sqm of the floor area and the high-rise building is 100 m or 150 m high.

In additional, Japanese standard and other countries' standard are not different, but the different is fire accident is rare occurred in Laos since the resident always stay in their house then they can stop the fire as soon as it is occurred. On the other hand, in Japan for instance, in an apartment in case of fire occurs in a room without resident, residents in other room mostly don't know therefore, fire spread and cause fire accident to the building. As aa result, such standard will be applied in Laos or not.

Dr. Douangmala KOUNSANA, Deputy Director, Department of Research and Technical Service.

If possible, I want the expert to research the standard of other undeveloped country which has the similarity economic condition with Laos to be a guidance to draft a suitability standard for Lao Economic.

Ms. Visaphone INTILATH, Deputy Director General

As Dr. Douangmala's comment on categorizing of the building controlled, we initially discuss on categorizing of building controlled. However, I would like the expert to make more detail on controlling each category of building. Moreover, I want to share Police Department of Firefighting and Fire Prevention that the height of 20 m that was originally determined as Lao high-rise building is specified by base on the water spraying capacity of Lao firefighting truck. In case the water spraying capacity of firefighting truck in Laos is increased, we will discuss on re-determining of the height of the high-rise building later. Anyway, I would like the expert to consider whether determining the height of high-rise building in accordance with the water spraying capacity of the firefighting truck is acceptable or not.

In my understanding there are several types of fire extinguisher and of course the requirement of fire extinguisher for a building is not only one type. As a result, I would like the expert to give more detail on utilizing of fire extinguisher for each type of rooms of a building.

Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention

Due to the classification of building are usually separate and the detail content is around 1 page or 2 pages therefore, we are better to discuss later. As I explained in the last 2 meeting that in Singapore, the classification of a usage of space are the high, the floor area, and the air value so, they are divided to many categories and we can of course make it.

Police Department of Firefighting and Fire Prevention

Since the life and property of resident are the most important and as we know that fire stoppable phase is few minutes only so to protect the resident life and property we recommend to have firefighting equipment as a personal fire prevention equipment. So, we agree with the proposal of firefighting system of the expert but to mention the suitability capacity of the firefighting system for each classification of building is necessary.

In addition, we would like to share us that our current firefighting truck is able for 32m high. Finally, due to some words weren't translated technically so if possible our team will support to provide some technical words for further translation.

Assoc. Prof. Khampaseuth THEPVONGSA, Director, Division of Public Works

I would like to recommend that the risk of being killed of resident in case of fire event is not only consider the height of the building but also consider the purpose of usage of the building. For example, a meeting room in the one storey building which content crowd people also risk for being killed of people by fire. As a result, to install firefighting system in building, we must consider at least all life of resident are saved.

2. Introduce a proposal Article of Structure Safety presented by Mr. Yuji KUSAWAKE, JICA Expert/Nippon Koei Co.,Ltd.

QA and Discussion:

Assoc. Prof. Khampaseuth THEPVONGSA, Director, Division of Public Works

Dr. Khampaseuth has shared the data collection of wind speed which will use to make the map of wind speed in Laos to all participants.

Mr. Nalongxay MYVAPADITH, Deputy Director General

Is it possible if we give a chance to Dr. Khampaseuth for a presentation on wind speed?

Assoc. Prof. Khampaseuth THEPVONGSA, Director, Division of Public Works

Yes, it is possible. However, to make the map of wind speed on Laos, we still require to collect some more detail of data of wind speed from the Department of Meteorology so I would like to request MPWT to cooperate us in requesting data from Department of Meteorology. Moreover, I would like to conduct a workshop with the JICA experts and

representatives of related section to discuss on the necessity data for mapping of wind speed in Laos than we can propose to DHUP to support us to request those data from Department of Meteorology.

Dr. Douangmala KOUNSANA, Deputy Director, Department of Research and Technical Service.

As Dr. Khampaseuth mentioned that to draft the map of wind speed it is necessary to collect more detail of data from the Department of Meteorology but as my previous experience, to get data from the Department of Meteorology we have to purchase thus, I would like request MPWT to cooperate on collecting data from Department of Meteorology.

Mr. Jayyang, Project Assistant

I would like to share us that there are two data system regarding Meteorology which content previous data and the estimation data for the next 100 years from following sections:

- 1) The Department of Meteorology and Hydrology, Ministry of Natural Resource and Environment
- 2) The Department of Agriculture and land management, Ministry of Agriculture and Forestry.

In addition, the data in above section can also be searched by internet and if I have chance to participate the next meeting I will show us how to search and download the data.

3. Participants

List of Participants

DHUP:	- Mr. Nalongxay MYVAPADITH, Deputy Director General - Ms. Visaphone INTHILATH, Deputy Director General - Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control - Mr. Phayboun SOUNAKEN, Technical Staff, Division of Building Construction Control - Mr. Thavisouk PHOMVILAY - Mr. Souksavanh HANEPHOM
DPWT	- Mr. Sinthanou PHANTHAVONG - Mr. Xaysana PHETXIENGDA - Mr. Vientihane
PTRI:	- Ms. Phattharavady UDOMDETH
NUOL:	- Mr. Xayoudom MEUANGPAK, Director, Division of Building Technicians - Dr. Douangmala KOUNSANA, Deputy Director, Department of Research and Technical Service - Assoc. Prof. Khampaseuth THEPVONGSA, Director, Division of Public Works

	- Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works
JICA Laos Office:	- Shunichiro Hayashi
CDUDCP:	- Mr. Minoru MATSUI, Team leader - Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention - Mr. Yuji KUSAWAKE, Building Structure - Mr. Chikara UCHIDA, Co-Team Leader - Ms. Kunika KONAKA, Training Management/Administration - Mr. Vanxayxiong NAOLORXIONG, Project Assistant
As observer	- Ms. Chieko MATSUBARA, JICA HQ - Ms. Tomoko YAMAMOTO, Longt-term expert

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDP)**

Minutes of 8th Building Working Group

June 27th, 2022, 09:00AM – 11:35AM (Remote session)

- I. Objective:
 - To introduce a proposal Article of Fire Safety and Structure Safety
 - To propose Questionnaire Survey/ Hearing to Local engineers
 - To discuss the ways forward to implement the Lao Building Code
- II. Agenda:
 - 1. Opening Remark by Ms. Visaphone INTHILATH, Deputy Director General, DHUP.
 - 2. Introduce a proposal Article of Fire Safety and Structure Safety.
 - 3. Propose Questionnaire Survey/ Hearing to Local engineers.
 - 4. To discuss the ways forward to implement the Lao Building Code.
 - 5. Closing by Ms. Visaphone INTHILATH, Deputy Director General.
- III. Document:
 - 01_#08 WG_B Overall & Fire Safety
 - 02_#08 WG_B Overall & Structure Safety
- IV. QA and Discussion:

1. Introduce a proposal Article of Fire Safety presented by Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

QA and Discussion:

Lieutenant Colonel (Lt.) Bounlieng SOUNTHAKITH, Deputy Director, Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention

The proposed articles are consentingly agreed and the discussion on how shall the applications be applied for each categories of building will be carried out in the next step.

Ms. Visaphone INTHILATH, Deputy Director General

Due to the limitation of time of each WG therefore, Lao side will hold an internal meeting to discuss on how to specify and identify the building classifications.

The presentation clearly points out the necessity and suitability of building code and the draft of building code. However, Lao side will internally discuss on the determination and clarification of the build code application suitability for the building height not only 20 m but also variety height such as 100 m, 150 m and etc. Additionally, depending on the comment from 2nd JCC meeting on holding workshops with NUOL, how is the Japanese expert expectation on the suitable time for those workshops implementation, shall the

workshops be conducted after drafting of Lao building code(LBC) or at the beginning of the draft of LBC.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co., Ltd

The workshop or seminar is better to be held at the phase when all the articles are almost covered to discuss more.

Ms. Visaphone INTHILATH, Deputy Director General

In accordance with the comment on considering of disabled peoples and elderly for the building design from 2nd JCC meeting, the Lao Architects, Engineers as well as the previous drafted of Lao building code consider such design for the health care centers, public buildings, hospitals and etc. However, such building design wasn't previously taken into account for ordinary buildings so, to consider on facilitating of disabled peoples and elderly on building design, the Ministry of Labour and Social Welfare may be a main source information and data.

Owing to the water spraying capacity of the closed type of fire sprinkler is around 80 L/min-320 L/min so, it's necessary to consider that the water tank capacity to supply water to the sprinkler system.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co., Ltd

The closed type of water sprinkler, will start to sprinkle water unit by unit while they sensitize higher than 70 °C of temperature. In the other hand, the water spraying duration is specified to be 20 minutes in Japan because the firefighter team will arrive within such time. However, there are some countries specify the water spraying duration to be 1 hour or more. As a result, in Japan 40 T of water shall be applied and the countries which set the water spraying duration in 1 hour shall apply 120 T of water.

The capacity of the underground water tank in the drawing of the presentation slide is 160 m³ and the domestic water supply capacity is 48 m³. Anyway, the capacity of the underground water tank shall be design in accordance with the size of the building.

Additionally, I hope that the 20 high rise building such as Latsavong Plaza, Don Chan Palace Hotel, Sky office at Vientiane World Trade Center, and etc. have already installed fire hydrant or fire sprinkler system.

Ms. Visaphone INTHILATH, Deputy Director General

Sky office at Vientiane World Trade Center there is not only one over 30 storey building but also variety sub building which will be used for many purpose such as office, mall, fitness center and so on. Therefore, we still concern whether they have completed firefighting system or not.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co., Ltd

As I have researched on Vientiane World Trade Center there are buildings with variety usage objective so, the requirement of those buildings shall be depended on the utilization purpose of the building.

Mr. Thavisouk PHOMVILAY, Technical Staff, Division of Building Construction Control

Is there any specification of accessible public road width for high rise building in Japan or Singapore? for example, the 20 m high building shall has at least 8 m width of accessible public road and the 40 m high building shall has at least 10 m width of accessible public road.

Ms. Visaphone INTHILATH, Deputy Director General

Is it necessary for the high rise building on setting-back from the public road?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co., Ltd

Of course, we have but due to it is complicated so the accessibility of fire truck and firefighter will be explained on chapter 5 or 6 and also the setting-back of high rise building will be shown by next time as well.

Ms. Visaphone INTHILATH, Deputy Director General

In case of the ordinary buildings are regulated to be 10 m set back from the public road, how is the high rise building? Is it effected if only 10 m set back from the public road also?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co., Ltd

10 m set back is effected but owing to fire truck cannot access through the green area so it is recommended to have accessible road at least 1 or 2 side of the building.

2. Introduce a proposal Article of Structure Safety presented by Mr. Yuji KUSAWAKE, JICA Expert/Nippon Koei Co.,Ltd.

QA and Discussion:

Mr. Minoru MATSUI, Team leader

Why the data of California is proposed for Vientiane case? Is there any other case from countries which are close to Laos such as Thailand, Vietnam?

Why the value of S_{DS} is set to be 1.0-0.8 and how to set such value?

Mr. Yuji KUSAWAKE, JICA Expert/Nippon Koei Co.,Ltd.

There is no data same as this kind of data in Thailand, Vietnam therefore, the case of California was proposed in this presentation.

Ms. Yui Razmouny, Coordinator/Interpreter

As my understanding, to determine the value of S_{DS} and PGA_M , we can specify such value as a research paper only we would not able creating a data base as the US.

Ms. Visaphone INTHILATH, Deputy Director General

Since we are not sure whether the paper from Chulalongkorn University researched on our target area or not. So, to use the data from such research, the adjustment coefficient shall be applied. However, adjustment coefficient shall be discussed and determine among related sections including NUOL and the Association of Lao Architect and Civil Engineer.

As slide 4 of the presentation, the lateral force of each storey of the building are different so, in the structure calculation, is there any method to calculate them separately.

Mr. Yuji KUSAWAKE, JICA Expert/Nippon Koei Co.,Ltd.

Since Lao side requested to apply American code instead Japanese code therefore, in the near future if the Japanese code is no longer needed, it can be deleted.

Ms. Visaphone INTHILATH, Deputy Director General

To have data base of wind load and seismic load is quite difficult, it is not only Laos but also several counties still don't have such data base. However, the such load determination would be more easy to understand if the expert could have such data from neighboring countries code such as Vietnam, Thailand, China and etc. Moreover, Lao side will internally discuss on the probability of conducting an internal meeting or workshop for such issue.

Mr. Yuji KUSAWAKE, JICA Expert/Nippon Koei Co.,Ltd.

The current method is explained as Japanese method. However, it is just an alternative method so, in the future if Lao side could have the MCE_R then Japanese method can be deleted.

Ms. Visaphone INTHILATH, Deputy Director General

Lao side will conduct an internal meeting to discuss regarding the proposed articles on fire safety and structure safety of the expert.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co., Ltd

Does the Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention have any statistics of occurred fire event?

Bounlieng SOUNTHAKITH, Deputy Director, Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention

The statistics data of occurred fire event was recorded but they are not much detailed. However, we will provide such statistics for the expert for the project reference.

3. Participants

List of Participants

DHUP:	- Ms. Visaphone INTILATH, Deputy Director General - Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control - Mr. Saykham SOUKSAVANH, Deputy Director, Division of Construction Control - Mr. Phayboun SOUNAKEN, Technical Staff, Division of Building Construction Control - Mr. Souksavanh HANEPHOM
DPWT	
PTRI:	
NUOL	
Ministry of Public Security	- Lieutenant Colonel (Lt.) Bounlieng SOUNTHAKITH, Deputy Director, Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention
JICA Laos Office:	
CDUDCP:	- Mr. Minoru MATSUI, Team leader - Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention - Mr. Yuji KUSAWAKE, Building Structure - Ms. Yui RAZMOUNTRY, Coordinator/Interpreter - Mr. Vanxayxiong NAOLORXIONG, Project Assistant
As observer	

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDP)**

Minutes of 9th Building Working Group

July 13th, 2022, 09:00AM – 11:25AM (Remote session)

I. Objective:

- To introduce a proposal Article of Fire Safety and Structure Safety
- To propose Questionnaire Survey/ Hearing to Local engineers
- To discuss the ways forward to implement the Lao Building Code

II. Agenda:

1. Opening Remark by Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP.
2. Introduce a proposal Article of Fire Safety and Structure Safety.
3. Propose Questionnaire Survey/ Hearing to Local engineers.
4. To discuss the ways forward to implement the Lao Building Code.
5. Closing by Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP.

III. Document:

- 01_#09 WG_B Overall & Fire Safety_220713
- 02_#09 WG_B Structure Safety _ 220713
- 03_#09 Chapter-7. Additional Requirements by Type of Buildings_ (Word file)
- 03b_#09 Chapter 5_3 Site Planning Control
- 04_#09 Building Code_ Chapter 4 Structure Design (Word file)

IV. QA and Discussion:

- 1. Introduce a proposal Article of Fire Safety presented by Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.**

QA and Discussion:

Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP.

Regarding water monitor, how does the sensor process to detect fire and how long can the fire be known after start detecting.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

There is a frame detector which works seem the monitor camera or sometimes a smoke detector is installed as a sensor; therefore, when the detector catch the signal then water spraying start automatically after 4 minutes of being detected of the fire because the wooden structure with the straw roof can be fired very easily. Thus, the 3 or 4 minutes of fire commencement are necessary for initial fire extinguishing. Otherwise, fire spread and it is difficult to stop. In addition, the water monitor can turn by 180° from left to right. As a result,

it is very suitable to be installed for wooden structure such as heritage buildings and structures which are easy to be fired.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control

Is the fire lifts can be applied for only the purpose of firefighting or it can be used for other purpose as well?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

The utilization of fire lift is depended on the country for example, in Japan, the fire lift can be used by resident for evacuation but it shall be operated by the fireman and in Singapore, staffs who were trained for the fire lift operation and maintenance are obtained approval to use the fire lift.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control

Is there any determination for the fire lift maintenance frequency or operation test after being install without any fire incident?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Usually, ordinary lifts are maintained twice a year; therefore, fire lifts may have the same maintenance frequency as the normal lift, but fire lift will be inspected by firemen or licensed inspectors once a year in Japan.

Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP.

We appreciate the proposed articles of enhancing of firefighting access system and firemen access doors and acknowledge the determination of #10 building WG meeting schedule. However, Lao side will correctly define the terminology of the Lao building code and surely consult with JICA expert team.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Sure, the terminology is very important to be correctly translated from English to Lao. Otherwise, difficult to understand.

2. Introduce a proposal Article of Structure Safety presented by Mr. Yuji KUSAWAKE, JICA Expert/Nippon Koei Co.,Ltd.

QA and Discussion:

Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP.

Does Lao side have any document regarding the live load determination principle, and is there any coefficient on roof live load determination?

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control

The previous configuration of live load, Lao side referred to ACI standard which is annexed in the existed draft of Lao building code. However, live load is determined by base on the purpose of usage of the building such as residence buildings, hospitals, school, mall and etc. each type of building will have different value of live load.

Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP.

Lao side will share the annex of the initial draft of Laos building code which is a reference for previous live load determination to the expert.

Anyways, could the expert re-explain the difference between uniform load and concentrated load.

Mr. Yuji KUSAWAKE, JICA Expert/Nippon Koei Co.,Ltd.

The uniform load is the load which spread from the laying bodies as shown the figure and the concentrated load is the load that concentrated in only one point of the bodies of the shown figure. And in generally the concentrated load provides greater stress to the floor than the uniform load.

Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP.

Regarding the concentrated load is there any numerical? However, we understand and got clear image on the principle of determination of live load, and we will share the document regarding life load specifying of the initial draft of Lao building code to the expert later. Additionally, the main remaining task of our side is to define the terminology and final them together with the expert the JICA team.

3. Discuss the ways forward to implement the Lao Building Code presented by

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

QA and Discussion:

Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP.

Is it possible that the JICA expert team could hire a professional translator to assist in the draft of building code translation once the completion of the draft of building code?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

It would be very difficult because the translator needs to have knowledge on structure and fire safety as well as mechanical. Therefore, please arrange some professional person who can review the draft of Lao version.

Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP.

In accordance with the shift of the schedule for carrying out the 1st draft of Lao building code, other activities are also necessary to be shifted particularly the third country study tour.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

The third country study tour is better to conduct in next year.

Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP.

There are 12 chapters in the existed Lao building code so, which of those chapters will the JICA expert draft complies with? If the experts draft only fire safety and structure safety sections, it would be faster if we add those sections to the existed LBC only.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

We will draft only fire and structure safety chapters and of course, the advice of other chapters will be also provided and Lao side shall review it.

Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP.

We got clear image on the ways forward to implement LBC and agree with the JICA expert proposals regarding the translation, schedule and the postpone of visiting the third country.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

The draft of fire safety is made in chapter by chapter so, if Lao side has any comment please act in each WG meetings, Japanese side is waiting for the response of comment and review from Lao side.

Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP.

After the drafted chapter has been translated by JICA experts' Lao staff and they share us then we will comment and respond the expert.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Base on the legislation of Lao, the explanation figure or list shall be attached in the back pages. Therefore, it would be difficult to understand for users. As a result, to make a numerical number in detail is better.

Ms. Chieko MATSUBARA, JICA Headquarters.

Base on the active discussion in this WG, the structure and content of LBC has been more clear. However, have the higher level officers including deputy minister and mister recognized the content or structure of draft of LBC. In addition, I understand that the current concern in Vientiane is none can check the high-rise building such as 32 m-33 m high but because the very tight schedule for working on LBC draft so, this BC is very simplified and I concern that whether this draft of LBC can match the expectation of Lao side for the approval of the national congress or not. Thus, my request is to have common view on the LBC especially structure content, coverage of buildings, what type of buildings, what kind of weight and what numerical should be added or included at the approval stage of national congress. As a result, it is very necessary to share common view before drafting of LBC and please confirm with the certain higher decision making level officers of Lao side that whether the expected LBC will be in line with the BC which will be developed by this WG or not. Finally, if the effort of this WG become no use then it would be very problematic so please avoid such situation.

Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP.

The draft of this BC is conducted under the supervision of the vice minister and minister and surely they acknowledge the implementation situation of BC drafting throughout previous phase.

The objective of the BG of this WG is expected to be a ministerial order on building management which planned to be disseminated by the beginning of next year as a simplified version. Moreover, there is an internal procedure which contents six stages regarding the process of approval of this BC.

Ms. Chieko MATSUBARA, JICA Headquarters.

Do each revisions of those approval stages get congress approval accordingly?

Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP.

Each stages will be revised time by time if there are any comment. Finally, we would like to confirm that we will cooperate to provide required document for the project to bring the project achieve on schedule.

4. Participants

List of Participants

DHUP:	- Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP. - Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control - Mr. Phayboun SOUNAKEN, Technical Staff, Division of Building Construction Control - Mr. Thavisouk PHOMVILAY
DPWT	- Mr. Sinthanou PHANTHAVONG - Mr. Xaysana PHETXIENGDA - Mr. Vientiane
PTRI:	- Ms. Phattharavady UDOMDETH
NUOL	
Ministry of Public Security	- Lieutenant Colonel (Lt.) Bounlieng SOUNTHAKITH, Deputy Director, Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention - Lieutenant Colonel (Lt.) Chittasone PHANTHAVONG, Director, Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention.
JICA Laos Office:	- Shunichiro Hayashi
CDUDCP:	- Mr. Minoru MATSUI, Team leader - Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention - Mr. Yuji KUSAWAKE, Building Structure - Mr. Chikara UCHIDA, Co-Team Leader - Ms. Kunika KONAKA, Training Management/Administration

	- Ms. Yui RAZMOUNTRY, Coordinator/Interpreter - Mr. Vanxayxiong NAOLORXIONG, Project Assistant
As observer	- Ms. Chieko MATSUBARA, JICA HQ - Ms. Tomoko YAMAMOTO, Long-term expert - Mr. Yuta AIHARA, Long-term Expert

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDP)**

Minutes of 10th Building Working Group

Aug 22nd, 2022, 09:00AM – 11:30 AM (Remote session)

- I. Objective:
 - To introduce a proposal Article of Fire Safety and Structure Safety
 - To propose the schedule for draft making
 - To discuss the ways forward to implement the Lao Building Code
- II. Agenda:
 1. Opening Remark by Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP.
 2. Overall Procedure and Schedule.
 3. Proposed draft of Articles on Fire Safety.
 4. Proposed draft of Articles on Structure Safety.
 5. Closing by Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP.
- III. Document:
 - 01_#10 WG_B Overall & Fire Safety _220822 ver. 1
- IV. 02_#10 WG_B Structure Safety _ 220817 ver.1
- V. QA and Discussion:
 1. **Introduce a proposal Article of Fire Safety presented by Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.**
QA and Discussion:

Lieutenant Colonel (Lt.) Bounlieng SOUNTHAKITH, Deputy Director, Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention.
Does the BC content any requirement regarding fire protection wall and fire proof curtain?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.
The fire protection wall was determined in the LBC, but we did not provide the fire protection curtain.
 2. **Introduce a proposal Article of Structure Safety presented by Mr. Yuji KUSAWAKE, JICA Expert/Nippon Koei Co.,Ltd.**

QA and Discussion:

Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP.
As discussed, the translation of drafted LBC e.g. Articles, Requirements will be translated by Lao staff of Japanese then the translated version will be shared to the counterparts for review and comment.

Mr. Thavisouk PHOMVILAY, Technical Staff, Division of Building Construction Control

Arrangement and itemization of annex must follow with the main content and the annex shall clearly specify the specification us as size of staircase, proper materials used for building construction, etc.

Lieutenant Colonel (Lt.) Bounlieng SOUNTHAKITH, Deputy Director, Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention.

Since there are some technical terms were improperly defined from English to Lao language. Therefore, once the draft of LBC was translated, please share us for review and assist in terminology defining.

Mr. Phayboun SOUNAKEN, Technical Staff, Division of Building Construction Control

Regarding Articles related with drawing document, how much will the expert detail to regulate structural drawing, architectural drawing, fire protection system drawing, etc.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

- More detail requirement is ongoing preparing by Kusawake san with aiming to be proposed on the next meeting.
- The size of controlled building that type 1, for more than 10,000 sqm floor area and type 2, more than 20 m high, how does Lao side think in our recommendation to make smaller type for example 7000 sqm.

Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP.

We agree in making smaller type of building. However, how to improve the translation process especially to faster translate the draft of LBC by the expert team then share us since DHUP has their own specific technical terms and Police Department of Firefighting and Fire Prevention also has their own specific technical terms that will be contributed, added and will complement to the translation.

Lieutenant Colonel (Lt.) Bounlieng SOUNTHAKITH, Deputy Director, Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention.

As indicated in the building type number 2, does 10 m high mean high rise building height?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd

20 m is the high rise build and medium building is less than 10 m high. In addition, next meeting I will make the category and the explanation slide and we will discuss on the better size of floor area or height of buildings such 400 sqm, 1000 sqm, 20 m and so on.

3. Participants

List of Participants

DHUP:	- Mr. Nalongxay MYVAPADITH, Deputy Director General, DHUP. - Ms. Visphone INTHILATH, Deputy Director General, DHUP.
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	- Mr. Phayboun SOUNAKEN, Technical Staff, Division of Building Construction Control - Mr. Thavisouk PHOMVILAY
DPWT	
PTRI:	
NUOL	- Mr. Xayoudom MEUANGPAK, Director, Division of Building Technicians
Ministry of Public Security	- Lieutenant Colonel (Lt.) Bounlieng SOUNTHAKITH, Deputy Director, Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention
JICA Laos Office:	- Shunichiro Hayashi
CDUDCP:	- Mr. Minoru MATSUI, Team leader - Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention - Mr. Yuji KUSAWAKE, Building Structure - Mr. Chikara UCHIDA, Co-Team Leader - Ms. Kunika KONAKA, Training Management/Administration - Ms. Yui RAZMOUNTRY, Coordinator/Interpreter - Mr. Vanxayxiong NAOLORXIONG, Project Assistant - Mr. Chayyang CHEUVE, Project Assistant
As observer	- Ms. Chieko MATSUBARA, JICA HQ

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDP)**

Minutes of 11th Building Working Group

Sept 8th, 2022, 09:00AM – 11:25 AM (Remote session)

I. Objective:

- To introduce a proposal Article of Fire Safety and Structure Safety
- To propose the schedule for draft making
- To discuss the ways forward to implement the Lao Building Code

II. Agenda:

1. Opening Remark by Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control.
2. Overall Procedure and Schedule.
3. Recommendation on other Articles related Building Safety.
4. Closing by Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

III. Document:

00_#11 WG_B Agenda_220908

01_#11 WG_B Overall & Fire Safety_220908

03_#10 Building Code draft _ fire safety_ main ver.1 (word file) same as last meeting

03_#10 Building Code draft _ fire safety_ annex ver.1(word file) same as last meeting

06_#11 Definitions 220908 ver.3 (excel file)

IV. QA and Discussion:

- 1. Introduce a proposal Article of Fire Safety presented by Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.**

QA and Discussion:

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Regarding fire safety technical terms, Lieutenant Colonel (Lt.) Bounlieng SOUNTHAKITH will assist in defining and structure safety technical terms, could the professors from NOUL please assist in translation review.

Mr. Xayoudom MEUANGPAK, Director, Division of Building Technicians.

NOUL is willing to assist in terminology definition but shall work together with DHUP since DHUP has much experience in building code and other construction standard making.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control,

As presented, the fire license is going to be renewed around 4 or 5 years right, it may be too long renewal frequency.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

After completion of the building, the fire authorities will conduct the final inspection and the fire license will be issued once the final inspection is done. However, the fire license is usually expired round 2, 3, 4 or 5 years by basing on the government regulation and will be renewed with putting new fire safety adjustment.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control,

Residential buildings with more than 400 sqm of floor area, shall we control as controlled building, or we must do so for only public buildings with more than 400 sqm of floor area only.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

All those fire safety or structure safety code or regulation shall be applied only controlled buildings or all buildings?

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control,

The purpose of LBC is to mainly apply for public buildings such as hospital buildings, commercial buildings, department stores etc.

For the residential buildings owned by citizen, since we concern that the building owners have insufficient budget to construct their buildings in accordance with the LBC requirements. As a result, strict requirements of LBC is purposed to be applied for public buildings but requirements applied for residential building must be lighten.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

In case we mention the floor area and height, the residential buildings and commercial building may not much different, but in case we mention the usage of those building, of course they are different, and I will explain later because we can have some more clarification on this construction management.

Mr. Xayoudom MEUANGPAK, Director, Division of Building Technicians.

The proposal of the chair is appreciated and agreed but the requirement of LBC must content completed regulations and principles. To except applying strict regulation for buildings which the owners have insufficient budget must be conducted throughout the LBC utilization phase. In addition, regarding building classification, the 3 configured categories are already suitable for buildings condition in Lao. However, during the design stage and construction stage, after construction stage of the building, the sections (e.g. designed companies, contractors, sub-contractors, etc.) worked regarding building control must be clarified in the LBC.

Regarding proposed annex of the expert, since various technical standard cannot be included to the main content thus, the annex content is very important.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Who will check fire safety applications, the ministry or fire department?

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control,

Currently, DHUP realized that Police Department of Firefighting and Fire Prevention will in charge of fire safety system inspection and approval since doing those task may facilitate them to conduct firefighting in case fire event is occurred to a building.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

For example, in Japan, small buildings are checked by Tokyo City Municipality authority, but from medium size and large size are check by fire department.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control,

In case of check by Tokyo municipality, will the municipality take action on firefighting in case fire event is occurred?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

In Japan the municipalities have their own fire department.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control,

In Lao, each province including Vientiane Capital has their own fire department, and in Vientiane Capital are only two firefighting and protection station.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

So, who will check the application.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control,

In Lao, there is no agency to check the fire protection system but DHUP has experienced on checking fundamental firefighting equipment such as sprinklers, smoke detectors, fire hydrant, etc.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

But when the owner or investor submit the application, at that time who will check fire facilities or equipment.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control,

There are 2 mean agencies (DHUP and Fire Department) will be involved for the fire facilities check

Mr. Xayoudom MEUANGPAK, Director, Division of Building Technicians.

To control buildings, authorities must perform in accordance with the classified categories requirement of the LBC and the LBC maker must consider the change of 5-10 years in the future to ensure the LBC is able to be used throughout future period. Moreover, to minimize the step of conduction construction permit is very important since the Lao people don't like to take much time for requesting of construction permit.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Regarding Chapter 9 Inspection and conformity certification, I want to make it in technical term as follows:

- 1) The conformity of design before requesting construction permission, to inspect and certify
- 2) The conformity of construction (construction period) and to
- 3) Inspect durability or safety during the management of building use.

Above is the planning explanation but the technical term is design review or investigation and issue of building permit or construction permit.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control,

In order to issue conformity certificate, the final inspection once the building has been constructed must demonstrate that the building was constructing in compliance with the proposed procedure, drawing then the conformity certificate can be issued.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

The sentences regarding Inspection and conformity certification are intended to be made much clear, but this decision on construction management was already explained in chapter 4 and 5 which will be shown later.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control,

How frequency of fire safety equipment operation test?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Usually in 3 or 4 years, but how is LBC, is it decision of the minister?

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control,

LBC is decision of the minister.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

All construction works in urban area shall be proceed by the submission of development application in accordance with law and regulation, does it mean all types of buildings need application?

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control,

All types of constructions need an application, but LBC is applied for controlled building only.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

What is the purpose of controlled building in construction management regulation?

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control,

It means the procedure of issuing construction permit of Ministry level, Provincial Level and District Level without considering more detail of structure safety, fire safety, etc.

Mr. Minoru MATSUI, JICA Expert/Team leader

Controlled building means the target building of building code right? If definition of terminology of controlled build was change, the controlled building explanation should be change.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

All construction works need the submission of development application.

Mr. Thavisouk PHOMVILAY, Technical Staff,

Not limited to the floor area and the height, some building has less floor area but risk to be fired such as building used for flammable material storage.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

That risk in our building code is more clear because there are difficult.

As Lao side mention, controlled building is the target of LBC, but as the explanation of many buildings, my recommendation is to include those buildings to apply some part of LBC.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control,

Since overall buildings in Laos are with the size of 400 sqm-1000 sqm. Therefore, including those building to be controlled by LBC is agreed.

2. Participants

List of Participants

DHUP:	- Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control - Mr. Thavisouk PHOMVILAY - Mr. Souksavanh HANEPHOM
DPWT	
PTRI:	
NUOL	- Mr. Xayoudom MEUANGPAK, Director, Division of Building Technicians
Ministry of Public Security	
JICA Laos Office:	
CDUDCP:	- Mr. Minoru MATSUI, Team leader - Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention - Ms. Yui RAZMOUNTRY, Coordinator/Interpreter - Mr. Vanxayxiong NAOLORXIONG, Project Assistant - Mr. Viengdavanh PHOMMACHANH, Project Assistant
As observer	- Takayoshi Yamada

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDP)**

Minutes of 12th Building Working Group

Sept 29th, 2022, 09:00AM – 11:35 AM (Remote session)

I. Objective:

- To introduce a proposal Article of Fire Safety and Structure Safety
- To propose the schedule for draft making
- To discuss the ways forward to implement the Lao Building Code

II. Agenda:

1. Opening Remark by Ms. Visaphone INTHILATH, Deputy Director General
2. Proposed draft of Articles on Fire Safety: 2nd draft of “main text” of BC and refer “annex”.
3. Proposed draft of Articles on Structure Safety: Soils and Foundations.
4. Closing by Ms. Visaphone INTHILATH, Deputy Director General, Deputy Director General

III. Document:

- 00_#12 WG_B Agenda_220929
- 01_#12 WG_B Overall & Fire Safety_220929
- 02_#12 WG_B Structure Safety_220929
- 03_#10 Building Code draft_fire safety_ main ver.1 (word file) same as last meeting
- 03_#10 Building Code draft_fire safety_ annex ver.1 (word file) same as last meeting
- 06_#11 Definitions 220908 ver.3 (excel file)

IV. QA and Discussion:

- 1. Introduce a proposal Article of Fire Safety presented by Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.**

QA and Discussion:

Ms. Visaphone INTHILATH, Deputy Director General.

Could the expert define symbol used in the tentative LBC draft schedule (e.g. circles, double circles, triangles, etc.)

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

The red circles define the 12th building WG meeting, the black circles define the coming schedule of building WG meeting and the 3 triangles describe for first, second and third draft of LBC. However, it is depending on the translation, adjustment, and confirmation of Lao side because LBC is the most important.

Ms. Visaphone INTHILATH, Deputy Director General.

Lao side will be responsible for reviewing the terminologies definition as per the proposed

schedule of the expert by obtaining consented comment by director general.

Regarding the building classification particularly super high rise building with more than 100 m height and 30,000 sqm floor area, since LBC might disable controlling such buildings. Therefore, shall Lao side take responsibility on making a specific regulation to control those buildings or to draft such regulations will be done by the JICA expert.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Structure stability is expected to be responsible by the National University of Lao and Lao Structural Engineers, and the ministry should have such building review committee to check such special case for high rise building mainly structure. For mega malls, special safety equipment and precaution are necessary. Thus, Lao side should obtain comment from fire department and some design companies since there are some international regulations and specialists. As a result, those members should always have the committee. Moreover, the regulations used the ex-type buildings shall be international regulations due to super high rise buildings need special analysis, and the committee have to check the code applied in analyzing as well as assuming whether the analyzed structure are safe or not.

Across Japan, there are specification base and performance base, designers shall report detail of calculation of designed building and how is it safe to the performance base.

Ms. Visaphone INTHILATH, Deputy Director General.

Lao side will concentrate on the specified type of buildings building as priority and to establish special committee will be considered later.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

minimum requirements, basic requirements, additional requirements and additional recommendations will be consisted of in LBC.

Ms. Visaphone INTHILATH, Deputy Director General.

Since the English skill of Lao side's officers is low, and it seems much time will be taken on the translation reviews, so could the experts provide collaboration on such task?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

The fire safety is expected to be assisted by fire department, and structure safety terminologies definition assistance is anticipated to be provide by NUOL.

Ms. Visaphone INTHILATH, Deputy Director General.

Lao side will accelerate in conducting tasks which are its responsibility such as translations, itemization of chapters, articles. However, in case of facing difficulties, to request for out solving from the expert will be very necessary.

The drafted main body and annex will be reviewed by full team members of Laos side and the exchange comment will be shared further meeting.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Regarding the decision on construction management, who arrange legal wording?

Ms. Visaphone INTHILATH, Deputy Director General.

The decision on construction management was drafted by DHUP with approving by the Minister. In addition, the determined floor area in the decision on construction management are sizes specified for provincial management level, district level so those sizes of floor area might be different from size stipulated on LBC.

Since there are different types of liquid used for firefighting. So, have the proper types of sprinklers applied for each liquid types been stipulated in the annex of LBC?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

There are specifications in the annex but all of them are very huge so, the designer can follow British, American, Japan and Thai specification.

Ms. Visaphone INTHILATH, Deputy Director General.

DHUP would like to request for collaboration from Fire Department on definition of fire technical terms particularly firefighting equipment terminologies.

Lieutenant Colonel (Lt.) Bounlieng SOUNTHAKITH, Deputy Director, Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention.

Fire Department is willingly to collaborate in the requested task.

Introduce a proposal Article of Structure Safety presented by Mr. Yuji KUSAWAKE, JICA Expert/Nippon Koei Co.,Ltd.

QA and Discussion:

Ms. Visaphone INTHILATH, Deputy Director General.

Regarding our understanding that precast prestressed pile was design to avoid confliction between the pile round surface and the soil during installation, and precast non-prestressed pile will be effective to be used in the hard soil zone such as roadside, river bank, etc. However, could the expert provide more clarification on such types of pile in particular the difference property and specification of them?

Mr. Yuji KUSAWAKE, JICA Expert/Nippon Koei Co.,Ltd.

There is tree type of pile was included in the presentation such as 1. precast non-prestressed piles, 2. precast prestressed pile and 3. cast-in-place concrete pile with strength of $1 < 2 < 3$ respectively. However, precast non-prestressed piles is the cheapest type. Therefore, to consider applying the most suitable type of pile for each construction is better.

Ms. Visaphone INTHILATH, Deputy Director General.

The expert clarification is very appreciated, and it demonstrates that to judge to utilize type of pile must be responsible by designers.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Application of pile types is depending on soil condition, in case the bearing layer is very deep, cast-in-place pile is the most suitable, in case the building is within 3 storey, precast non-prestressed pile should be chosen and in case, higher than 3 storey, precast prestressed pile is recommended.

Mr. Yuji KUSAWAKE, JICA Expert/Nippon Koei Co.,Ltd.

Where applying for super high rise building construction, cast-in-place pile is the most suitable since the diameter of this pile type can be expensed in order to site demand.

Ms. Visaphone INTHILATH, Deputy Director General.

Lao side figures that the whole content of soil and foundation will be developed into either the annex or technical guideline of structure safety.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

All items will be developed in the future, and due to the law on legislation making of Lao prohibits very technical code or publication.

Mr. Saykham SOUKSAVANH, Deputy Director, Division of Construction Control

Since the articles content still seem very technical wording so, could the expert minimize those technicalities by shifting them to the annex.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Technical terms are better to be used in the articles. Otherwise, it will be very difficult to explain by Lao language. Anyways, charges and tables as well as technical terms have already been included to the annex, and it is already nearly 30 pages.

Ms. Visaphone INTHILATH, Deputy Director General.

Technical terms of articles of current condition shouldn't be concerned since LBC is decision approved by the minister, and counterpart will clarify to the minister regarding the necessity. However, discussion in the later stage will be performed if there any further matter.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

In case of extracting of technical terms from the articles, foreigner users might complicate. Somehow, the expert team will complement the LBC together with the counterpart.

Lieutenant Colonel (Lt.) Bounlieng SOUNTHAKITH, Deputy Director, Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention.

Once the articles have been translated, fire department welcome to assist in reviewing and completing the Lao version.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

We would like to request the National University of Lao to assist in wording of technical terming particularly structure safety terminology since there are professors and professional personnel in the National University of Lao.

2. Participants

List of Participants

DHUP:	- Ms. Visaphone INTHILATH, Deputy Director General - Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control - Mr. Saykham SOUKSAVANH, Deputy Director, Division of Construction Control - Mr. Phayboun SOUNAKEN, Technical Staff, Division of Building Construction Control - Mr. Souksavanh HANEPHOM	
DPWT		
PTI:		
NUOL		
Ministry of Public Security	- Lieutenant Colonel (Lt.) Bounlieng SOUNTHAKITH, Deputy Director, Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention	
JICA Laos Office:		
CDUDCP:	- Mr. Minoru MATSUI, Team leader - Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention - Mr. Yuji KUSAWAKE, Building Structure - Ms. Yui RAZMOUNTRY, Coordinator/Interpreter - Mr. Vanxayxiong NAOLORXIONG, Project Assistant	
As observer		

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDP)**

Minutes of 13th Building Working Group

Oct 20th, 2022, 09:00AM – 11:35 AM (Remote session)

- I. Objective:
 - To introduce a proposal Article of Fire Safety and Structure Safety
 - To propose the schedule for draft making
 - To discuss the ways forward to implement the Lao Building Code
- II. Agenda:
 - 1. Opening Remark by Mr. Nalongxay MYVAPADITH, Deputy Director General
 - 2. Proposed draft of Articles on Fire Safety: Main text of BC on overall Articles.
 - 3. Proposed draft of Articles on Structure Safety: Concrete and Steel.
 - 4. Closing by Mr. Nalongxay MYVAPADITH, Deputy Director General, Deputy Director General
- III. Document:
 - 00_#13 WG_B Agenda_221030
 - 01_#13 WG_B Overall & Fire Safety_221030
 - 02_#13 WG_B Structure Safety_221030
 - 03_#13 Building Code draft_main ver.1 (word file)
 - 03_Lao_#13 Building Code draft_main ver.1 (word file)
 - 04_#10 Building Code Chapter4 draft ver.2
 - 04_Lao#13 Building Code chapter4 draft ver.1
 - 05_#10 Building Code-fire safety annex ver.1
 - 05_Lao #10 Building Code-fire safety annex ver.1

1. Introduce a proposal Article of Fire Safety presented by Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

QA and Discussion:

Mr. Xayoudom MEUANGPAK, Director, Division of Building Technicians.

LBC is better to be arranged by chapters and clearly identify content of annex which are requirement and which are technical content, shall we add the requirement contents of the annex to the main body of LBC. Regarding the manuals (e.g. manual of construction permit), how will we include the manual to annex. In addition, building design companies shall involve the LBC since they are sections which will apply LBC in building design.

Mr. Minoru MATSUI, Team leader

When will questionnaire survey for local engineering companies be conducted?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

I am waiting for the translation version of LBC, and I want to conduct questionnaire survey for local engineering companies during Matsui san stay in Laos.

Mr. Minoru MATSUI, Team leader

The draft translation of LBC is expected to be done by the end of this month and the meeting for questionnaire survey is anticipated to be conducted on middle or early of November then I can join by face to face. During the meeting Nishimura san will explain the outline of LBC, and we will share the draft of draft to the Local consultants and also we need to give the questionnaire sheet for comments.

Mr. Nalongxay MYVAPADITH, Deputy Director General.

- 1) In response to comment from Professor from NUOL, doing questionnaire survey is not the approval process of legislation, the process of approving legislation is consisted of 6 step and since local engineering companies are the main involvement of LBC application therefore, questionnaire survey for local engineer is necessary. However, holding comprehensive meeting with local engineering will be performed later.
- 2) Since annex 1 is almost 61 pages and annex 2 is 68 pages approximately so, it might be too long in comparing with Lao people which reading is not preferable for most of them. Therefore, minimizing content in order to make simplified understanding is recommended, if can.
- 3) Regarding setting numerical or size for leveling of floor area, height, etc. for example, Level-C:<400 sqm, Level-B:400 sqm to 10,000 sqm and Level-A: > 10,000 sqm could those leveling size be set as follows: **Level-C:<400 sqm, Level-B:401 sqm to 10,000 sqm and Level-A: > 10,001 sqm**
- 4) Lao side will conduct internal task on reviewing the translation of LBC by inviting related agencies to involve the reviewing and comments will be shared to Japanese side via coordinators.
- 5) Could the experts focus on points of LBC wick required Lao side to review?

Ms. Visaphone INTHILATH, Deputy Director General.

In chapter 7, due to there was only 1 article contained so, if there are any additional content, could more articles be made? Or in order to avoid single article, could high-rise building and large build be separated to different articles?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Two articles will be made without separated by section 1 and 2 as follows: article 48: high-rise and large building and article 49: type of occupancy.

Lieutenant Colonel (Lt.) Bounlieng SOUNTHAKITH, Deputy Director, Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention.

- 1) Is there any assigned section which will work on reviewing of LBC?

2) Symbol used for design work must be uniformity

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Some country, fire department checks fire safety application and building safety application will be checked in the ministry or municipality. When fire accidents are happened, firefighters have to go to the site, and they should know the type of buildings and firefighting facilities. As a result, fire department should involve on fire safety application, execution and periodically monitoring.

Mr. Minoru MATSUI, Team leader

In chapter: 10 which mention the management and inspection Authorities on building control, from articles 55 to 59, mention only DHUP, DPWT, OPW, is it difficult or possible if LBC stipulate department of other ministry which need to involve in inspection in BLC?

Mr. Nalongxay MYVAPADITH, Deputy Director General.

Activities of DHUP is not only related within its agencies but also related with other agencies. However, reviewing requirements, legislations as well as LBC will be conducted by DHUP only by following related requirements of other agencies and the approval shall be done by DHUP.

Mr. Minoru MATSUI, Team leader

In case of large scale building (more than 10,000 m² of floor area), does the committee inspect that case?

Mr. Nalongxay MYVAPADITH, Deputy Director General.

Regarding mega project, of course, there is committee which involved by all relevant ministries for reviewing and approval.

Mr. Minoru MATSUI, Team leader

In case of medium size buildings (400 m²-10,000 m² of floor area), does DPWT conduct approval or reviewing only?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Medium or small size of building is depended on type or risk of building (e.g. if the ordinary buildings with no risk, those buildings are no problem, but if small buildings with hazard, police department should conduct firefighting system check.

Mr. Minoru MATSUI, Team leader

Police department needs official reason for doing activities and those reasons shall be mentioned on laws, decisions or legislations, and LBC actually need to be checked by police department. Thus, regulation on such needed check shall be necessary.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Police department has their own [regulation](#).

Mr. Nalongxay MYVAPADITH, Deputy Director General.

Currently, there was law on fire prevention in Ministry of Public Security so, firefighting activities is truly police department responsibility. For medium project, will be checked by DHUP by following standards and requirements of Ministry of Public Security. However, a special committee group which will be established by prime minister will be responsible for mega project/ high-rise building.

Mr. Xayoudom MEUANGPAK, Director, Division of Building Technicians.

- 1) We must concentrate on clarifying the draft of LBC without concerning that LBC would be too many pages/ too long because pages can be arranged to be not only one book but also can be made as multi books.
- 2) Drafting LBC, we must ensure that LBC can be able to comprehensively treat all unexpected event which will be occurred in the future.

Lieutenant Colonel (Lt.) Bounlieng SOUNTHAKITH, Deputy Director, Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention.

There is a law on Firefighting and fire prevention No. 09/ສພຊ issued on Oct 24, 2007 so, Firefighting and fire prevention activities are responsibilities of Police Department of Firefighting and Fire Prevention. On behalf of involving LBC, does Police Department of Firefighting and Fire Prevention have obligation on firefighting drawing review?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

There some task of fire department was already made in the law so, fire department should involve in firefighting drawing check, inspection as well as monitoring.

Introduce a proposal Article of Structure Safety presented by Mr. Yuji KUSAWAKE, JICA Expert/Nippon Koei Co.,Ltd.

QA and Discussion:

Mr. Xayoudom MEUANGPAK, Director, Division of Building Technicians.

- 1) Lao side and the expert team should have a specific team which work together emphasizing in technical wording in order to correctly define terms and to have uniform symbol due to structure part is very technical terms.
- 2) To include figures to enhance understanding of applicant is very important because it would be the first LBC, so we must concentrate on clarification instead of worrying on having multi pages of LBC.

Mr. Yuji KUSAWAKE, JICA Expert/Nippon Koei Co.,Ltd.

The presented material is only annex part.

Ms. Visaphone INTILATH, Deputy Director General.

Regarding symbols, letters and terminology wording, we agree with the proposed of professor from NOUL. However, as shown in the PowerPoint slide, defining letters of h, L, etc. seems not enough.

Mr. Minoru MATSUI, Team leader.

We need to include the definition of symbols. For example, h: height of the beam, L is length of beam, etc.

Mr. Xayoudom MEUANGPAK, Director, Division of Building Technicians.

Actually, symbols shown in the presentation material might be very well understand for engineer already. Anyways, LBC will be used as official documents with having reference so, detailed definition of symbols shall be included.

Mr. Nalongxay MYVAPADITH, Deputy Director General.

Is there any preparation regarding questionnaire survey for local engineering companies?

Mr. Minoru MATSUI, Team leader.

Please propose list of target company, drafted agenda, drafted questionnaire as well as explanation of outline of interview survey in the next WG meeting.

Mr. Nalongxay MYVAPADITH, Deputy Director General.

How are Nishimura san and Kusawake san plans to visit Laos?

Mr. Minoru MATSUI, Team leader.

Due to there is a physical problem with Nishimura san. Therefore, our head office didn't permit them to come to Laos this year, and they are expected to visit Laos by next year.

2. Participants

List of Participants

DHUP:	- Mr. Nalongxay MYVAPADITH, Deputy Director General. - Ms. Visaphone INTILATH, Deputy Director General - Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control - Mr. Saykham SOUKSAVANH, Deputy Director, Division of Construction Control - Mr. Phayboun SOUNAKEN, Technical Staff, Division of Building Construction Control - Mr. Phavilay PHANALASY, Technical Staff, Division of Construction Control
DPWT	

PTI:	
NUOL	- Mr. Xayoudom MEUANGPAK, Director, Division of Building Technicians
Ministry of Public Security	- Lieutenant Colonel (Lt.) Bounlieng SOUNTHAKITH, Deputy Director, Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention
JICA Laos Office:	
CDUDCP:	- Mr. Minoru MATSUI, Team leader - Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention - Mr. Yuji KUSAWAKE, Building Structure - Ms. Yui RAZMOUNTRY, Coordinator/Interpreter - Mr. Vanxayxiong NAOLORXIONG, Project Assistant
As observer	

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDP)**

Minutes of 14th Building Working Group

Nov 04th, 2022, 09:00AM – 11:30 AM (Remote session)

- I. Objective:
 - To introduce a proposal Article of Fire Safety and Structure Safety
 - To propose the schedule for draft making
 - To discuss the ways forward to implement the Lao Building Code
- II. Agenda:
 - 1. Opening Remark by Ms. Visaphone INTHILATH, Deputy Director General
 - 2. Proposed draft of Articles on Fire Safety: Main text of BC on overall Articles.
 - 3. Proposed draft of Articles on Structure Safety: Concrete and Steel.
 - 4. Closing by Ms. Visaphone INTHILATH, Deputy Director General
- III. Document:
 - 00_En_#14 WG_B_Agenda_221104
 - 01_#14 WG_B Overall & Fire Safety_221104
 - 02_#14 WG_B Structure Safety_221104
 - 03_#14 WG_B Questionnaire_221104 ver.1
 - 03_Building Code draft_main ver.1
 - 03_Lao Building Code draft_main ver.1

1. Introduce a proposal Article of Fire Safety presented by Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

QA and Discussion:

Mr. Saykham SOUKSAVANH, Deputy Director, Division of Construction Control

Regarding slide number 11, there are already 4 responsible organizations, but environmental organization also seems required because the construction activities consideration is not only fire safety and structural safety but also environmental safety.

Mr. Minoru MATSUI, Team leader

In that case which agency or section are required to involve.
san stay in Laos.

Mr. Saykham SOUKSAVANH, Deputy Director, Division of Construction Control

Shall be involved with Department of Natural Resource and Environment (DONRE)

Mr. Minoru MATSUI, Team leader

- 1) Do you mean Environment Impact Assessment (EIA)?
- 2) What is responsibility of the 4 organization shown in slide 11, does it mean those organizations are responsible for building permission procedure, or do you mean they are responsible for formulating LBC.

Ms. Visaphone INTHILATH, Deputy Director General

Consideration of environment impact assessment may not relate to LBC, but it may be taken into account during mega building construction permission stage.

Mr. Minoru MATSUI, Team leader

Before the application of construction permission is submitted, responsibilities of DONRE and EIA need to be clarified in more detail.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Usually there is other application system included in environment regulation so, building code and environment prevention code are separated.

Ms. Visaphone INTHILATH, Deputy Director General

Does the expert need to stipulate the process of construction permit which related to DONRE and EIA in the LBC?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

In the huge buildings, there are several fire safety systems so, police department will check such system one by one and approve application, and since the small building is not too complicated so, checking and approval will be done by DHUP.

Ms. Visaphone INTHILATH, Deputy Director General

- 1) We agree that environment is not related to building code but in the building construction permit regulation, some types of building construction need to consider the impact of environment.
- 2) Regarding building code seminar preparation, participants of the seminar is not only local construction companies but also the Association of Lao Architect and Civil Engineer, concerned education institutes as well as related public agencies (e.g., DHUP, DPWT, PTI).
- 3) The local coordinators and counterparts need to work cooperatively to determine the venue, number of participants that is suitable for the meeting room capacity as well as proper person to be chairman (e.g., Director General).

Mr. Minoru MATSUI, Team leader

- 1) We will prepare the agenda and the participants list, but your advice on participant selection especially, participants from local companies is very necessary. However,

Muto san will lecture on the preparation of seminar particularly the 50 candidate companies selected by our side.

- 2) In our expectation, we will invite all participants but 5 participant companies will join by offline and other companies will join by online.

Ms. Visaphone INTHILATH, Deputy Director General

In case changing of building use or building renovation, could the expert add the management method of such change into the building control procedure.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

It is within construction regulation.

Ms. Visaphone INTHILATH, Deputy Director General

If the building renovation management method is added into LBC, authorities' inspection or monitoring activities will be more simplified.

Mr. Minoru MATSUI, Team leader

Building renovation management method only associate to LBC but also related to construction management.

Ms. Visaphone INTHILATH, Deputy Director General

Building renovation management method might be content of building use management.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Changing of building use or building extension is usually inspected by fire department, and inspector will point out fire equipment proper to the purpose of change.

2. Introduce a proposal Article of Structure Safety presented by Mr. Yuji

KUSAWAKE, JICA Expert/Nippon Koei Co.,Ltd.

QA and Discussion:

Ms. Visaphone INTHILATH, Deputy Director General

We would like to hear more regarding bearing wall and none bearing wall.

Mr. Yuji KUSAWAKE, JICA Expert/Nippon Koei Co.,Ltd

- 1) Bearing wall is a structural wall which is able to resist lateral force and to bear weight of building, residence that act from top to bottom.
- 2) None bearing wall is wall that does not support the weight of structure other than the wall itself, none bearing wall is common used in partitioning.

Ms. Visaphone INTHILATH, Deputy Director General

Could the expert clarify more on slenderness ratio in particular, the number of 200.

3. Introduce a proposal seminar for LBC formulation by Mr. Akihito MUTO, Feasibility Study/Investment Promotion
QA and Discussion:

Mr. Akhom PHONGPASEUTH, Acting Director

According to experience, we concern that companies invited to join by online may not participate the seminar. Thus, if possible all participants are better to be invited as offline participant.

Mr. Akihito MUTO, Feasibility Study/Investment Promotion

I would like to confirm the date of seminar and venue with Lao side.

Ms. Visaphone INTHILATH, Deputy Director General

- 1) The draft LBC shall be attached with the invitation letter to ensure participants has sufficient time to review and understand in order to contribute comment during the seminar.
- 2) In response to the questionnaire question, we must consider whether the content is complicated or not. In case complicated, participants must be invited to has discussion with us before conducting seminar.

Mr. Minoru MATSUI, Team leader

After seminar, we will collect all comment sheets and conduct comment analysis then reflect the comment to LBC. In my point, DHUP shall set the dateline for participants to submit the comment sheet.

Ms. Visaphone INTHILATH, Deputy Director General

Some of the proposed local companies might be suspended due to no extension of enterprise registration certificate. Therefore, Lao side will select suitable companies for our participants.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

- 1) The proposed list local companies were made by capital so, most of them are construction companies and since construction companies have no experience on design. Therefore, architect or engineering design and construction companies must be included (e.g., 10 number of design companies, 10 number of construction companies etc.)
- 2) Other than local companies, the Association of Lao Architect and Civil Engineer and Fire Department shall be involved.

Mr. Minoru MATSUI, Team leader

Basically, members of building WG should attend.

Ms. Visaphone INTILATH, Deputy Director General

- 1) Since the director general is necessary to be the chair person for this seminar, but he will be unavailable until Nov 18, 2022. Therefore, we would like to tentatively set the date of building code seminar on Nov 22, 2022.
- 2) How long will the seminar take (e.g., whole day or half day).

Mr. Minoru MATSUI, Team leader

The seminar will be taken for half day. However, we aim to finalize draft LBC within this year.

4. Participants

List of Participants

DHUP:	- Ms. Visaphone INTILATH, Deputy Director General - Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control - Mr. Saykham SOUKSAVANH, Deputy Director, Division of Construction Control - Mr. Phavilay PHANALASY, Technical Staff, Division of Construction Control
DPWT	
PTI:	
NUOL	
Ministry of Public Security	
JICA Laos Office:	
CDUDCP:	- Mr. Minoru MATSUI, Team leader - Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention - Mr. Yuji KUSAWAKE, Building Structure - Mr. Akihito MUTO, Feasibility Study/Investment Promotion - Miki HOMMA, Training Management/Administration - Ms. Yui RAZMOUNTRY, Coordinator/Interpreter - Mr. Vanxayxiong NAOLORXIONG, Project Assistant
As observer	

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDP)**

Minutes of 15th Building Working Group

Nov 23th, 2022, 09:00AM – 10:30 AM (Remote session)

- I. Objective:
 - To prepare Lao Building Seminar
 - To discuss the ways forward to finalize the Lao Building Code
- II. Agenda:
 - 1. Opening Remark by Mr. Nalongxay MYVAPADITH, Deputy Director General
 - 2. Preparation of Lao Building Seminar.
 - 3. Confirmed List of participants (private companies), Date and Venue, Invitation letter, Materials (presentations, draft LBC, questionnaires) of Lao Building Seminar and Schedule after seminar.
 - 4. Closing by Mr. Nalongxay MYVAPADITH, Deputy Director General
- III. Document:
 - 00_01_En_Objective of LBC_22 Nov2022
 - 01_Lao_Objective of LBC_22Nov2022
 - 02_En_Contents of LBC_221118
 - 02_Lao_Contents of LBC_221118 1

1. Preparation of Lao Building Seminar presented by Mr. Minoru MATSUI, Team leader

QA and Discussion:

Mr. Nalongxay MYVAPADITH, Deputy Director

In general, the proposed agenda is agreed, and I will comment on point that necessary to be emphasized. However, why the building seminar is not planned to be held in morning section because morning section is fresh and good atmosphere.

Mr. Minoru MATSUI, Team leader

So, the seminar will be held on morning section from 9:00 AM, and is it ok if we propose Ms. Visaphone to be the first speech presenter.

Mr. Nalongxay MYVAPADITH, Deputy Director

Normally, should be Mr. Akhom PHONGPASEUTH, Director, Division of Building Construction Control.

Mr. Minoru MATSUI, Team leader

We will revise the first speech presenter, and how about the 30 participants from private companies

Mr. Nalongxay MYVAPADITH, Deputy Director

We have already selected and will share to you later.

Mr. Minoru MATSUI, Team leader

How shall we organize the off line meeting. For example, shall be 2 participants per company or 1 participant per company?

Mr. Nalongxay MYVAPADITH, Deputy Director

Normally, companies in Lao is very limited staff so, it is better to invite 1 participant per company.

Mr. Minoru MATSUI, Team leader

We will set up and provide the zoom link then other staff also can participate.

Mr. Nalongxay MYVAPADITH, Deputy Director

Of course, we can provide online link and QR code of attached document file in the invitation letter then companies will inform us on who will join by online and offline, but how many participants did you expect, while participants from DHUP is expected to be 10 and which hotel would be the venue. However, more effective meeting shall be offline.

Mr. Minoru MATSUI, Team leader

We expect 50 participants including us, but most of Japanese expert will join by online and JICA Lao office including our local assistants is expected to be 10.

Mr. Nalongxay MYVAPADITH, Deputy Director

How about members from NUOL.

Mr. Minoru MATSUI, Team leader

Basically, building WG members from NUOL and Police Department will join.

Mr. Nalongxay MYVAPADITH, Deputy Director

Mr. Phayboun will prepare the invitation letter and check list, but when shall we hold the seminar.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

We have no idea regarding the date of seminar but Nov 30, 2022 is also possible.

Mr. Nalongxay MYVAPADITH, Deputy Director

Holding the seminar on Nov 30, is agreed because Dec 02, is Lao national holiday.

Mr. Minoru MATSUI, Team leader

So, the seminar will be held on Nov 30, 2022 in the morning section.

Mr. Nalongxay MYVAPADITH, Deputy Director

So, Nov 29, 2022 we have to check the seminar equipment.

Perhaps, participants from DHUP will be 6 only, from police department and NUOL is 4, from JICA expert side is 10 and from private companies is 30 then totally 50 participants. However, to include lunch service for the seminar is more incentive.

Mr. Minoru MATSUI, Team leader

We are better to book a meeting room with capacity of 60 participants.

Mr. Nalongxay MYVAPADITH, Deputy Director

How is the interpreter?

Mr. Shunichiro HAYASHI, Project Formulation Advisor

Can Aihara san and Yamamoto san join the seminar? have you confirmed them already? Because unfortunately on the planned schedule JICA office seems not available.

Mr. Minoru MATSUI, Team leader

Basically, Yamamoto san doesn't in charge of Building Code.

Mr. Shunichiro HAYASHI, Project Formulation Advisor

So, can only local staffs prepare the venue?

Mr. Minoru MATSUI, Team leader

It is no problem because we have Yui san as the main local staff.

2. Objective of LBC presented by Mr. Minoru MATSUI, Team leader

QA and Discussion:

Mr. Nalongxay MYVAPADITH, Deputy Director

- 1) Shall put the rough total number of Lao high rise building as a reference.
- 2) In Laos, Large scale building is designed in accordance with standard of countries which investors are from (e.g., if investors are from China then building shall be designed by Chinese standard). However, in slide number 3 of the file "01_En_Objective of LBC_22Nov2022", the word of "other country's standards" shall be changed as "foreign country's standards"
- 3) In slide Number 3, the row of "laws and regulation" and column of "Current Building Control of the table, "urban planning law" shall be included.

- 4) In slide number 7, why the level of building high and floor area are set as A, B, C and S, while the letter following C is D.

Mr. Minoru MATSUI, Team leader

“S” is stand for Super High Rise and Super Large Scale.

Mr. Phayboun SOUNAKEN, Technical Staff, Division of Construction Control

The definition of “Building Code”, we had already discussed and defined it (Defined in Lao language) as Building Control Regulation, but the translation of this PPT defined it (Defined in Lao language) as Building Management Regulation. So, it shall be revise.

3. Contents of LBC presented by Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Mr. Nalongxay MYVAPADITH, Deputy Director

There are 3 aims of Lao Building code as specified in slide number 3 of the PPT file named “02_En-_Contents of LBC _221118” but how about climate change such as land slide, flooding, heavy raining, etc.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Flooding, heavy raining and land slide are disaster matter so, it is usually separated.

Mr. Nalongxay MYVAPADITH, Deputy Director

- 1) In slide number 9, the picture indicated for the conformity certificate, the certificate shall be rotated up.
- 2) When will the translation of annex be done.

Mr. Minoru MATSUI, Team leader

The seminar will be hold on Nov 30, 2022 so, we need time for the invitation letter before several days.

Mr. Nalongxay MYVAPADITH, Deputy Director

Regarding slide 13, how frequency of Periodical Monitoring/Inspection.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

The span of Periodical Monitoring/Inspection haven’t been design yet but in article 63, Periodical Monitoring/Inspection is necessary

4. Questionnaires presented by Mr. Akihito MUTO, Feasibility Study/Investment Promotion.

QA and Discussion:

Mr. Akihito MUTO, Feasibility Study/Investment Promotion.

So far, I am not sure what kind of license are used.

Mr. Nalongxay MYVAPADITH, Deputy Director

Since we don't have architecture license so, private companies are now using business license only.

Mr. Minoru MATSUI, Team leader

- 1) Anyhow, we'll ask them to put the name of their license if any.
- 2) Please don't use "I don't understand" as the example answer because it is possible not to understand by miss reading.

Mr. Akihito MUTO, Feasibility Study/Investment Promotion.

After delivering of questionnaire, we will give them 2 weeks for answer, is it enough time?

Mr. Minoru MATSUI, Team leader

We will announce them 1 week, but we set the actual dateline in 2 weeks.

Mr. Nalongxay MYVAPADITH, Deputy Director

Can we make the questionnaire in both online and paper?

Mr. Minoru MATSUI, Team leader

Only online is better because it is easy to analyze the comments, and doing online questionnaire can promote e-government as well.

Mr. Nalongxay MYVAPADITH, Deputy Director

According to Lao style, the answer of questionnaire with choices may not suitable because we suspect that respondents will choose all choices "No". As a result, we are better to emphasize on points of chapters required answerers to comment.

Mr. Minoru MATSUI, Team leader

I agree, we will not use choices of "Yes" and "No" to be the answer of questionnaire and will focus on points needed comments. However, free space for additional comments will be provided.

3. Participants

List of Participants

DHUP:	- Mr. Nalongxay MYVAPADITH, Deputy Director - Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control - Mr. Saykham SOUKSAVANH, Deputy Director, Division of Construction Control
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	- Mr. Phayboun SOUNAKEN, Technical Staff, Division of Construction Control - Mr. Phavilay PHANALASY, Technical Staff, Division of Construction Control
DPWT	
PTI:	
NUOL	
Ministry of Public Security	
JICA Laos Office:	- Mr. Shunichiro HAYASHI, Project Formulation Advisor
CDUDCP:	- Mr. Minoru MATSUI, Team leader - Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention - Mr. Yuji KUSAWAKE, Building Structure - Mr. Akihito MUTO, Feasibility Study/Investment Promotion - Miki HOMMA, Training Management/Administration - Ms. Yui RAZMOUNTRY, Coordinator/Interpreter - Mr. Chayyang CHUVEA, JICA Project Assistant - Mr. Vanxayxiong NAOLORXIONG, Project Assistant
As observer	

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDP)**

Minutes of 16th Building Working Group

Jan 19th, 2023, 09:00AM – 11:20 AM (Remote session)

- I. Objective:
 - To report result of questionnaire on the LBC
 - To discuss the ways forward to finalize the Lao Building Code
- II. Agenda:
 - 1. Opening Remark by Ms. Visaphone INTHILATH, Deputy Director General
 - 2. Presentation of Results of Questionnaire after Lao Building Seminar.
 - 3. Closing Remark by Ms. Visaphone INTHILATH, Deputy Director General
- III. Document:
 - 00_00_En_#16 WG_B_Agenda_230118
 - 01_00_Lao_#16 WG_B_Agenda_230118
 - 02_01_#16 WG_B_Results of Questionair ver.4
 - 02_01_Lao_#16 WG_B_Results of Questionair ver.4

**1. Presentation of Results of Questionnaire after Lao Building Seminar by
Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.**

QA and Discussion:

Ms. Visaphone INTHILATH, Deputy Director General

- 1) Commenting on wording of fire safety is due to the participant didn't understand the draft BC and they comment us to improve right?
- 2) The health and easement may associate with building environment of the buildings which building working group will concentrate on.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

It would be very difficult to imagine definition of special technical terms once it has been translated in Lao language. For example, if defining fire hydrant into Lao language, it may be difficult to imagine as well.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control

According to legislation creation procedure, once the working group has draft the legislation then the working group will collect comments from related agencies and will revise the legislation by basing o collected comments.

Mr. Phayboun SOUNAKEN, Technical Staff, Division of Construction Control

The meeting for collecting comments for draft legislation would be like an open meeting.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control

The meeting will be participated by nationwide public works and transport sectors as an open meeting.

Mr. Phayboun SOUNAKEN, Technical Staff, Division of Construction Control

The meeting will also be participated by all related sectors such as Police Department, DPWT, related sections from Ministry of Energy and Mines and so on.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Is this activity same as a seminar or a conference?

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control

It is not a seminar, it is a nationwide conference that need to be organized after the final draft have been done.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

We have already had private companies' seminar so, the next step is seminar with related agencies right?

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control

Organizing related agencies seminar is not necessary, we can work among building WG to final the draft of LBC then the later stage will be nationwide conference.

Mr. Phayboun SOUNAKEN, Technical Staff, Division of Construction Control

Once the third country training has been done then we will make LBC to be as the final draft and following by the nationwide conference. Few revisions will be conducted after the nationwide conference has been done and the next stage is proposing for approval.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

So, who will organize this conference?

Mr. Souksavanh HANEPHOM, Technical Staff, Division of Urban Planning

If possible organizing this meeting should be support by JICA or by the project budget.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

In personally opinion, a seminar to provide understanding for allied agencies ahead of the nationwide conference is necessary because if omit such seminar, allied agencies will not deeply understand LBC during the nationwide conference. The seminar shall be chaired by DHUP with having related agencies to be committees as well as 2 representatives from FOA and FOE, NUOL respectively.

Mr. Minoru MATSUI, Team leader

Please make list of participated agencies.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

Commenting on organizing a seminar ahead of nationwide meeting is depending on consideration of DHUP, but it would be better if the seminar could be conducted in order to avoid different comment sharing in the nationwide conference.

Mr. Minoru MATSUI, Team leader

Please discuss with DHUP whether the seminar is necessary or not. If necessary, please prepare the list of participants.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control

We will discuss with the team leader whether necessary to have the seminar or not.

Mr. Minoru MATSUI, Team leader

Please discuss with Visaphone san whether necessary or not? If necessary, we hope to have the seminar on the beginning or middle of February.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

Is this LBC the first draft/version or any previous revision have already done?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

After the last seminar, we are preparing points of revision but not revise yet.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

As presented by the expert on determining the numerical value of requirements is not yet performed right? And when will the expert determine those numerical value.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Specifying those numerical values need to consider existing condition of buildings in Lao.

Mr. Minoru MATSUI, Team leader

Do those numerical values mean the specification high or size of controlled buildings?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

They are not only numerical values of target buildings or building classification but also numerical values of technical standard.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

Those numerical value may be quiet tentative because currently Lao doesn't have any uniform BC, but in the future we need to adapt other stand in order to comply the BC to Lao condition. However, what BC will be used as the major reference for LBC.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Structure safety is from the USA, and fire safety is from Japanese or Singapore but the level is high so, that is why don't hear the determination or examination is necessary.

Mr. Minoru MATSUI, Team leader

Is it possible to determine such detail numerical value without any research in Laos?

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

General numerical values might be able to determine by adjusting from foreign standard but major numerical value shall be exactly defined by conducting experiment referring local actual condition. Therefore, to bring us forward to numerical values determination stage, we shall specify that which numerical are general and which are major.

Mr. Minoru MATSUI, Team leader

Could the building expert identify which numerical value need to be adjusted?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

There are some adjustable numerical values in reinforcement concrete structure. For example, fire resistance rating is belonging to thickness of rebar protection (e.g., 1 hour per 40 mm, 2 hours per 50 mm, etc.), such numerical value is adjustable value for local condition.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

Those numerical values also associated with price and of course the level of development and technical expectation between foreign and Laos might be different. Therefore, defining numerical values, several factors shall be fully considered.

Mr. Minoru MATSUI, Team leader

Strength of structure need to balance with the price and of course stronger structure with the saved price is better.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Requirements of the code will stipulate text explaining without numerical value but in technical matter, detail numerical values adapted based on local condition such as fire resistant rate and thickness of concrete cover shall be prescribed.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

As the expert mentioned on fire resistant rate such 1 hour, 2 hours, etc., having manual or guideline provided recommendation on numerical values that effects such rate (e.g., concrete cover) would be better.

Mr. Minoru MATSUI, Team leader

The main text will include explanation by text and numerical values will be contained in the annex. However, PDWT staff will review design document inspect construction site such as thickness, lengths, type of material and so on.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

- 1) Numerical of fire resistance rating and concrete cover is already contained in the annex, but I am not sure whether Lao people can except those concrete cover values or not.
- 2) Due to adjusting numerical values takes time so, my recommendation is to provide rough values and those values will be annually or bi-annually revised for more suitability of local or domestic condition.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

I agree with the expert, but it would be good if we have reference for portions of LBC. For example, portion 1 refers to Thai code, portion 2 refer to UE code, etc. In addition, having a literature review of neighboring country to be a reference for adjusting foreign BC to be as LBC is also important.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

We recommend some informative numerical values from Thai standard and the minimum requirement has already been provided in the annex, but it is still high in domestic so, it is expected to be more adjusted.

Ms. Visaphone INTHILATH, Deputy Director General

In accordance with comments from participants of building code seminar which appeared that most common used standard of private sectors is American Standard and base on the purpose of formulating LBC that aim for building sustainability and safety for buildings. Therefore, the LBC shall be nationwide consensus. As a result, I think it is better to let the expert to determine numerical values with suitable reason of the expert's analysis in order to avoid different comment resulting from exchanging comment ahead of having those numerical values.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

Of course numerical values shall be initially determined by the expert and as we aware that neighboring countries' code refer to other countries such as USA or EU as well. Therefore, LBC may

also refer to foreign countries' code, but essential matter is consideration on suitability of foreign code and Laos condition. However, clearly mention reference standard is necessary.

Ms. Visaphone INTHILATH, Deputy Director General

According to legislation procedure, we will let the expert to determine all conditions such as numerical values, requirements, etc. to be as a draft version then share it to related sections for comment exchanging and building WG member will finalize LBC by basing on collected comments.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

Asking on determining numerical values is due to concerning that whether numerical values has been determined already or not before conducting second building code seminar.

Ms. Visaphone INTHILATH, Deputy Director General

Of course the expert shall determine numerical values before conducting the second seminar.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Numerical values were already determined so, we can review and consider to change or adjust high values.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Numerical values of structural safety are using the values of existing LBC so, I think we don't need to adjust those number, and numerical values of fire safety is very low, but it is still adjustable.

Ms. Visaphone INTHILATH, Deputy Director General

We agree with the expert's schedule and study.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

As Matsui san request you, please prepare participant list and agenda of upcoming workshop.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

The next building WG will be held on Feb 02, 2023.

Ms. Visaphone INTHILATH, Deputy Director General

Is it possible to held the seminar ahead of Feb 20, 2023?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

What is the name of the seminar?

Ms. Visaphone INTHILATH, Deputy Director General

More detail of the next seminar will be discussed in the upcoming building WG meeting.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Yes, more detail will be discussed on 2nd of next month. Anyways, please prepare participant list and agenda of the next seminar.

Ms. Visaphone INTHILATH, Deputy Director General

I would like to express my respect to all participants with highly evaluated the meeting today. In response to comments of participants of the last building seminar and concern of the experts on LBC, may I inform you that currently MPTW website can publish technical documents which interested individuals can also download. In addition, we believe that the Association of Lao Architect and Civil Engineer is a potential for disseminating LBC to line applicants. By the way, we would like the expert to determine numerical values ahead of the seminar, while DHUP will prepare participant list and agenda of upcoming seminar for #17 building WG discussion.

3. Participants

List of Participants

DHUP:	- Ms. Visaphone INTHILATH, Deputy Director General - Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control - Mr. Phayboun SOUNAKEN, Technical Staff, Division of Construction Control - Mr. Phavilay PHANALASY, Technical Staff, Division of Construction Control - Mr. Souksavanh HANEPHOM, Technical Staff, Division of Urban Planning
DPWT	- Mr. Sinthanou PHANTHAVONG, Division of Housing and Urban Planning - Mr. Xaysana PHETXIENGDA, Division of Housing and Urban Planning - Mr. Vientihane, Division of Housing and Urban Planning
PTI:	- Ms. Sengchane SULA, Technical staff
NUOL	- Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works
Ministry of Public Security	
JICA Laos Office:	- Mr. Shunichiro HAYASHI, Project Formulation Advisor
CDUDCP:	- Mr. Minoru MATSUI, Team leader - Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention - Mr. Yuji KUSAWAKE, Building Structure - Mr. Akihito MUTO, Feasibility Study/Investment Promotion - Miki HOMMA, Training Management/Administration - Ms. Yui RAZMOUNTRY, Coordinator/Interpreter - Mr. Vanxayxiong NAOLORXIONG, Project Assistant
As observer	

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDP)**

Minutes of 17th Building Working Group

Feb 02nd, 2023, 09:00AM – 11:10 AM (Remote session)

- I. Objective:
 - To report result of questionnaire on the LBC
 - To discuss the ways forward to finalize the Lao Building Code
 - II. Agenda:
 - 1. Opening Remark by Ms. Visaphone INTHILATH, Deputy Director General
 - 2. Presentation of Results of Questionnaire after Lao Building Seminar.
 - 3. Closing Remark by Ms. Visaphone INTHILATH, Deputy Director General
 - III. Document:
 - Agenda No. 2
 - 1. Presentation of Results of Questionnaire after Lao Building Seminar by Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.**
- QA and Discussion:

Ms. Visaphone INTHILATH, Deputy Director General

- 1) Commenting on wording of fire safety is due to the participant didn't understand the draft BC and they comment us to improve right?
- 2) The health and easement may associate with building environment of the buildings which building working group will concentrate on.

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According to legislation creation procedure, once the working group has draft the legislation then the working group will collect comments from related agencies and will revise the legislation by basing on collected comments.

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Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control

The meeting will be participated by nationwide public works and transport sectors as an open meeting.

Mr. Phayboun SOUNAKEN, Technical Staff, Division of Construction Control

The meeting will also be participated by all related sectors such as Police Department, DPWT, related sections from Ministry of Energy and Mines and so on.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Is this activity same as a seminar or a conference?

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control

It is not a seminar, it is a nationwide conference that need to be organized after the final draft have been done.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

We have already had private companies' seminar so, the next step is seminar with related agencies right?

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Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

So, who will organize this conference?

Mr. Souksavanh HANEPHOM, Technical Staff, Division of Urban Planning

If possible organizing this meeting should be support by JICA or by the project budget.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

In personally opinion, a seminar to provide understanding for allied agencies ahead of the nationwide conference is necessary because if omit such seminar, allied agencies will not deeply understand LBC during the nationwide conference. The seminar shall be chaired by DHUP with having related agencies to be committees as well as 2 representatives from FOA and FOE, NUOL respectively.

Mr. Minoru MATSUI, Team leader

Please make list of participated agencies.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

Commenting on organizing a seminar ahead of nationwide meeting is depending on consideration of DHUP, but it would be better if the seminar could be conducted in order to avoid different comment sharing in the nationwide conference.

Mr. Minoru MATSUI, Team leader

Please discuss with DHUP whether the seminar is necessary or not. If necessary, please prepare the list of participants.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control

We will discuss with the team leader whether necessary to have the seminar or not.

Mr. Minoru MATSUI, Team leader

Please discuss with Visaphone san whether necessary or not? If necessary, we hope to have the seminar on the beginning or middle of February.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

Is this LBC the first draft/version or any previous revision have already done?

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After the last seminar, we are preparing points of revision but not revise yet.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

As presented by the expert on determining the numerical value of requirements is not yet performed right? And when will the expert determine those numerical value.

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Specifying those numerical values need to consider existing condition of buildings in Lao.

Mr. Minoru MATSUI, Team leader

Do those numerical values mean the specification high or size of controlled buildings?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

They are not only numerical values of target buildings or building classification but also numerical values of technical standard.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

Those numerical value may be quiet tentative because currently Lao doesn't have any uniform BC, but in the future we need to adapt other stand in order to comply the BC to Lao condition. However, what BC will be used as the major reference for LBC.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Structure safety is from the USA, and fire safety is from Japanese or Singapore but the level is high so, that is why don't hear the determination or examination is necessary.

Mr. Minoru MATSUI, Team leader

Is it possible to determine such detail numerical value without any research in Laos?

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

General numerical values might be able to determine by adjusting from foreign standard but major numerical value shall be exactly defined by conducting experiment referring local actual condition. Therefore, to bring us forward to numerical values determination stage, we shall specify that which numerical are general and which are major.

Mr. Minoru MATSUI, Team leader

Could the building expert identify which numerical value need to be adjusted?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

There are some adjustable numerical values in reinforcement concrete structure. For example, fire resistance rating is belonging to thickness of rebar protection (e.g., 1 hour per 40 mm, 2 hours per 50 mm, etc.), such numerical value is adjustable value for local condition.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

Those numerical values also associated with price and of course the level of development and technical expectation between foreign and Laos might be different. Therefore, defining numerical values, several factors shall be fully considered.

Mr. Minoru MATSUI, Team leader

Strength of structure need to balance with the price and of course stronger structure with the saved price is better.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Requirements of the code will stipulate text explaining without numerical value but in technical matter, detail numerical values adapted based on local condition such as fire resistant rate and thickness of concrete cover shall be prescribed.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

As the expert mentioned on fire resistant rate such 1 hour, 2 hours, etc., having manual or guideline provided recommendation on numerical values that effects such rate (e.g., concrete cover) would be better.

Mr. Minoru MATSUI, Team leader

The main text will include explanation by text and numerical values will be contained in the annex. However, PDWT staff will review design document inspect construction site such as thickness, lengths, type of material and so on.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

- 1) Numerical of fire resistance rating and concrete cover is already contained in the annex, but I am not sure whether Lao people can except those concrete cover values or not.
- 2) Due to adjusting numerical values takes time so, my recommendation is to provide rough values and those values will be annually or bi-annually revised for more suitability of local or domestic condition.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

I agree with the expert, but it would be good if we have reference for portions of LBC. For example, portion 1 refers to Thai code, portion 2 refer to UE code, etc. In addition, having a literature review of neighboring country to be a reference for adjusting foreign BC to be as LBC is also important.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

We recommend some informative numerical values from Thai standard and the minimum requirement has already been provided in the annex, but it is still high in domestic so, it is expected to be more adjusted.

Ms. Visaphone INTHILATH, Deputy Director General

In accordance with comments from participants of building code seminar which appeared that most common used standard of private sectors is American Standard and base on the purpose of formulating LBC that aim for building sustainability and safety for buildings. Therefore, the LBC shall be nationwide consensus. As a result, I think it is better to let the expert to determine numerical values with suitable reason of the expert's analysis in order to avoid different comment resulting from exchanging comment ahead of having those numerical values.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

Of course numerical values shall be initially determined by the expert and as we aware that neighboring countries' code refer to other countries such as USA or EU as well. Therefore, LBC may also refer to foreign countries' code, but essential matter is consideration on suitability of foreign code and Laos condition. However, clearly mention reference standard is necessary.

Ms. Visaphone INTHILATH, Deputy Director General

According to legislation procedure, we will let the expert to determine all conditions such as numerical values, requirements, etc. to be as a draft version then share it to related sections for comment exchanging and building WG member will finalize LBC by basing on collected comments.

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Asking on determining numerical values is due to concerning that whether numerical values has been determined already or not before conducting second building code seminar.

Ms. Visaphone INTHILATH, Deputy Director General

Of course the expert shall determine numerical values before conducting the second seminar.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Numerical values were already determined so, we can review and consider to change or adjust high values.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Numerical values of structural safety are using the values of existing LBC so, I think we don't need to adjust those number, and numerical values of fire safety is very low, but it is still adjustable.

Ms. Visaphone INTHILATH, Deputy Director General

We agree with the expert's schedule and study.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

As Matsui san request you, please prepare participant list and agenda of upcoming workshop.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

The next building WG will be held on Feb 02, 2023.

Ms. Visaphone INTHILATH, Deputy Director General

Is it possible to held the seminar ahead of Feb 20, 2023?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

What is the name of the seminar?

Ms. Visaphone INTHILATH, Deputy Director General

More detail of the next seminar will be discussed in the upcoming building WG meeting.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Yes, more detail will be discussed on 2nd of next month. Anyways, please prepare participant list and agenda of the next seminar.

Ms. Visaphone INTHILATH, Deputy Director General

I would like to express my respect to all participants with highly evaluated the meeting today. In response to comments of participants of the last building seminar and concern of the experts on LBC, may I inform you that currently MPTW website can publish technical documents which interested individuals can also download. In addition, we believe that the Association of Lao Architect and Civil Engineer is a potential for disseminating LBC to line applicants. By the way, we would like the expert to determine numerical values ahead of the seminar, while DHUP will prepare participant list and agenda of upcoming seminar for #17 building WG discussion.

3. Participants

List of Participants

DHUP:	- Ms. Visaphone INTHILATH, Deputy Director General - Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control - Mr. Phayboun SOUNAKEN, Technical Staff, Division of Construction Control - Mr. Phavilay PHANALASY, Technical Staff, Division of Construction Control - Mr. Souksavanh HANEPHOM, Technical Staff, Division of Urban Planning
DPWT	- Mr. Sinthanou PHANTHAVONG, Division of Housing and Urban Planning - Mr. Xaysana PHETXIENGDA, Division of Housing and Urban Planning - Mr. Vientihane, Division of Housing and Urban Planning
PTI:	- Ms. Sengchane SULA, Technical staff
NUOL	- Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works
Ministry of Public Security	
JICA Laos Office:	- Mr. Shunichiro HAYASHI, Project Formulation Advisor
CDUDCP:	- Mr. Minoru MATSUI, Team leader - Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention - Mr. Yuji KUSAWAKE, Building Structure - Mr. Akihito MUTO, Feasibility Study/Investment Promotion - Miki HOMMA, Training Management/Administration - Ms. Yui RAZMOUNTRY, Coordinator/Interpreter - Mr. Vanxayxiong NAOLORXIONG, Project Assistant
As observer	

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDP)**

Minutes of 19th Building Working Group

Feb 20th, 2023, 09:00AM – 11:00 AM (Remote session)

- I. Objective:
 - To introduce the comments from 2nd LBC seminar
 - To propose to have the Small Technical WG Meeting
 - To discuss Legislation and Implementation Articles
- II. Agenda:
 - 1. Opening Remark by Mr. Nalongxay MYVAPADITH, Deputy Director General
 - 2. Introduce the Comments and Q/A answers.
 - 3. Presentation of Code comparison of other countries.
 - 4. Closing Remark by Mr. Nalongxay MYVAPADITH, Deputy Director General
- III. Document:
 - Agenda No. 2 and 3
 - 1. Introduce the Comments and Q/A answers by Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.**
 - QA and Discussion:

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control

As heard from the expert's presentation, I understand that comments on unit system have already been reflected to LBC and comments concerned with other matter such as safety factors, wind load, seismic load, etc. would be brought into the discussion of the planed routable meeting.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

The chair of the Association of Lao Architects and Civil Engineers(abbreviated as ALACE) said they will review the drafted LBC and will separately report to us, does Lao side receive such report?

Mr. Phayboun SOUNAKEN, Technical Staff

We will follow up with ALACE whether there is any update or not.

Mr. Nalongxay MYVAPADITH, Deputy Director General

Is the round table meeting scheduled on mid-May? Could you propose the specific date?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd

Second week of May, shall it be 9th or 11st May?

Mr. Nalongxay MYVAPADITH, Deputy Director General

Tentatively set on 11 May is better.

Mr. Nalongxay MYVAPADITH, Deputy Director General

Invited participants of roundtable meeting are expected to be maximum 15 attendees (expected invited participants are professors and senior engineers with much experience from foreign countries). In addition, specific topics to be discussed in the roundtable meeting as well as feedback of comment collected from 2nd seminar on building code shall be prepared. However, comments with complicated clarification are omit able.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

I expected that not only architectural and structural engineers but also mechanical engineers with fire safety knowledge are members of ALACE. Therefore, such engineer's participations are expected.

Mr. Nalongxay MYVAPADITH, Deputy Director General

Participation of Professors from FoA and FoE will be included.

Mr. Phayboun SOUNAKEN, Technical Staff

Based on exchanges acquired from ALACE, an internal meeting always be conducted for discussion on LBC or on document regarding BLC attached with invitation letter ahead of participating meeting invited by Building WG.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control

Material to be used in roundtable meeting, revised LBC as well as feedback of comments shall be early prepared in order to provide to participants in advance of the meeting commencement for pre-understanding.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Translation of revised version will be completed 1 week in advance of the meeting for delivering to participants for understanding and comments.

Mr. Nalongxay MYVAPADITH, Deputy Director General

Division of Building Construction Control of DHUP will prepare invitation letters and list of participants and provide to project's local assistant for delivery.

Ms. Visaphone INTILATH, Deputy Director General

- 1) Commenting on wording of fire safety is due to the participant didn't understand the draft BC and they comment us to improve right?
- 2) The health and easement may associate with building environment of the buildings which building working group will concentrate on.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

It would be very difficult to imagine definition of special technical terms once it has been translated in Lao language. For example, if defining fire hydrant into Lao language, it may be difficult to imagine as well.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control

According to legislation creation procedure, once the working group has draft the legislation then the working group will collect comments from related agencies and will revise the legislation by basing on collected comments.

Mr. Phayboun SOUNAKEN, Technical Staff, Division of Construction Control

The meeting for collecting comments for draft legislation would be like an open meeting.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control

The meeting will be participated by nationwide public works and transport sectors as an open meeting.

Mr. Phayboun SOUNAKEN, Technical Staff, Division of Construction Control

The meeting will also be participated by all related sectors such as Police Department, DPWT, related sections from Ministry of Energy and Mines and so on.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Is this activity same as a seminar or a conference?

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control

It is not a seminar, it is a nationwide conference that need to be organized after the final draft have been done.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

We have already had private companies' seminar so, the next step is seminar with related agencies right?

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control

Organizing related agencies seminar is not necessary, we can work among building WG to final the draft of LBC then the later stage will be nationwide conference.

Mr. Phayboun SOUNAKEN, Technical Staff, Division of Construction Control

Once the third country training has been done then we will make LBC to be as the final draft and following by the nationwide conference. Few revisions will be conducted after the nationwide conference has been done and the next stage is proposing for approval.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

So, who will organize this conference?

Mr. Souksavanh HANEPHOM, Technical Staff, Division of Urban Planning

If possible organizing this meeting should be support by JICA or by the project budget.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

In personally opinion, a seminar to provide understanding for allied agencies ahead of the nationwide conference is necessary because if omit such seminar, allied agencies will not deeply understand LBC during the nationwide conference. The seminar shall be chaired by DHUP with having related agencies to be committees as well as 2 representatives from FOA and FOE, NUOL respectively.

Mr. Minoru MATSUI, Team leader

Please make list of participated agencies.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

Commenting on organizing a seminar ahead of nationwide meeting is depending on consideration of DHUP, but it would be better if the seminar could be conducted in order to avoid different comment sharing in the nationwide conference.

Mr. Minoru MATSUI, Team leader

Please discuss with DHUP whether the seminar is necessary or not. If necessary, please prepare the list of participants.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control

We will discuss with the team leader whether necessary to have the seminar or not.

Mr. Minoru MATSUI, Team leader

Please discuss with Visaphone san whether necessary or not? If necessary, we hope to have the seminar on the beginning or middle of February.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

Is this LBC the first draft/version or any previous revision have already done?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

After the last seminar, we are preparing points of revision but not revise yet.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

As presented by the expert on determining the numerical value of requirements is not yet performed right? And when will the expert determine those numerical value.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Specifying those numerical values need to consider existing condition of buildings in Lao.

Mr. Minoru MATSUI, Team leader

Do those numerical values mean the specification high or size of controlled buildings?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

They are not only numerical values of target buildings or building classification but also numerical values of technical standard.

Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works, FOE, NUOL

Those numerical value may be quiet tentative because currently Lao doesn't have any uniform BC, but in the future we need to adapt other stand in order to comply the BC to Lao condition. However, what BC will be used as the major reference for LBC.

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Those numerical values also associated with price and of course the level of development and technical expectation between foreign and Laos might be different. Therefore, defining numerical values, several factors shall be fully considered.

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Strength of structure need to balance with the price and of course stronger structure with the saved price is better.

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As the expert mentioned on fire resistant rate such 1 hour, 2 hours, etc., having manual or guideline provided recommendation on numerical values that effects such rate (e.g., concrete cover) would be better.

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The main text will include explanation by text and numerical values will be contained in the annex. However, PDWT staff will review design document inspect construction site such as thickness, lengths, type of material and so on.

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I agree with the expert, but it would be good if we have reference for portions of LBC. For example, portion 1 refers to Thai code, portion 2 refer to UE code, etc. In addition, having a literature review of neighboring country to be a reference for adjusting foreign BC to be as LBC is also important.

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Asking on determining numerical values is due to concerning that whether numerical values has been determined already or not before conducting second building code seminar.

Ms. Visaphone INTHILATH, Deputy Director General

Of course the expert shall determine numerical values before conducting the second seminar.

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Numerical values were already determined so, we can review and consider to change or adjust high values.

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Ms. Visaphone INTHILATH, Deputy Director General

We agree with the expert's schedule and study.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

As Matsui san request you, please prepare participant list and agenda of upcoming workshop.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

The next building WG will be held on Feb 02, 2023.

Ms. Visaphone INTHILATH, Deputy Director General

Is it possible to held the seminar ahead of Feb 20, 2023?

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

What is the name of the seminar?

Ms. Visaphone INTHILATH, Deputy Director General

More detail of the next seminar will be discussed in the upcoming building WG meeting.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Yes, more detail will be discussed on 2nd of next month. Anyways, please prepare participant list and agenda of the next seminar.

Ms. Visaphone INTHILATH, Deputy Director General

I would like to express my respect to all participants with highly evaluated the meeting today. In response to comments of participants of the last building seminar and concern of the experts on LBC, may I inform you that currently MPTW website can publish technical documents which interested individuals can also download. In addition, we believe that the Association of Lao Architect and Civil Engineer is a potential for disseminating LBC to line applicants. By the way, we would like the expert to determine numerical values ahead of the seminar, while DHUP will prepare participant list and agenda of upcoming seminar for #17 building WG discussion.

3. Participants

List of Participants

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PTI:	- Ms. Sengchane SULA, Technical staff
NUOL	- Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works

Ministry of Public Security	
JICA Laos Office:	- Mr. Shunichiro HAYASHI, Project Formulation Advisor
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As observer	

**The Project for Capacity Development on Urban Development Control and Promotion
(CDUDP)**

Minutes of 20th Building Working Group

Jul 04th, 2023, 01:30 PM – 16:00 PM (Remote session)

I. Objective:

- To introduce the comments from 1st RT meeting
- To report revised points of LBC based on comments from 1st RT meeting
- To confirm situation of data to be provided by ALACE

II. Agenda:

1. Opening Remark by Mr. Nalongxay MYVAPADITH, Deputy Director General
2. Introduce Comments and revised points from RT meeting on LBC and overall and fire safety.
3. Presentation on revised points of Structural based on comments from 1st RT meeting.
4. Closing Remark by Mr. Nalongxay MYVAPADITH, Deputy Director General

III. Document:

Agenda No. 2 and 3

- 1. Introduce Comments and revised points from RT meeting on LBC and overall and fire safety by Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.**
- 2. Presentation on revised points of Structural based on comments from 1st RT meeting**

QA and Discussion:

Mr. Nalongxay MYVAPADITH, Deputy Director General

I would like to express my appreciation to the experts on summarizing comments from 1st RT meeting as well as making revisions for LBC based on such comments. As the experts' presentation, it is appeared that data regarding wind load factors and seismic load factor haven't been provided by ALACE yet.

Since a meeting called "ministerial meeting" which would have the objective to report the completeness of our LBC to the minister and all DGs of MPWT is necessary, but further meetings tentatively scheduled by the experts doesn't cover such meeting. So, I would like to ask the expert that whether it is better to have the ministerial meeting ahead of 3rd country tour (on the beginning of August) or such meeting should be conduct once 3rd country tour. However, to conduct ministerial meeting, the expert should ensure the completeness of LBC.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

Legal check by related departments shall be conducted in order to make LBC becomes more completed.

Mr. Nalongxay MYVAPADITH, Deputy Director General

We will in charge of legal check, but again we would like to hear from the expert whether the completeness of LBC content is ensured.

Mr. Tetsuro NISHIMURA, JICA Expert/Nippon Koei Co.,Ltd.

The content is completed, but I concern about legal format of the main text and annex.

Mr. Nalongxay MYVAPADITH, Deputy Director General

There is a legislation division belonging to permanent secretary office of MPWT. Therefore, we will work with them to check legal format of LBC.

Mr. Saykham Souksavanh, Deputy Director, Division of Construction Control

In article 20 factor of safety, it seems the definition of “Factor of safety is a ratio of force or structural ability divide by the load or the actual force. To ensure that, value of acceptable load must be higher or equal required strength value.” is better than the definition of “The owner should increase the external force (seismic force, wind force, etc.) according to the importance of the building.”

Mr. Yuji KUSAWAKE, JICA Expert/Nippon Koei Co.,Ltd

As indicated in my PPT, the black paragraph the first original, the red paragraph is the requested definition and the blue paragraph is the finalized definition putted in LBC. However, which of such paragraph do you expect as the most suitable content.

Mr. Saykham Souksavanh, Deputy Director, Division of Construction Control

We expect that the red paragraph is suitable the most.

Black paragraph?

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Construction Control

Can the unit of kN/m^2 of live load exemplified by the expert be changed to be kg/m^2 .

Mr. Yuji KUSAWAKE, JICA Expert/Nippon Koei Co.,Ltd

Normally, engineer should use as kN/m^2 . The unit of kg/m^2 is currently used by ordinary people, or engineers usually used such unit in the past 30-40 years only.

Mr. Akhom PHONGPASEUTH, Acting Director, Division of Construction Control

Could the expert clarify on how the importance factor effects the design calculation or how to use it into a calculation formula.

Mr. Yuji KUSAWAKE, JICA Expert/Nippon Koei Co.,Ltd

The value of importance factors specified in the table of my PPT will be replaced by W and E of following formulas while doing design calculation.

1. $0.75(1.4D + 1.7L) + 1.0 (W)$

2. $0.75(1.4D + 1.7L) + 1.0 (E)$

Moreover, the values of importance factors can be modified in the future based on the local actual condition.

Mr. Nalongxay MYVAPADITH, Deputy Director General

In order to conduct the ministerial meeting, I would like recommend us to prepare following steps.

- Step1. Division of construction control will internally review and revise the draft LBC particularly legal formatting and Lao wording.
- Step2. Once step 1 has been done, a meeting with division of legislation shall be conducted in order to make LBC being checked by division of legislation.
- Step3. Division of construction control shall prepare report and request letter to the minister in order to request for ministerial meeting on the beginning of August.

3. Participants**List of Participants**

DHUP:	- Mr. Nalongxay MYVAPADITH, Deputy Director General - Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control - Mr. Saykham Souksavanh, Deputy Director, Division of Construction Control - Mr. Phayboun SOUNAKEN, Technical Staff, Division of Construction Control
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NUOL	
Ministry of Public Security	- Lieutenant Colonel (Lt.) Chittasone PHANTHAVONG, Director, Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention - Lieutenant Colonel (Lt.) Bounlieng SOUNTHAKITH, Deputy Director, Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention
JICA Laos Office:	
CDUDCP:	- Mr. Minoru MATSUI, Team leader - Mr. Tetsuro NASHIMURA, Building Control/ Fire Prevention - Mr. Yuji KUSAWAKE, Building Structure - Mr. Akihito MUTO, Feasibility Study/Investment Promotion - Mr. Vanxayxiong NAOLORXIONG, Project Assistant
As observer	

The Project for Capacity Development on Urban Development Control and Promotion

(CDUDP)

Minutes of 2nd Seminar on Lao Building Code

Feb 24th, 2023, 8:30 AM – 11:50 AM (Remote session)

- I. Objective:
 - To introduce objectives and outline of Lao Building Code (LBC) for line Ministries;
 - To explain and discuss on draft LBC;
 - To instruct questionnaire survey on draft LBC.
- II. Agenda:
 1. Opening Remark by Dr. Viengnam DOUANGPACHANH, Director General;
 2. Background and objective of LBC;
 3. Contents of draft LBC;
 4. Instruction for questionnaire survey on draft LBC;
 5. Closing Remark by Dr. Viengnam DOUANGPACHANH, Director General.
- III. Document:

Agenda No. 2, 3 and 4
- IV. QA and Discussion:

3. Comments on Contents of draft LBC

(1) Dr. Thong SOPHA, Senior Engineer

Having a chance to involve in works signified to the circle of design and construction of Lao is very proud feeling and of course, countries with no Building Code are very outdated. I am Dr. Thong SOPHA who is currently work with LCG and formerly was a professor in NOUL from 1985-2002 as well as have been working in Singapore for 10 years as a major engineer in consultant company. My comments on the LBC draft are indicated as follows, they would mainly relate structural safety since my profession is structural design.

- 1) In “Article 15 Analysis and structural design” of main text of LBC draft specified that “Analysis and structure design of controlled building must ensure strength, durability, safety and economy based on principle, acceptable and trusted theory in regional and international stage. For more detail, see Annex 2” the content of this article is personally aware as unclear due to lack of mention on which theory or principle are accepted in LBC. For example, ACI code, EU code, BR68 shall be specified as acceptable code for LBC because ACI is accepted in several countries, and EU code which is applied in more than 40 countries and is proper to every countries condition. Moreover, deformation or collapse of buildings design by applying BR68 are never observed in previous. Therefore, to clearly specify that ACI code, EU code, BR68 are acceptable in LBC shall be made, and annex regarding this matter is not necessary because factors of each codes are already included in their origins.

- 2) In “Article 19 Load Combination”, as indicated in annex, load combination is based on ACI code, but since ACI code still haven’t been specified as acceptable in any building code in Lao, or Lao still doesn’t have its own building code.
- 3) In “Article 20 Factor of Safety”, we shall refer to the capacity of Lao engineer or construction conduction in Lao because there are some building code (e.g., ACI18319) specified that construction inspectors or supervisors shall be professional engineer only, but the technical capacity of Lao engineer seems insufficient to satisfy such criteria. Therefore, we shall review more on determining of Factor of Safety. For example, Factor of Safety shall be greater than or equal to 1.5 because this level is acceptable in ACI version 14 or 11.
- 4) In “Article 22 Concrete”, translation of this article shall be improved particularly the term “Concrete” in Lao language we pronounce as béton (original from French).
- 5) In “Chapter 9: Inspection and conformity certification”, content this of chapter is satisfied but the actual implementation using this chapter would be difficult because there is no qualification of inspector stipulated in related document. In LBC draft, inspectors shall be authorities from the government section, but we shall review whether capacity or experience those inspectors are qualified the criteria or not. For example, In Singapore, construction management unit of the government are responsible for coordination and management of utilization only. Project owner shall hire designers and inspectors as the third party and propose to the construction management unit of the government to issue construction permit. Therefore, determination of qualification of conformity inspector is very important. Such inspectors are recommended to be a professional engineer or members of the association of Lao Architects and Civil Engineers or members of the Council of Lao Architects and Civil Engineers because ethics of those personnel are personally expected as suitable.
- 6) In page 10 of Lao version or page 8 of English version, the unit of Density shall be as KN/m^3 .
- 7) In page number 11 of Lao version or page number 9 of English version, section No. “5.2.1. Minimum wind load”, wind load indicated in this section seemed not determined by the actual wind load of each part of Laos because in Lao there are different wind load in zones or provinces. But the determined wind load in this LBC is very brief such as 500, 800, 1200 and 1600. Those values of wind load shall be clearly identified that which value are used in which part of the country of Lao.
- 8) In page 12 of Lao version or page 11 of English version, section No. “6.1. Determination of earthquake load”, there is no mention regarding earthquake in this section. As known that earthquake in Laos mostly are occurred in northern part, while less occurrence is observed in southern part. Therefore, this LBC shall prescribe numerical values of earthquake design in each part of Laos.
- 9) In page 22 of Lao version or page 18 of English version, section No. “8. Load combinations”, As previous comment that load combination indicated this section is referred to ACI code, but since ACI code was not determine as the only acceptable code in Laos. Therefore, other widen used code such as EU and BR68 shall be included in this

section. In addition, to avoid complication of design review of check, other code of individual countries such as Thai, Chinese, Australian code and so on shall be excluded.

- 10) In page 24 of Lao version or page 19 of English version, section No. “10.2 Depth of footings”, this section should not determine that “the minimum depth of footings below the undisturbed ground surface shall be 300 mm.” Otherwise, building owners may misunderstand that building footing with 300 mm deep are already satisfied, while depth of footings are depending their designs. Therefore, to determine depth of footing shall be business of designers.
- 11) In page 24 of Lao version or page 20 of English version, section No. “11. Pile foundations” specified compressive strength (f_c) prescribed in this section was observed as too low. In term of longitudinal reinforcement, number of rebar shall not be determined as four bars because ordinal people (people without structural knowledge) may understand that it is the fixed number than complain on designs with more than four number of longitudinal reinforcement bar will occur.
- 12) In page 25 of Lao version or page 21 of English version, section No. “13.1 Determination of minimum compressive strength of concrete” values of minimum compressive strength of concrete indicated table 13.1, is not satisfied or too low if refer to EU code since the maximum value is 20 Mpa only, and others are around 17 Mpa, which are nearly equal to compressive strength of lean concrete.
- 13) In page 26 of Lao version or page 22 of English version, section No. “14.2 Minimum area of flexural reinforcement, $A_{s,min}$ ”, and “14.3 Transverse reinforcement” formulas shown in those section is not proper to be use with units used in Laos because in Laos we use Metric unit system, while those formulas are used for SI unit system. However, I have put comments on questionnaire regarding this matter already.

(2) Mr. Khamthavy THAYPACHANE, Senior Engineer

- 1) Actually, this meeting is not the first meeting for gathering comment for LBC, similar meetings have already been conducted in several times from 10 years ago and as of now we are proud that LBC which we have initiated from several years becomes more physical as well as obtaining confirmation from professional experts. Basically, the direction of Lao Building Code formulation is expected to consist of two parts such as legislation part or main text which shall be approved by the ministry level, and technical part or annex which shall be as a technical provision which DHUP is able to make approval by basing on consensus discussion among members of association architects and civil engineers in order to speed up further revision.
- 2) “Chapter-7. Additional Requirements by Type of Buildings” this chapter shall be combined with “Chapter 2: Type of controlled buildings” as the same chapter with making them into more brief or simplified content and add more detail in annex. In addition, Chapters related to building control shall arranged continuously (their rating shall not be obstructed by any additional Chapter). For example, rating of chapter 6 and 8 which are related to building control are obstructed by chapter 7 which are additional chapter.

- 3) We shall discuss and decide to define remaining terms which haven't been translated in annex since there are terms still are English.
- 4) Regarding implementation of conformity inspection, sections to be responsible for conformity inspection are already stipulated, but it appears that there are too many step of inspection which would cause difficulty for project owners. Therefore, similar points of building control and construction control shall be combine. For example, involvement of designers or professional engineers are necessary for controlled building or large scale building constructions only, they are not necessary for inspection of other small building constructions. Only inspection of authorities of construction control engineers of government side are already satisfied for small building constructions.
- 5) To insure provincial authorities are able using this LBC efficiently, more definition of technical terms shall be provided for them.
- 6) Manual to be applied for building constructions inspection included qualification of building construction inspectors shall be attached with this LBC.
- 7) The association of Lao architects and civil engineers which mainly has the obligation on technicality shall conduct internal workshop to discuss on whether the annex of LBC are completed or not and submit discussion comments to building WG to reflect to LBC.

(3) Prof. Bounliem SISOULATH

- 1) Base on the previous experience, there are many projects aid by JICA (e.g., public transportation, sewage strategy) which weren't accomplished, those experiences are a good lesson for us. Therefore, I would like to encourage the building WG to complete this LBC by 2024 in order to hearten the aide.
- 2) If there is sufficient budget, I would like to recommend building WG to formulate this LBC to be as a decree of the minister since it would be the higher level than provision of minister, and it is also nationwide control.
- 3) Related section such as NUOL, the Association of Lao Architects and Civil Engineer as well as intellectuals shall contribute in formulating LBC. Even thought, this version is not the completed version, but at least 80 percent shall be achieved.
- 4) Building control are divided into 3 stage, the first stage is construction permit application once designs have been done. The second stage is to control construction activities; in this stage we shall emphasize more on responsibility of inspection parties. The last stage is building occupancy phase. In this phase, identification of building occupants between building owners and tenants are necessary. Moreover, to implement building control in this stage, as in feign countries, private sections are accepted to involve. Otherwise, works of government officials may be over load since numerous buildings to be are necessary to be controlled. In this LBC architectural, easement, urban and environmental matter shall be considered as well. To get more opinion sharing, several Building WG meeting shall be conducted a head of conducting the open meeting.

(4) Assoc. Prof. Khampaseuth THEPVONGSA, Director, Division of Public Works

- 1) We shall understand the structure or scope of Building Act, Building Code and Additional Code as follows: building act is the brief description to provide understanding of overall

building safety and responsibility of related sections, while building code is more detail explanation and additional code provides more detail of specific part such as concrete, steel, wood, etc. Therefore, to ensure similar understanding, 3 above parts shall be recognized. Otherwise, LBC will be endlessly comment. Additionally, terminologies of Lao version or the translation shall be review particularly technical terms.

- 2) Determination of critical numerical value such as factor of safety and natural forces may couldn't be done without any experiment. Therefore, activities to determine those value shall include research project as additional works, workshop and comment sharing meeting.

(5) Mr. Viengvisa SIVILAY, Director, State Enterprise for Survey-Design and Material Testing

Through review of both main text and annex of building code, I would like to comment on 15 points for the main text and 13 points for annex of LBC as follows:

- 1) Comments on main text
 - a) Chapter 1, article 4, could the term “This chapter” be changed to be “this Building Code”?
 - b) Chapter 1, article 10, section 4, could the phrase “or the latest revision version” be added after the phrase “dated 31 January 2019”
 - c) Chapter 3, article 12, the Lao term translated from appearance shall be review.
 - d) Chapter 3, article 12, materials to be applied in controlled buildings shall include water with re-allocate terminologies as following, reinforcing, appearance, cement, sand, gravel and water.
 - e) Chapter 3, article 12, this phrase “Other equivalent standard” shall be added after the phrase of “the national or international or any reliable country’s standards”
 - f) Chapter 4, article 20, to determine factors of safety, of course to have the accurate numerical value, we shall conduct necessary research, but in order to timely complete or to avoid success of this LBC, we are better to briefly determine those numerical values in advance and necessary experiment will be conducted in future.
 - g) Chapter 4, article 21, section 1, the Lao term translated from boring shall be review (In Lao version, it could be translated as “Soil Drilling Investigation”).
 - h) Chapter 4, article 21, section 1, the Lao term translated from “moisture variation” shall be review.
 - i) Chapter 4, article 21, section1, soil investigation shall be conducted in two stages, the first stage shall be conducted during the cost estimation period and the second stage shall be conducted during construction period because we experienced refusing from contractors regarding carrying out soil investigation of second stage.
 - j) Chapter 4, article 23, The translation of the phrase “concrete must have protection of chemical penetration to” shall be “ເບຕົງຕ້ອງມີການຕ້ານການຊຶມຜ່ານຂອງສານທີ່ເປັນອັນຕະລາຍຕໍ່”.
 - k) Chapter 4, article 25, section 1, “Structural Steel” shall be translated as ເຫຼັກໂຄງສ້າງຮູບປະພັນ
 - l) Chapter 9, article 62, section 4, the term “specification” shall be translated as “ຂໍ້ກຳນົດເຕັກນິກ”

- m) In Lao version, the term “ຖືກຕ້ອງ” shall be changed to “ສອດຄ່ອງ”
- 2) Comments on annex
 - a) Annex 2, Section 3, table 3.1, Item 2 of ceiling components, what is the definition of (per mm thickness).
 - b) Annex 2, Section 3, table 3.1, Item 4 of ceiling components, translation of the phrase of “Plaster on tile or concrete” shall be review.
 - c) Annex 2, Section 10.1, table 10.1, in case site condition are not satisfied the condition specified in the table, would construction be accepted in such site.
 - d) Annex 2, Section 11.1, 11.2, 11.3, specified compressive strength (f_c') indicated in such sections shall clarified whether they are referred to value of concrete cylinder test or concrete cubes test?
 - e) Annex 2, Section 12, translation of “concrete mixing” shall be changed from “ການປະສົມເບຕົງ” to “ການອອກແບບເບຕົງ”
 - f) Annex 2, Section 12, Table 12.1, stipulating mixing ratio by volume in this table is inappropriate since applicants would realize them as implementation principle. They should be indicated by compressive strength (f_c') with the prescription of “normal grade of concrete” because base on mixing ratio shown in table, only are observed low compressive strength. In addition, standard grade of concrete (e.g., 25 Mpa, 30 Mpa, 35 Mpa, 40 Mpa and 45 Mpa) shall be added.
 - g) Annex 2, Section 12, Table 12.2, stipulating mixing ratio by weight and maximum size of rock in this table is also inappropriate. In addition, the phrase “ratio of water: concrete by weight” shall be reviewed whether it is “ratio of water: cement by weight” or not.
 - h) In Annex 2, Section 12, following items shall be added, determination of specification of Concrete Slump, maximum size of concrete mixing material for constructions, amount of water required for concrete slump and sizes of concrete mixing material, brief concrete mixing material ratio by volume per one unit of concrete and the range of standard compressive strength of concrete because all of them are critical factors effect buildings to remains durability, stability and safety.
 - i) In Annex 2, Section 13, Table 13.1, the phrase “minimum ratio” shall be review, whether it is better to be replace by “minimum compressive strength of samples”
 - j) In Annex 2, Section 13, Sub-Section 13.2, the phrase “Non prestressed bars shall be deformed” which as translated as, “ເຫັກເສັມບໍ່ອັດແຮງຕ້ອງຖືກທຳລາຍໃຫ້ເສຍຮູບ”, shall be review whether it shall be translated as “ເຫັກເສັມບໍ່ອັດແຮງຕ້ອງແມ່ນເຫຼັກເປັນປ້ອງ (ປ້ອງອອ້ຍ)”
 - k) In Annex 2, Section 18, remarks section, the phrase “specification for structural steel building” is proposed to be added after AISC 360(e.g., AISC 360 specification for structural steel building). Standard Number of “AISI NAS (cold-formed steel, steel deck)” and “ASTM” should be prescribed.
 - l) In Annex 2, Section 19, Sub-Section 19.1, the phrase “specification for structural steel building” is proposed to be added after AISC 360(e.g., AISC 360 specification for structural steel building). Standard Number of “AISI NAS (cold-formed steel, steel deck)” and “ASTM” should be prescribed.
 - m) Could Lao steel standard be included in this LBC, since Lao also has its own standard which are new formulation and adopting from ISO standard. Finally, as observed, there is

no any reference documents with their latest updated year which are the source of numerical values.

(6) Prof. Somphone DETHUDOME, Senior Architect

- 1) The content of LBC is basically satisfied, but its arrangement seems conflict with the Law on legislation formulation of Lao PDR, pursuant to Law on making legislation, a legislation content shall be arranged from Section-Chapter-Article, but in this LBC the arrangement of content is from Chapter-Section-Article. Moreover, format of this version including terminology of Lao version are not proper to be as a legislation. Terminology in Lao version, different terms with similar definition shall be duplicated for all articles.
- 2) Since making legislation shall base on guideline of the government, local condition and social economy development level. Therefore, we shall initiate from simple version. Even though some data are still lacking we can replace those data by using data adopted from neighboring countries having condition similar to Lao the most as a priority. Thus, at least this version shall obtain approval as the initial version and additional revise, determination of numerical values, additional annex as well as guideline will be further fulfilled by DHUP.
- 3) According to legislation formulation, Article 1 shall describe the objective of the legislation, article 2 shall relate to definition of the legislation and article 3 shall contain terminologies definition. However, article of terminology definition is necessary because it would provide consensus understanding for applicants.

Lieutenant Colonel (Lt.) Bounlieng SOUNTHAKITH

In chapter 10, article 60, as stipulated in such article, inspecting and certifying the conformity of design would be obligation of MPWT only, but in the Law on Firefighting and Fire Prevention, article 11 and 12 on design review and approval and constructions activities operation prescribed that inspecting and certifying the conformity of building design particularly fire safety design shall be conducted by Firefighting and Fire Prevention authorities. Therefore, if obligation of Firefighting and Fire Prevention is not added in article 60 of LBC, those two Laws will would be conflicting. In addition, right and obligations of concerned section shall be defined in LBC.

Dr. Maysy PHOMMASONE, LG Consult and Construction

Several duplicated symbol used for calculation formulas shall be avoid (e.g., T= “Time taken” overlaps with T=Temperature, if possible one of those symbols shall be small alphabet). However, to have detailed and completed version, much time shall be taken.

Dr. Douangmala KOUNSANA, Deputy Director, Department of Research and Technical Service

Since to conduct an experiment for determining lack numerical values are taking time. Therefore, if possible, DHUP shall hold a circle table meeting for discussing on defining such values for LBC as a priority data.

(7) Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works

- 1) The definition of symbols used in this LBC is still not complete, based on experience from several standard, symbols definition is displayed in the first section in order to provide applicants to recognize in advance of pursuing.
- 2) Certain determination of unit system (e.g., Metric Unit System or SI Unit System to be used in this LBC is necessary)
- 3) Determination of wind load, according to standards of foreign countries, wind load shall be calculated from basic wind load of each zones of the country.

(8) Mr. Vongphay BOUNMANY, President of Association of Lao Architect and Civil Engineer.

I agree with comments from participants on drafting this LBC as an overview version then more detailed version or additional matter will be added later. However, we shall emphasize more on the implantation of LBC, because once applying it into building construction, construction budget condition would be change such as more building constructions become more expansive or cheap. Therefore, we shall explore ways or documents to regulate the implantation of this LBC in order to efficiently implement LBC. However, the Association of Lao Architects and Civil Engineers has internally discussed on holding a workshop on detailed of technical matter.

(9) Mr. Oudone CHANTHAVON, Technical Staff, Ministry of Labor and Social Welfare

Pursuant to principles of making legislation in the chapter of general provision shall consist of 5-7 articles, but in LBC observe only 3 articles. However, this LBC lacks articles regarding terminology definition, guideline of the government to this LBC, collaboration with international and regional as well as chapters on prohibition for sections related on this LBC. Effective of this LBC shall be include in remarks section in order to provide awareness for society since this LBC is an enforce legislation.

(10) Mr. Bouavone NGORKOMBLUE, Deputy Director, Division of legislation making, Ministry of Natural Resources and Environment.

This legislation lacks article regarding terminology definition, and in term of Environmental matter, this LBC lack of requirements on sewage drainage system. In addition, this LBC will nation widely regulates building designs and construction. Therefore, it shall be made as a decree of minister with further expanse into legislation or more detail such as guideline book or manual will be followed.

(11) Mr. Bounkong LOVANH, Director, ARIMA Group

Using the three most common building codes such as ACI, EU and BR68 with their numerical values such as factors shall be accepted in LBC. By the way, manual with reference using in design check or review for construction permit issuance shall be provide to avoid uniformly use design principles including software. However, at least building WG shall fulfill this LBC until it is approved even as a brief version. More detail version can be further amend.

(12) Assoc. Prof. Khampaseuth THEPVONGSA, Director, Division of Public Works

Since fire safety and structural safety are two matters which would cause the most serious problems to building. Therefore, LBC covers them in advance. In term of structural safety, basically numerical value of factors, mixing factors from different standards would be less accuracy because factors of each standard are determined as a set or group.

(13) Dr. Thong SOPHA, Senior Engineer

Factors and load combination formulas determined in LBC are factors of ACI 319 the latest version of ACI code, but since several matters of Lao are inappropriate in such version basically the level of expertise of Lao designers and engineer as well as QA and QC control. As a result, suitable version is more critical than latest version is not. In order to determine numerical values, a circle table meeting or workshop which would be participated by related sections and building WG shall be conducted.

(14) Mr. Khamthavy THAYPACHANE, Senior Engineer

Based on experience on drafting the first LBC, due to unknown that whether we are implement it in the correct direction of making building code or not. Therefore, we found difficulty and lateness for make the first LBC. Fortunately, we have Japanese experts with professional experience to support us on this time. Therefore, I support the recommendation on holding a circle table for numerical determination. However, the scope utilization of this LBC will consist of 4 following section, scope of design, scope of structural safety, scope of fire safety, scope of easement.

(15) Dr. Viengnam DOUANGPACHANH, Director General

Because making a completed and detailed building code would take several years. Therefore, this LBC is the initial version only. Thus, it will cover on 4 major sections to be a legislation reference for building design and construction works as mentioned by Mr khamthavy.

(16) Mr. Minoru MATSUI, Team leader

Your comments are very helpful and appreciated, we are going to finalize the LBC, but there are still some issues in the draft version. Therefore, we need make terminology definition and verify numerical values of factors, determining of those numerical values we shall conduct research and discuss with several related sections. Based on our understanding, this will be a decree of minister. Regarding concerning on the implementation of this LBC, we shall make a manual to inspectors and define qualification of inspector. Moreover, this LBC is legislation to use in Lao. thus, if we refer to international standard would be complicated. Thus, we shall clarify the scope of use of this LBC. Finally, I am apologizing for points may be miss-summarized. However, please submit your comment to us for reflecting in to this draft LBC.

(17) Dr. Viengnam DOUANGPACHANH, Director General

In this meeting we have gotten comments which will be reflected into LBC as well as listened presentation on background and objective of LBC, contents of draft LBC, instruction for questionnaire survey on draft LBC. I agree to hold circle table meeting or workshop to discuss on numerical definition as comment by participants. On behalf of DHUP, I would like to express my respect and appreciation to building WG, project expert particularly JICA as well as all participants who have contribute time and intelligence for LBC. Lastly, I would like to appreciate professors, experts and senior engineer with high experience from several backgrounds on expressing interest in contributing us in order to make this LBC become applicable as soon as possible.

4. List of Participants

Building Working Group	
DHUP/ MPWT	- Dr. Viengnam DOUANGPACHANH, Director General, - Ms. Visaphone INTHILATH, Deputy Director General, - Mr. Nalongxay MYVAPADITH, Deputy Director General, - Mr. Akhom PHONGPASEUTH, Director, Division of Building Construction Control, - Mr. Saykham SOUKSAVANH, Deputy Director, Division of Building Construction Control, - Mr. Phayboun SOUNAKEN, Technical Staff, Division of Building Construction Control - Mr. Phavilay PHALANASY, Technical Staff, Division of Building Construction Control - Mr. Souksavanh HANEPHOME, Technical Staff, Division of Building Construction Control
PTI/ MPWT	- Ms. Sengchane LOUSA
DPWT	- Mr. Sinthanou PHANTHAVONG, Division of Housing and Urban Planning - Mr. Xaysana PHETXIENGDA, Division of Housing and Urban Planning - Mr. Vientihane, Division of Housing and Urban Planning
Ministry of Public Security	- Lieutenant Colonel (Lt.) Chittasone PHANTHAVONG, Director, Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention - Lieutenant Colonel (Lt.) Bounlieng SOUNTHAKITH, Deputy Director, Division of Fire Safety Inspection, Police Department of Firefighting and Fire Prevention
NUOL	[Faculty of Architecture] - Mr. Xayoudone MEUANGPAK, Director, Division of Building Technicians - Dr. Douangmala KOUNSANA, Deputy Director, Department of Research and Technical Service [Faculty of Engineering] - Assoc. Prof. Khampaseuth THEPVONGSA, Director, Division of Public Works - Dr. Khamhou SAPHOUVONG, Deputy Director, Division of Public Works
JICA	

JICA Project Team	- Ms. Tomoko YAMAMOTO, JICA Expert - Mr. Minoru MATSUI, JICA Expert (NK Urban Space Co., Ltd.) - Mr. Tetsuro NISHIMURA, JICA Expert (Nippon Koei Co., Ltd.) (Remote) - Mr. Yuji KUSAWAKE, JICA Expert (NK Urban Space Co., Ltd.) (Remote) - Mr. Akihito MUTO, JICA Expert (Nippon Koei Co., Ltd.) (Remote) - Ms. Miki HOMMA, JICA Expert (NK Urban Space Co., Ltd.) (Remote) - Mr. Vanxayxiong NAOLORXIONG, JICA Project Assistant - Mr. Chayyang Chuvea, JICA Project Assistant
JICA Laos office (Observer)	- Mr. Shunichiro HAYASHI, Project formulation Adviser - Mr. Kingsada SIPHANTHONG, Program Officer
JICA HQ (Observer)	
Ministry of Public Works and Transport (MPWT)	
- MPWT cabinet office - Department of Planning and Finance - Division of Administrative and Personnel, DHUP - Division of Planning and Cooperation, DHUP - Division of Urban Planning, DHUP - Division of Inspection, DHUP - Division of Housing, DHUP - Division of Urban Development, DHUP	
Line Agencies	
Lines Ministries	- Ministry of Planning and Investment - Ministry of Mines and Energy - Ministry of Labor and Social Welfare - Ministry of National Defense - Ministry of Natural Resources and Environment - Ministry of Science and Technology - Ministry of Health - Ministry of Education and Sports
Council of Lao Architect and Civil Engineer	- Prof. Bounliem SISOUATH
Association of Lao Architect and Civil Engineer	- Mr. Vongphay BOUNMANY, President - Mr. Vipaseuth SOUVANNAVONG - Mr. Phatthana SIMMALAVONG - Dr. Xayyaphone VONGVILAY
Senior Officials	- Dr. Thong SOPHA, Senior Engineer - Prof. Somphone DETHUDOME, Senior Architect - Mr. Khamthavy THAYPACHANE, Senior Engineer
Private sector and state enterprise	- APA Design and Consultants - Leuxaysana Co., Ltd. - Mr. Chanviphone CHANTHALATH, Mekong Consultants Co., Ltd.

	- Mr. Viengvisa SIVILAY, State Enterprise for Survey-Design and Material Testing - Dr. Maysy PHOMMASONE, LG Consult and Construction - Mr. Vannavong SITHAMMALATH, Tomi Atelier Architect and Design - Mr. Bounkong LOVANH, ARIMA Group
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Lao People's Democratic Republic
Peace Independence Democracy Independence Prosperity

Ministry of Public Works and Transport

Department of Housing and Urban Planning

Minutes of Meeting

Roundtable meeting for gathering comments for Lao Building Code (LBC)

Under the Project for Capacity Development on Urban Development Control and Promotion
(CDUDCP).

- Pursuant to the Decision of Minister of the Ministry of Public Works and Transport (MPWT) on organization and activity of DHUP, No. 10788/PWT, dated 05 May 2023;
- Pursuant to the minutes of meeting of 2nd seminar on building code on 24 February 2023;
- Pursuant to output of round table meeting on LBC on 11 May 2023

The round table meeting for obtaining technical recommendations to be incorporated into the LBC was organized on 11 May 2023 at the meeting room of DHUP under co-chaired of Dr. Viengnam DOUANGPACHANH, Director General of DHUP and Mr. Minoru MATSUI, JICA experts and with 26 participants (5 remote participants), which consists of Building Working Group's members, JICA experts, representatives from DPWT of Vientiane Capital, the Association of Lao Architects and Civil Engineers(ALACE), the Council of Lao Architects and Civil Engineers, Senior Architects and Civil Engineers, National University of Laos (Faculty of Architecture and Engineering), representatives from Survey-Design, Construction and Consultant companies, remote JICA experts (List of participants is as attached).

After the brief introduction of roundtable meeting and opening speeches, the meeting followed with the agenda as presentation on Chapters regarding structure safety, factors of wind and seismic load and presentation of chapters in term of fire safety from JICA experts. Later, the meeting opened a discussion to exchange views on the technical recommendation and concerns. . The major comments are summarized as follows:

- 1) Overall, the meeting agrees on determination of numerical values/figures , principles and specifications of chapters on structure safety in defining safety factors and units in annex. In order to define consented code, ACI code is the base reference, other codes are accepted but shall be greater or equal to minimum requirement of ACI code;
- 2) Agree on principles of defining wind and seismic load factors by zone based on statistic data obtained from Department of Meteorology and zonal analyzed data from fundamental research of ALACE which ALACE has officially confirmed to DHUP for a reference.

- 3) Agree on determination of numerical values, principles, specifications of chapters on fire safety in annex in order to be Lao Standard, and to be uniformly used, which have a reference from regional or international codes
- 4) Regarding determination of structure safety factors, wind and seismic load factors, JICA expert will summarize those factors and send to ALACE for considering, discussing in order to specify such factors close to regional or international and to be appropriate for using as Lao code.
- 5) Agree on providing additional technical terminology definition and translation of technical terms shall be technically complied.
- 6) Building WG will consider and reflect beneficial comments and discussion in order to comprehend the LBC.
- 7) ALACE will officially confirm items 2 and 4 mentioned above to DHUP for reference on 9 June 2023

(Meeting was conducted for half day, from 8:30 and closed at 12:00 of the same day).
Therefore, this minutes was made for a reference for continuing further coordination and implementation.

Vientiane Capital, on 11 May 2023

Chairman

Recorder



Lao People's Democratic Republic
Peace Independence Democracy Unity Prosperity



Ministry of Public Works and Transport
Department of Housing and Urban Planning

Minutes of Meeting for LBC revision

On 13 June 2024 at DHUP's meeting room and the meeting room No.2 of MPWT, the meeting for LBC revision was organized and chaired by Ms. Visaphone INTILATH with the total participant of 9 person, which consists of members from DHUP, senior engineer and JICA expert.

Following the provision of objective of the meeting and the opening remarks of the chairperson, the discussion for LBC revision has been commenced, which points of discussion and revision are as follows:

- 1) Article 13 clause 3 of the main text "The light reflecting material shall be decorated to the external at least 30 % of the wall area", the meeting agreed not to allow using material with more than 30% of of light reflection for external wall decoration.
- 2) Article 13 clause 4 of the main text "Glaze assembled at the external wall of large scale building must be a multi-layer glaze avoiding injury to people if broken on impact", the meeting agreed to add term as following: exterior walls assembled by non-glazed glass is subject to the provision of projection net installed under the glass to avoid injury to people if broken on impact.
- 3) Article 29 of the main text of English version " (FR-60)", the meeting revised (FR-60) to be (FR-30).
- 4) Article 51 the expert elaborated "PG" as Purpose Group, which refers to Hotel, Hospital, Commercial Hall etc.
- 5) Chapter 8 of main text of English version, the meeting agreed to change the topic from "Health and Easement" to "Health and Facilities".
- 6) Annex 2 clause 3.2 "Minimum Densities for Design Loads from materials (kN/m³)" the meeting agreed to add Minimum Densities for Design Loads of Brick as follows:
 - Hard brick = 20.4 kN/m³
 - Medium hard brick = 18.1 kN/m³
 - Soft brick = 15.7 kN/m³
- 7) Annex 2 clause 8.2 "Load Combinations for Strength Design" the meeting agreed to apply load factor for load combination as follows:
 1. 1.4D
 2. 1.4D + 1.7L

3. $0.75(1.4D + 1.7L) + 1.0 (W)$
4. $0.75(1.4D + 1.7L) + 1.0 (E)$
5. $0.9D + 1.0W$
6. $0.9D + 1.0(E)$

(Based on ACI 318-11, Appendix C – Alternative Load)

Annex 2 clause 12 “Concrete mixing” the meeting agreed to replace the following text

“Concrete mix design shall be based on ACI 211 method and materials tests based on ASTM standards” to ~~The values in the table are reference values, and the values for each concrete strength shall be determined based on the experience values and testing of each factory.~~

~~As a rule, the mixing of concrete is determined by weight. If volumetric method is used, weight shall be converted to volume.~~

~~12.1 Concrete mixture ratio (cement: sand: stone) by volume~~

Table 12.1: Concrete mixture ratio by volume

Mixture ratio by volume	Type of activity
1:1 ^{1/2} :3	concrete needs Waterlogging
1:2:4	ordinary concrete structure
1:1 ^{1/2} :4	Flooring, wall, building wall and foundation
1:3:5	Large-scale concrete and concrete with no high level of force

Reference: LBC draft

~~12.2 Concrete mixture ratio (cement: sand: stone) by weight~~

Table 12.2: Concrete mixture ratio by weight

Mixture ratio by volume	Maximum rock size	Water-cement ratio by weight	Activity
1: 1.9: 2.3 1: 1.7 : 3.1	$\frac{3}{4}$ 1 $\frac{1}{2}$	0.48	Activity with the serious weather
1: 3.1: 3.3 1: 2.2 : 3.7	$\frac{3}{4}$ 1 $\frac{1}{2}$	0.57	Ordinary concrete
1: 3.1: 3.3 1: 2.8 : 4.2	$\frac{3}{4}$ 1 $\frac{1}{2}$	0.66	Foundation, fence and activity with large-scale of concrete works

- 8) The meeting didn't allow to use existing LBC version 2016 to be reference for this version due to mentioned version wasn't officialized, only data with known source by building WG members are added as reference is satisfied for this version.
- 9) Annex 3 clause 5, clause 1 of B of 5.4 the meeting revised it as “The External Exit staircase shall be divided by Fire Resistance structure wall (FR-120) and if needed to make a wall, it shall be open more than 50% of the perimeter of the staircase, and the staircase shall be directly accessible to the evacuation floor”.

- 10) The meeting agreed to number the clause by number of annex as following example:
- Annex 1 the first clause shall be started as 1 and following sub-clause as 1.1, 1.2 and as 1.1.1, 1.1.2
 - Annex 2 the first clause shall be started as 2 and following sub-clause as 2.1, 2.2 and as 2.1.1, 2.1.2

Such numbering revision aims to ease and speed up recognition of target content when it is searched.

- 11) Annex 3, the meeting agreed to remove whole sections and its number and number clauses under each section (original version) continuously. However, the place where originally are section 2 and 3, the meeting agreed to remain following topics “[Building control]” and “[site planning control]” as following example:

[Building Control]

7. Fire Resistance (Number 7 is assumed, actual numbering maybe different)

[Site Planning]

11. Fire Spread Precautions (Number 11 is assumed, actual numbering maybe different)

- 12) Annex 3 clause 10.1 of Lao version, the meeting revised it as following

- 1) Vertical protection (upper and lower floors): height more than 120 cm of upper and lower walls and spandrel and horizontal cantilever slab more than 60 cm
- 2) Horizontal protection (between adjacent rooms): extension wall more than 50 cm the floor more than 24 m in height of Residential building shall be prescribed in 1) above.

Other than above, the expert also clarified the “Atrium protection” to C/ps

- 13) The meeting agreed that C/ps will finalize Lao version and English version will be finalized by Japanese side based on Lao version.

List of Participants

DHUP:	- Mr. Nalongxay MYVAPADITH, Deputy Director General - Ms. Visaphone INTHILATH, Deputy Director General - Mr. Akhom PHONGPASEUTH, Acting Director, Division of Building Construction Control - Mr. Saykham SOUKSAVANH, Deputy Director, Division of Construction Control - Mr. Phayboun SOUNAKEN, Deputy Director, Division of Building Construction Control - Mr. Thavisouk PHOMVILAY, Technical Staff, Division of Building Construction Control
Senior Engineer	- Dr. Thong SOPHA
Project Team	- Mr. Tetsuro NISHIMURA, JICA Expert (Nippon Koei Co., Ltd.)

	-	Mr. Vanxayxiong NAOLORXIONG, JICA Project Assistant
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Annex 13



LAO PEOPLE'S DEMOCRATIC REPUBLIC
PEACE INDEPENDENCE DEMOCRACY UNITY PROSPERITY

No. 07/POL

Vientiane Capital, Date: 14 January 2008

DECREE
of the
PRESIDENT
of the
LAO PEOPLE'S DEMOCRATIC REPUBLIC

On the Promulgation of the Law on Fire Suppression and Fire Fighting

~~~~~

- Pursuant to the Constitution of the Lao People's Democratic Republic chapter VI, article 67, clause 1 on the Promulgation of the Constitution and Law that have been approved by the National Assembly;
- Pursuant to the Resolution Meeting of the National Assembly of the Lao People's Democratic Republic No.: 102/NA, dated: 24 December 2008 on the endorsement of the Law on Fire Suppression and Fighting;
- Pursuant to the Proposal Letter of the Standing Committee to National Assembly No.: 04/NASC, dated: 10 January 2008.

**The President of the Lao People's Democratic Republic Decreed:**

**Article 1.** The Law on Fire Suppression and Fighting is hereby promulgated.

**Article 2.** This decree shall enter into force from the signatory date.

The President of Lao PDR  
(Signed and Sealed)

**Choummaly SAYASONE**



LAO PEOPLE'S DEMOCRATIC REPUBLIC  
PEACE INDEPENDENCE DEMOCRACY UNITY PROSPERITY

National Assembly

No. 102/NA

Resolution of the  
National Assembly of the Lao People's Democratic Republic  
On the Promulgation of the Law on Fire Suppression and Fighting

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Pursuant to article 53, clause 2 of the Constitution and article 3, clause 2 of the Law on National Assembly of the Lao People's Democratic Republic regarding Rights and Duties of the National Assembly.

The 4<sup>th</sup> Ordinary Session of the 6<sup>th</sup> National Assembly series VI was held in the afternoon of 24 January 2007 that has widely considered the Law on Fire Suppression and Fighting.

National Assembly decides;

Article 1. To promulgate the Law on Fire Suppression and Fighting by the major votes from National Assembly Member participated the Meeting.

Article 2. This Decision shall be put into effectiveness from the signatory date.

President of the National Assembly  
(Signed and Sealed)

**Thongsing THAMMAVONG**



LAO PEOPLE'S DEMOCRATIC REPUBLIC  
PEACE INDEPENDENCE DEMOCRACY UNITY PROSPERITY

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National Assembly

No. 09/NA  
Vientiane Capital, date: 24<sup>th</sup> December 2007

**LAW**  
**ON**  
**FIRE SUPPRESSION AND FIREFIGHTING**

**Part I**

**General Provisions**

**Article 1. Purpose**

The Law on Fire Suppression and Fighting is determined the principle, regulation and measures on the Implementation, Activities, Management and Monitoring of the Fire suppression and Fighting activities in order for the people to have a sense of ownership in such work, strengthen the fire suppression and fighting activities, be professional, consisting of a work plan in a quick and modernized manner to ensure the effectiveness and immediate action on fire suppression from the view point of fire safety and social security.

**Article 2. Fire Suppression and Fighting**

**Fire** is a hazard fire that causes to serious health problems, body, lives, property and environmental impact.

**Fire suppression** is an advanced planning on fire prevention by establishing fire protection systems, technical inspections, application of various measures, dissemination, education, training, advisory on fire prevention.

**Firefighting** is the utilization of vehicles, equipment, forces and tactics in firefighting.

**Article 3. Terminology**

Terms used in this law have the definition as follows;

1. **Burning** refers to the formation of physical, chemical, heat and light scattering reactions;
2. **Harmful substance to explosive hazardous** refers to solids, liquids and flammable gases;

3. **Flammable materials** refer to flammable materials and substances such as oil, gas and ammunition;
4. **Firefighting area** refers to the area where the fire occurred and firefighters are on duty for fire suppression and firefighting;
5. **Fire Suppression and Fighting Police Force/Brigade** refers to a professional fire brigade that works to suppress and fight fires and under the umbrella of public security sector;
6. **Fire suppression and fighting force of the organization's office** refers to professional and semi-professional brigade affiliated with the offices of various organizations’
7. **Fire suppression and fighting to a village** refers to volunteer brigade of the residents in the village;
8. **Organization office** refers an organization of the state, economic fundamental and socio-cultural;
9. **Technical standard of Fire suppression and fighting** refers to the determination of principles, regulations and quality of fire safety.

#### **Article 4. Fire Suppression and Fighting Policy**

The Government builds and develops advanced fire suppression and fighting brigades in order to ensure and secure the social-economic growth.

The Government conducts public awareness, advertisement and provides knowledge to public to acknowledge their duties and be responsible in the fire suppression and fighting, contribute forces, vehicles, materials and property to such work.

The Government encourages individuals and organizations, both domestic and foreign to invest on fire suppression and fighting work including contributing to such work.

#### **Article 5. Determination of Technical Standard on Fire Suppression and Fighting**

The Relevant organizations shall review, determine the technical standards on fire suppression and fighting that related to their work in coordination with the Ministry of Public Security and propose to the Government for the consideration on the approval.

An individual and organization shall comply with the technical standard of fire suppression and fighting as defined.

The application of foreign technical standards on fire suppression and fighting in Lao PDR must be approved by the Government.

#### **Article 6. Principles of Fire Suppression and Fighting**

The following fundamental principles shall be carried out for fire suppression and fighting as follow;

1. Fire suppression and fighting with the participation of all people;
2. Fire suppression and fighting must start with individuals, households, village and organization offices;
3. Fire suppression should be considered as the main task, firefighting should be considered as an important issue;



4. Brigades, vehicles, equipment, firefighting plans and other conditions must be well prepared and guaranteed to put out fires punctually and effectively;
5. Firefighting must start from on-job brigades;
6. Firefighting must minimize the damage.

#### **Article 7. Obligations and Duties on fire suppression and fighting Works**

Fire suppression and fighting is the obligation and duty of all people, ministries, offices, organizations, local authorities, villages, households, individuals, including alien, foreigners, non-citizens that actively mobile and live in the Lao PDR.

Such individuals and organizations also have the obligation to contribute materials, property, vehicles, and other necessary equipment for fire suppression and fighting.

Lao citizens and foreigners over the age of 18 who are in good health shall have the duty to participate in the fire suppression and fighting brigade where they are affiliated and living.

Offices, organizations, villages, households shall have the duty to disseminate, supervise on fire suppression and fighting work within the scope of their responsibilities on a regular basic.

#### **Article 8. International Cooperation**

The Government promotes the relations and cooperation with friendly countries and international organizations on fire suppression and fighting under the fundamental of the foreign affairs direction of the Lao PDR by exchanging lessons, technologies, and capacity building for fire suppression and fighting brigades.

In the case of a major fire, the Government of Lao PDR will seek for assistance for the firefighting from foreign countries and international organizations.

The Government of Lao PDR prepares to assist other countries that requested for firefighter works affixed to their own condition and ability.

## **Chapter II**

### **Fire Suppression**

#### **Article 9. Fundamental methodology of fire suppression**

The fundamental methodologies of fire suppression are here below:

1. Provide public education and raise awareness on fire suppression work in various forms and methods;
2. Prepare a fire suppression plan in advance;
3. Strictly manage flammable materials, explosives substance, fire sources, electricity, heat sources, vehicles, tools, materials and equipment that cause fire, and using them in accordance with the principles and ensuring the safety;
4. Regularly inspections to address deficiencies in a timely manner.

## **Article 10. Fire Suppression Plan**

The Fire suppression plan must be ensuring the following contents:

1. Fire suppression regulation;
2. Public relations, disseminate, advisory, inspection plans and warn people and organization on fire suppression work;
3. Office's area drawing;
4. Fire suppression installation plan, such as Fire extinguishing system, automatic power-cut off;
5. Fire alarm and ventilation system plan;
6. Fire escape plan, fire escape way, emergency stairs;
7. Plans to install equipment, fire extinguisher and reservoirs building;
8. Preparation of firefighter, budget, vehicles and firefighting equipment;
9. Plan for fire brigade training and drills.

## **Article 11. Examination on fire safety design**

The allocation of new construction projects or modifications of urban plans, communities, cultural areas, economic zones, industrial zones, production areas, forest areas must design or modify fire suppression plans in order to ensure the safety and shall comply as follows:

1. Determine the allocation area and construction area;
2. There must be a road-communication system and water sources;
3. Appropriate fire suppression and firefighting facilities must be in place;
4. Budget plans, vehicles, firefighting equipment must be prepared;
5. Other conditions to serve the fire suppression work.

New construction, modification or alteration of firefighting plans must be designed or modified to ensure fire safety and must be as follows:

1. There must be a distance between the construction sites for a safety reason;
2. There must be fire suppression system;
3. There must be fire escape way;
4. There must be budget, vehicle, equipment for fire suppression;
5. Other conditions to serve the fire suppression work.

## **Article 12. Fire suppression for construction and business operation**

Individuals and organizations, both domestic and foreign in Lao PDR, prior conducting the construction and operating of activities that risk to fire and explosion, such must have fire suppression system plan for obtaining the approval from the Fire suppression and firefighting police force.

## **Article 13. Targets of fire suppression**

The main targets of fire suppression are as follows:

1. Housing and community areas;
2. Transport vehicles;
3. Organization's office;
4. High-rise Building;
5. Hotels, guesthouses, entertainment places, meeting/gathering hall, school and hospital;
6. Water surface and underground activities;

7. Production, electrical distribution, importing and installation of electrical equipment;
8. Market, commercial Center and storage system;
9. Port, bus terminal and train station;
10. Airport;
11. Forest;
12. Flammable material;
13. Embassy, international organization office.

**Article 14. Fire Suppression for Housing and Community Areas**

Fire suppression for housing and community area shall comply as following:

1. Housing especially residential houses, must be properly equipped with electrical systems, prepare vehicles, materials, equipment and conditions to be ready for fire suppression.  
Stoves, shrines must be secured; flammable materials must be placed away from fire and heat sources.
2. Communities, villages, units must have fire suppression and fighting regulations, especially the use of fire and flammable materials.
3. Prevention of fires spread requires methods, plans, brigades, vehicles, materials, roads and water sources.

**Article 15. Fire suppression for transport vehicles**

Vehicles with flammable loaded, combustible, explosive, commodity, passenger vehicles with the capacity of four seats or more and other transport vehicles must comply with fire suppression and fighting regulations.

Vehicles with flammable loaded, combustible, explosive, minerals which were assembled or modified must be authorized by the fire suppression and fighting police force.

All types of vehicles of international organizations, foreigners entered the Lao PDR must ensure the fire safety in accordance with the laws of the Lao PDR.

**Article 16. Fire suppression for organization's office**

Fire suppression for organization's office shall comply as following:

1. Regulating fire suppression;
2. Install a fire alarm system;
3. Set up fire suppression systems such as blackouts system, automatic power-cut off;
4. Brigades, vehicles, equipment, water sources must be well prepared;
5. Develop fire suppression, evacuation, rescue people, property and fire spread prevention plans;
6. Having a specific budget for fire suppression work;
7. Having documentation systematically to monitor and manage the performance of fire suppression work.

**Article 17. Fire Suppression for high-rise Buildings**

High-rise buildings must have fire suppression plans and systems, such as fire

alarms, smoke alarms, power cut-offs, fire extinguishers, sprinkler, fire escape systems, emergency stairs, emergency lights, hallway lights, ventilation systems, rescue plans, fire escape signs, fire escape drawing and initial fire must be manually extinguished.

**Article 18. Fire Suppression for hotels, guesthouses, entertainment places, meeting/gathering hall, school and hospital**

Fire Suppression for hotels, guesthouses, entertainment places, meeting/gathering hall, school and hospital must have a fire suppression plan and system, fire alarm signs, fire escape plan, emergency exit directing brigade, evacuate people who are not be able to escape from fire on their own, having a plan to work with fire suppression and fighting brigades.

**Article 19. Fire Suppression for water surface and underground Activities**

Carrying out an operation of explosive hazardous activities on the water surface requires a fire suppression plan, force, vehicles and equipment to suppress the fire.

Carrying out an operation of underground, natural resource exploration activities must be equipped with fire suppression systems, evacuation plans, vehicles, equipment such as automatic alarms, gas, poison, smoke, ventilation systems and also ensure the access way for brigades and vehicles.

**Article 20. Fire Suppression for Production, electrical distribution, importing and installation of electrical equipment**

Fire Suppression for Production, electrical distribution, importing and installation of electrical equipment shall comply as following:

1. Power plants, substations, transformers, electrical installations, as well as utilization of electricity shall have a methodology for fire prevention;
2. Electrical equipment to be used in the places that risk to fire and explosion must be of high quality, meet the technical standards of electricity and ensure the safety
3. Individuals and organizations that supply electricity or install electrical equipment must be responsible for technical standards and utilization guidance and security must be provided to users;
4. The production or importing of electrical equipment must be inspected and approved by the relevant departments.

**Article 21. Fire Suppression for Market, commercial Center and Storage System**

Fire Suppression for market, commercial Center and Storage System shall comply as following:

1. Electricity system for market, commercial center must be deviated into specific systems: electricity systems for business, daily routine, fire suppression and fighting;
2. Stores (department store) must be systematically organized to ensure fire safety;
3. Electricity system for Storage system must be deviated into specific systems such as: electricity to be served inside the storage, fire prevention and fighting, and systematic storing in order to ensure the fire safety.

For the storage of flammable materials, explosives must be organized in a specific system and shall have an advanced fire suppression system.

## **Article 22. Fire Suppression for Port, Bus Terminal and Train Station**

Fire suppression for ports, bus stations and train stations must allocate brigade, vehicles, firefighting equipment, fire escape plans, vehicle evacuation plans, evacuation of objects and goods in the event of fire.

## **Article 23. Fire Suppression for Airport**

Fire Suppression for Airport shall comply as following:

1. Fire Suppression plan;
2. Establish professional fire suppression and fighting brigades and conduct a regular fire and rescue training;
3. Consisting of advanced firefighting vehicles, equipment and rescue equipment;
4. Install adequate fire suppression system on aircraft, all buildings and facilities of the airport;
5. Coordinate professional work with the police force to suppress and firefighting on a regular basis.

## **Article 24. Wildfire Suppression**

Wildfire Suppression shall comply as following:

1. Fire suppression planning shall start with reforestation and logging planning;
2. Offices, villages, houses, communication lines, pipelines that transport hazardous explosives which installed on the edge of the forest or inside the forest must ensure the distance in accordance with fire safety technical standard;
3. High-voltage power lines running through the forest must ensure the height and distance in accordance with fire safety technical standards;
4. Lao citizens, aliens and foreigners who are tracking in the forest or along the edge of the forest must be careful in lighting fires, throwing tobacco or using any kind of fire;
5. Burning charcoal, farming, gardening and other must be mindful of fire prevention and have a clear fire extinguishing plan.

## **Article 25. Fire suppression on flammable materials**

Fire suppression on flammable materials shall comply as following:

1. Oil, gas or hazardous mines must be equipped with advanced alarm systems, leak-proof equipment and have a strict security unit;
2. The production, processing, transportation of oil, gas and explosive hazardous products requires an alarm system and immediate remedial measures;
3. Oil stations, gas stations must comply with regulations on technical standards and ensure fire safety;
4. Individuals and organizations that are operating business associated with fire or explosive hazardous substances must have a certificate of inspection issued by the fire suppression and fighting police force, placing warning labels, chemical labels in Lao and foreign languages;
5. Those who work in hazardous areas must be well trained and certified by the fire suppression and fighting police force;
6. Transport vehicles or equipment containing oil, gas and explosive hazardous

substances must ensure the technical standards.

**Article 26. Fire suppression for embassies, offices and international organizations**

Fire suppression for embassies, offices and international organizations including their residences must have a fire suppression and fighting system as stipulated in the article 16 of this law.

**Article 27. Causality on termination of business operation activities**

Individuals and organizations engaged in any business activity shall be suspended for any of the following causes:

1. There is a risk of burning and explosives;
2. Severe violation on fire suppression and fighting regulations;
3. Repetition of violation on fire suppression and fighting regulations after warned by fire suppression and fighting police force twice.

Individuals and organizations that their activities have been suspended shall be required to comply with technical standards, in case of such violations are not remedied, their activities shall be permanently withdrawn.

**Article 28. Insurance**

Individuals and organizations who are operating business activities that risk to fire and explosion shall have a fire insurance as defined in the Insurance Law.

### **Chapter III**

#### **Firefighting**

**Article 29. Fundamental methods of firefighting**

The fundamental methods of firefighting shall comply as follows:

1. The owner of the scene of the fire must be the main player of the firefighting and of requesting assistance from the neighbors and immediately informing the fire brigade;
2. Mobilization of brigade, vehicles, materials and equipment to be assisted in fire prevention to be occurred and take the immediate action;
3. The organization of rescue teams for victims, property rescue and firefighting must be carried out promptly;
4. Firefighting command must be uniformed.

**Article 30. Firefighting plan**

The firefighting plan must ensure the following:

1. Create a diagram of the organization's office, village;
2. Determine the access road;
3. Estimate the risk of fire hazard point;
4. Determine rescue plans, assistance to victims, evacuation and property protection

5. Determine the forces plan, vehicles, equipment and water source;
6. Define firefighting tactics to suit the actual location;
7. Develop mobilization, vehicles, materials plan for firefighting in the event of a major fire;
8. Develop a budget plan for firefighting work.

**Article 31. Development of firefighting and drills plans of the organization**

Any organization must have a fire suppression plan, which is created by the responsible committee of the relevant agency and approved by the police force for fire suppression and fighting.

The organization must conduct firefighting drills in accordance with its plan regularly and practical training on the fire suppression and fighting shall be led by police force.

**Article 32. Firefighting**

The firefighting shall comply as follows:

1. Organize sufficient firefighting brigades and carry out their duties timely and effectively;
2. Arrange vehicles, materials, fire extinguishers, water sources and other conditions in a comprehensive manner;
3. Comply with the defined firefighting plan;
4. Organize medical units to assist the injured;
5. Utilize the firefighting budgets.

**Article 33. Water sources, vehicles and firefighting equipment**

All water sources, vehicles and equipment must be used in special cases for firefighting.

**Article 34. Fire Alarms**

Fire alarms may be sounded by alarms and telephones. For fire hotline must be determine a uniform number throughout the country.

**Article 35. Responsibilities of firefighters**

Firefighters shall have the following responsibilities:

1. Any individuals who found or heard a fire alarm shall immediately report the fire event in the vicinity and inform the fire brigade, as well as participate in firefighting immediately;
2. When firefighters are notified of a fire in their responsible area, immediate action must be taken;
3. Relevant sectors such as public health, telecommunications, electricity, water supply, disaster management sectors, the Red Cross must mobilize manpower, vehicles, materials, funds to support firefighting in a timely manner;
4. Soldiers, police, village security forces, security guards must maintain the order, protect the fire place and property including participating in firefighting.

### **Article 36. Mobilization of manpower and vehicles for firefighting**

Any individuals and organizations must contribute their forces, vehicles and equipment to the firefighting in accordance with the actual conditions.

In the mobilization of firefighting manpower, if any casualties, inquiries, vehicle and equipment damages; the policy for such shall be applied in accordance with regulations.

### **Article 37. Exercising the right in case of emergency**

To exercise the right in case of emergency shall comply as followings:

1. Police force for fire suppression and fire flighting shall have a right to lead the fire brigade and using fire truck/vehicle by allowing to passthrough all routes, traffic light, using firearms, flashlights, turn signals, emergency lights, loudspeakers, alarms and other signals. And crossing bridges, crossing ferries without any charges;
2. When firefighting is on duty, the fire truck shall have the most priority on the road than other type of vehicles;
3. In the event of a fire, the gas station must be in service at all times.
4. Those mobilized firefighting force able utilize the vehicles running through all the routes that directing to fire event without any charges;
5. Those mobilized firefighting force and vehicles shall have a right to use horns, headlight turning, emergency flashers, emergency siren and other signals;
6. Traffic police and other security forces must facilitate fire brigade and vehicles;
7. Road users must give way/priority to firefighting vehicles.

### **Article 38. Firefighting for Embassies and International Organizations**

In the event of a fire at an embassy, office, international organization, or their residence with diplomatic privileges, the fire police force is on duty to respond to the request of the relevant parties and to comply with international regulations.

### **Article 39. Firefighting Commander**

The fire brigade commander is the official with the highest rank or higher rank among fire brigade at the scene of the fire.

In the event that the fire brigade does not reach the scene of the fire, the following actions must be taken:

1. The head or deputy head of the organization's office is being as commander. In the event that such person is not onsite, the head of the security office of the organization or the deputy head or the person assigned shall be taken the action as the fire commander;
2. The district governor, the head of the municipality, the head of the village is being as fire commander. In the event that such person is not onsite, the deputy, the head of the fire brigade unit or the person assigned shall be taken the action as the firefighting commander;
3. The owner or driver of a transport vehicle is in charge of the firefighting commander when his or her vehicle catches fire;
4. The head or deputy head of the forestry sector or designee or forest owner or village head is in charge of the firefighting commander in the event of a forest



fire.

**Article 40. Duties and rights of the firefighting commanders**

The Commander of the fire suppression and fighting force has the following rights and duties:

1. To lead, command fire brigade forces, use vehicles, materials and equipment and carry out firefighting duties in a timely manner;
2. To define firefighting boundaries, firefighting methods, use areas or nearby areas for firefighting;
3. Do not allow people or vehicles to pass through the firefighting area;
4. To mobilize fire brigade forces, vehicles, materials from the organization, households and individuals to participant into firefighting.

If necessary, the commander of the fire suppression and fighting police force also has the right to decide to demolish or remove obstacles to save lives, property and fire spread prevention.

**Article 41. Resolving of severe and prolonged fires**

The heads of agencies, districts, municipalities, and villages where severe and prolonged fire occurred; shall responsible for directing, supervising, commanding and creating conditions for firefighting activities. In case out of their own ability, such shall be reported to public security sector for an immediate coordination with relevant sectors and address an issue punctually.

In the event that the issue cannot be resolved, the Minister of Defense must report to the Prime Minister for a resolving decision.

**Article 42. Responsibilities of other parties on fire suppression and fire fighting**

Sectors and other relevant parties must coordinate with the public security sector in the implementation of fire suppression and fighting activities within the scope of their responsibilities.

**Article 43. Prevention and examination of fire sites**

Relevant authorities are responsible for organizing and protecting the fire scene area.

The fire suppression and fighting police force has the duty to coordinate with other relevant parties to participate in the investigation of the fire site, evaluate the cause, summarize the damage from the fire and submit such to the investigation agency for further investigation.

**Article 44. Resolving fire damage**

To resolve the damage from the fire of the sector or the part of the fire occurred, the following shall be done:

1. Organize the assistance to fire victims and affected individuals;
2. Rehabilitate and clean the fire place to be in order;
3. Restore the production, economic activity, administration and other activities to gradually return to normal circumstance.

## **Chapter IV**

### **Vehicles, equipment, tool for fire suppression and firefighting.**

**Article 45. Provision of vehicles, equipment, tool for fire suppression and firefighting**

Vehicles, equipment, tool for fire suppression and firefighting equipment are any equipment used in fire suppression and fighting activities, such as fire trucks, water trucks, forklifts, firefighters, emergency equipment, fire protection equipment, fire extinguishers, fire alarms, emergency equipment, reservoirs, stairs, ambulances and local indigenous tool and equipment.

**Article 46. Provision of vehicles, tool, equipment for fire suppression and fighting in the organization's office, villages and households.**

Provided Vehicles, equipment, tool for fire suppression and firefighting in the organizations, villages and households shall comply as following:

1. The organization must install materials, equipment and allocate vehicles for fire suppression and fighting under the scope of their own responsibilities in accordance with the regulations;
2. The village administration must provide vehicles, materials, and fire suppression and fighting equipment to the village fire suppression and fighting unit upon actual conditions;
3. Individuals and organizations engaged in production, business operation; The owners of transport vehicles must contribute any equipment for fire suppression and firefighting;
4. Households must prepare a condition on equipment for fire suppression and firefighting.

**Article 47. Provision of vehicles, tools and equipment to fire suppression and firefighting police force.**

The government provides the budget on vehicles, tools and equipment for fire suppression and fighting to police force sufficiently, comprehensively and in an advanced manner.

The government encourages individuals and organizations to provide financial assistance, vehicles, materials, tools and equipment to the police force for fire suppression and firefighting activities in accordance with their actual capabilities.

**Article 48. Management and utilization of vehicles, tools and equipment for fire suppression and firefighting**

The management and utilization of vehicles, tools and equipment for fire suppression and firefighting must ensure the quality in order to be ready for firefighting in a timely manner.

Additionally, vehicles, tools and equipment for fire suppression and fighting also serve activities-related public security and social order.

**Article 49. Assemble and importing of vehicles, tools and equipment of fire suppression and fighting**

The assemble and importing of vehicles, tools and equipment of fire suppression and fighting must ensure the quality in accordance with the requirements of Lao PDR and approved by the Ministry of Public Security in conjunction with other relevant ministries.

**Chapter V**

**Fire suppression and firefighting force**

**Article 50. Categories of Fire suppression and Firefighting manpower/force**

The fire suppression and firefighting force is the main force for a central implementation of fire suppression and fighting activities throughout the country, which consists of:

1. Fire suppression and firefighting police force;
2. Fire suppression and firefighting force of the organization's office;
3. Fire suppression and firefighting force of the village.

**Article 51. Fire suppression and Firefighting Police Force**

The Fire suppression and firefighting Police Force is a unit of the security forces, organized from centralized to localized with the role of liaison officers to public security sector on fire suppression and fighting throughout the country.

The fire suppression and firefighting police force has the following duties and rights:

1. To study on the rules, regulations, plans, methods and measures for fire suppression and firefighting in order to propose to higher levels for promulgation;
2. To promote, disseminate, supervise and implement the law on fire suppression on firefighting and related regulations;
3. To study and apply modern technology into fire suppression and firefighting activities;
4. To develop a fire suppression and fighting plan;
5. To maintain, building, conduct a professional training and practice the plan on fire suppression and firefighting regularly;
6. To examine the design, issuing certificates and install fire suppression and firefighting equipment
7. To prepare the budget of forces, vehicles, tools and equipment and take immediate action when a fire occurs;
8. To coordinate with the relevant sectors in managing, inspecting, permitting the assemble and importing of vehicles, tools and materials on fire suppression and fighting;
9. To examine techniques, resolving violations against the law on fire suppression and firefighting and related regulations;

10. To collaborate with other relevant parties to mobilize the mass campaign to be participated in fire suppression and firefighting activities;
11. To participate in fire investigation where the fire occurs;
12. To exercise other rights and perform other duties as stipulated in the law.

**Article 52. Fire suppression and firefighting force of the organization's office and the village**

The fire brigade of organization office and village is a unit established by the village administration and under the supervision of The Fire suppression and firefighting Police Force (the fire brigade) on technical matter.

Fire suppression and firefighting force of the organization's office and the village has the following duties and rights:

1. To promote, disseminate, supervise and implement the law on fire suppression on firefighting and related regulations;
2. To study and formulate fire suppression and firefighting regulations;
3. To develop a fire suppression and firefighting plan;
4. To inspect the application of technical standards on fire suppression and firefighting;
5. To organize regular fire suppression and firefighting practices;
6. To prepare budgets, manpower/force, vehicles, tools and materials for firefighting activities;
7. To mobilize the officers and residents/people to participate in fire suppression and firefighting;
8. To coordinate with the fire suppression and firefighting police force;
9. To exercise other rights and perform other duties as stipulated in the law

## **Chapter VI**

### **Fire Suppression and Firefighting Fund**

**Article 53. Establishment of the fire suppression and firefighting Fund**

The government establishes the Fire Suppression and Firefighting Fund to ensure the improvement and development of the effective fire suppression and firefighting activities.

**Article 54. Sources of Fund**

The Fire suppression and Firefighting Fund derives from the state budget, legal fire insurance, contributions of individuals, both domestic and foreign organizations, and from other activities.

**Article 55. Fund management and utilization**

The public security forces manage and utilize the fire suppression and firefighting fund in accordance with the fund's regulations in harmony with the law on budget.

Fire suppression and firefighting fund is used for the procurement of vehicles,

materials, tools, equipment, personnel development, capacity building, training, rehearsals, promotion and dissemination of rules and regulations, implementation of fire suppression and firefighting policies, and so on.

## **Chapter VII**

### **Prohibitions**

#### **Article 56. Prohibitions for individuals and organizations**

Prohibitions for individuals and organizations are as follows:

1. Cause to fire and explosion that affect health, lives and property of the state, community and citizen.
2. Obstruct the duties of fire suppression and firefighting forces;
3. Seize the opportunity to steal property in the event of a fire;
4. False report on fire incidents;
5. Produce, store, transport, manage, utilize, and trade unauthorized explosive hazardous materials;
6. Buying and selling fire extinguishers or all kinds of fire extinguishing equipment without permission;
7. Violate the regulations on the management and utilization of fire sources, heat sources, fire suppression and firefighting measures;
8. Operate business activities that are dangerous to the explosives without the permission from the fire suppression and firefighting police force;
9. Handover and operating business activities that are dangerous to explosives without permission;
10. Destroy, change, move the emergency signs, fire escape plans, vehicles, tools and equipment of fire suppression and firefighting and other.
11. Slash and Burn fields, burning gardens, slash and burn forests and other things recklessly;
12. Other prohibitions stipulated in the regulations;

#### **Article 57. Prohibitions for fire suppression and firefighting forces**

Prohibitions for fire suppression and fighting forces are as follows:

1. Abandonment or disobey the work orders during the duty or when performing firefighting;
2. Abuse the rights, duties and positions to carry out technical inspections, install equipment and issuing the permits incorrectly;
3. Seize the opportunity, conceal, steal the fire-retardant materials;
4. Request the compensation for performing duties illegally.

## **Chapter VIII**

### **Management and inspection of fire suppression and firefighting activities**

#### **Article 58. Management Authority**

The management authority of fire suppression and firefighting consists of:

- Ministry of Public Security;
- Public Security Headquarters at provincial and capital level;
- Public Security command at district and municipality level;
- Village security forces

**Article 59. Duties and Rights of the Ministry of Public Security**

In the management of fire suppression and firefighting activities, the Ministry of Public Security has the following duties and rights:

1. To study and draft policy and strategic plan, laws, project and fire suppression and firefighting plan throughout the country;
2. To issue regulations on fire suppression and firefighting activities;
3. To promote, disseminate and educate on rules and regulations, knowledge on fire suppression and firefighting;
4. To supervise and monitor the duty performance of the fire suppression and firefighting force that below their own management;
5. To examine and issue the permit on fire suppression and fighting plans for the construction, extension, and change of use in term of fire safety;
6. To develop fire suppression and firefighting plans;
7. To build, strengthen and upgrade the fire suppression and firefighting police force gradually;
8. To mobilize the mass campaign to participate on fire suppression and fighting activities;
9. To establish a communication system to manage, supervise and control the fire suppression and fighting activities;
10. To modify the proposals that associated with fire suppression and fighting activities;
11. To make a budget plan for the procurement of vehicles, tools and equipment to the fire suppression and fighting police force;
12. To coordinate with other parties involved in fire suppression and fighting activities;
13. Liaise and cooperate with foreign countries on fire suppression and fighting in accordance with the agreement of the Government;
14. To summarize the situation on the implementation of fire suppression and fighting activities and report to the Government on a regular basis;
15. To exercise other rights and perform other duties as stipulated in the laws and regulations.

**Article 60. Duties and Rights of Public Security Headquarters at provincial and capital level**

In the management of fire suppression and firefighting activities, Public Security Headquarters at provincial and capital level have the following duties and rights:

1. To study, integrate and understand the plans of the Ministry of Public Security on fire suppression and firefighting activities in order to be extended into action plan, work plan and detailed project for the implementation;

2. To promote, disseminate and supervise on fire suppression and firefighting activities under their own responsibilities;
3. To supervise and monitor the duty performance of the fire suppression and firefighting force that below their own management;
4. To examine and issue the permit on fire suppression and fighting plans for the construction, extension, and change of use in term of fire safety under their own responsibilities;
5. To develop fire suppression and fighting plans;
6. To organize the training, capacity building and management of fire suppression and fighting's forces in accordance with their own responsibilities;
7. To establish a 24-hour force to be ready for firefighting in a timely manner;
8. To modify the proposals that associated with fire suppression and fighting activities;
9. To create a management plan on the utilization of budgets, vehicles, tools and equipment for fire suppression and firefighting activities;
10. To coordinate with other parties under their own area of responsibility on fire suppression and fighting activities;
11. Liaise and cooperate with foreign countries in accordance with the approval of higher level;
12. To summarize and report the implementation of their own activities to higher levels;
13. To exercise other rights and perform other duties as stipulated in the laws and regulations.

**Article 61. Duties and Rights of Public Security command at district and municipality level**

In the management of fire suppression and firefighting activities, the Public Security command at district and municipality level have the following duties and rights:

1. To implement and extend the plans of Public Security command at district and municipality level on fire suppression and firefighting work;
2. To promote, disseminate, supervise and monitor the implementation of fire suppression and firefighting forces of district and village offices;
3. To organize a force on duty twenty-four hours to be ready to fire fighting in a timely manner;
4. To develop fire suppression and firefighting plans;
5. To mobilize people to participate in fire suppression and firefighting activities;
6. To modify the proposals that associated with fire suppression and fighting activities;
7. To coordinate with other parties under their own area of responsibility on fire suppression and fighting activities;
8. To summarize and report the implementation of their own activities to higher levels;
9. To exercise other rights and perform other duties as stipulated in the laws and regulations.

**Article 62. Duties and Rights of the Village Security Forces**

In the management of fire suppression and firefighting activities, the village security forces have the following duties and rights:

1. To disseminate, educate people to absorb on fire suppression and firefighting activities;
2. To establish the village's regulation on fire suppression and firefighting activities;
3. To develop fire suppression and firefighting plans;
4. To prepare materials, preserve water sources/body and water tap to ensure fire prevention;
5. To encourage people to participate in fire suppression and firefighting activities;
6. To coordinate with other parties under their own area of responsibility on fire suppression and fighting activities;
7. To implement and rehearsal on firefighting force, mobility and property protection in the event of fire;
8. To summarize and report on the implementation of fire suppressions and fighting activities to the Municipal and District Public Security Command;
9. To exercise other rights and perform other duties as stipulated in the laws and regulations.

**Article 63. Inspection Authority**

The inspection authority on fire suppression and firefighting is the same organization as the management authority as defined in Article 58 of this law.

**Article 64. Duties and Rights of the Inspection Authority**

The inspection authority has the following duties and rights in accordance with their area of responsibilities:

1. To inspect the implementation of the rules and law on fire suppression and firefighting;
2. To inspect the plans, vehicles, tools and technical standards of fire suppression and firefighting including the inspection of fire safety techniques;
3. To inspect the duty performance of fire suppression and firefighting forces;
4. To inspect the insurance purchasing of individuals and organizations that conduct risky business operations.

**Article 65. Forms of Inspection**

The inspection consists of three forms as follows:

1. Regular inspection;
2. Unscheduled inspections by prior notice;
3. Immediate inspections.

**Chapter IX**

**Uniform, symbol and steal of fire suppression and firefighting police force**

**Article 66. Uniforms and symbol**

Fire suppression and firefighting police force shall have a uniform, specific symbol which are specified in other regulation separately.

During the firefighting operation, the fire brigade and firefighters shall wear a



specialized protective clothing.

**Article 67. Steal**

Fire suppression and firefighting police force shall have their own steal as specified in other regulation separately.

**Chapter X**

**Policy to outstanding performers and measures against violators**

**Article 68. Policy to outstanding performers**

Individuals, legal entities or organizations with outstanding performance in the implementation of this law will receive awards or other policies in accordance with the regulations.

**Article 69. Measures against violators**

Individuals, legal entities or organizations that violate this law will be educated, warned, disciplined, convicted by civil or convicted to prosecute in accordance with the law upon its severity.

**PART XI**

**Final Provisions**

**Article 70. Implementation**

The Government of the Lao People's Democratic Republic shall strictly implement this Law.

**Article 71. Effectiveness**

This Law enters into force after sixty (60) days from the date of the President of the Lao People's Democratic Republic issued the decree on promulgation.

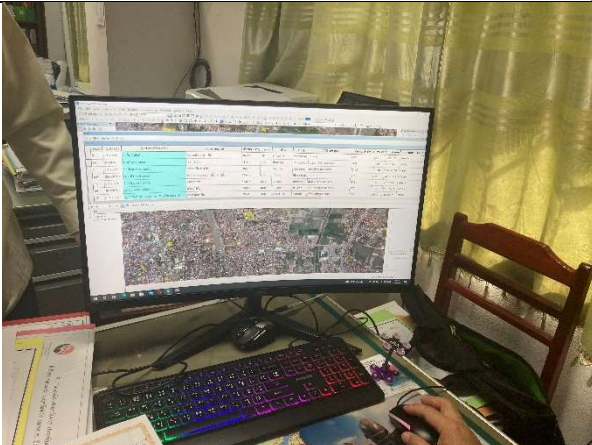
Any requirements and provisions contradict this Law shall be cancelled.

President of the National Assembly  
(Sealed and signed)  
Thongsing THAMMOVONG

# Annex

## 14

ラオス国都市開発管理・促進能力強化プロジェクト  
デジタル画像集

| 第1回現地渡航（2022年4月～7月）                                                                 |                                                                                    |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|    |  |
| 中国高速鉄道ビエンチャン駅<br>(2022年5月)                                                          | ラオ・タイ鉄道カムサワート駅（パイロット地区）<br>(2022年5月)                                               |
|                                                                                     |                                                                                    |
| MPWT 副大臣協議<br>(2022年5月18日)                                                          | 第5回 GIS Sub-WG<br>(2022年6月8日)                                                      |
|  |                                                                                    |
| DPWT 内の既存建設許可データ管理システム<br>(2022年6月)                                                 | 第1回都市課題セミナー<br>(2022年7月22日)                                                        |

| 第 2 回現地渡航 (2022 年 8 月～11 月)            |                                            |
|----------------------------------------|--------------------------------------------|
|                                        |                                            |
| パイロット地区現地調査<br>(2022 年 8 月 11 日)       | パイロット地区コミュニティ代表との意見交換<br>(2022 年 8 月 11 日) |
|                                        |                                            |
| ラオタイ鉄道会社との協議<br>(2022 年 8 月 11 日)      | 第 2 回都市課題小規模セミナー<br>(2022 年 10 月 21 日)     |
|                                        |                                            |
| 第 1 回ラオ B/C セミナー<br>(2022 年 11 月 22 日) | タートルランドライポート開発計画<br>(2022 年 11 月)          |

| 第 3 回現地渡航（2023 年 1 月～3 月）                  |                                            |
|--------------------------------------------|--------------------------------------------|
|                                            |                                            |
| 第 1 回パイロット地区コミュニティ WS<br>(2023 年 2 月 14 日) | 第 1 回パイロット地区コミュニティ WS<br>(2023 年 2 月 14 日) |
|                                            |                                            |
| JICA 本部等のピエンチャン市庁表敬訪問<br>(2023 年 2 月 7 日)  | 第 32 回 Urban WG<br>(2023 年 2 月 27 日)       |
|                                            |                                            |
| 第 1 回本邦研修（千葉市）<br>(2023 年 3 月 8 日)         | 第 1 回本邦研修（東京）<br>(2023 年 3 月 10 日)         |

第 4、5 回現地渡航 (2023 年 5 月～8 月)



パイロット地区  
(2023 年 5 月)

パイロット地区  
(2023 年 5 月)

第 2 回パイロット地区コミュニティ WS  
(2023 年 5 月 9 日)

第 17 回 GIS Sub WG  
(2023 年 6 月 6 日)

第 3 回 JCC  
(2023 年 8 月 8 日)

第 3 回 JCC  
(2023 年 8 月 8 日)

| 第 6 回現地渡航（2023 年 10 月～12 月）                          |                                                |
|------------------------------------------------------|------------------------------------------------|
|                                                      |                                                |
| 第 28 回 GIS Sub WG（Geo Node 研修）<br>（2023 年 11 月 28 日） | 第 30 回 GIS Sub WG（ToT 研修）<br>（2023 年 12 月 8 日） |
|                                                      |                                                |
| 第 31 回 GIS Sub WG（ToT 研修）<br>（2023 年 12 月 12 日）      | 第 42 回 Urban WG<br>（2023 年 12 月 19 日）          |
|                                                      |                                                |
| 第 8 回都市課題小規模セミナー<br>（2023 年 12 月 22 日）               | 第 8 回都市課題小規模セミナー<br>（2023 年 12 月 22 日）         |

| 第 7 回現地渡航（2024 年 1 月～2 月）             |                                          |
|---------------------------------------|------------------------------------------|
|                                       |                                          |
| 建設許可プロモーションビデオ撮影<br>（2024 年 1 月 11 日） | 建設許可に関する DPWT との WS<br>（2024 年 1 月 16 日） |
|                                       |                                          |
| GIS-PF 移管セレモニー<br>（2024 年 1 月 17 日）   | GIS-PF 移管セレモニー<br>（2024 年 1 月 17 日）      |
|                                       |                                          |
| 第 6 回 UMP<br>（2024 年 1 月 24 日）        | 第 6 回 UMP<br>（2024 年 1 月 24 日）           |



| 第 2 回本邦研修、第 8 回現地渡航（2024 年 4 月～6 月） |                                 |
|-------------------------------------|---------------------------------|
|                                     |                                 |
| 第 2 回本邦研修<br>(2024 年 3 月)           | 第 2 回本邦研修<br>(2024 年 3 月)       |
|                                     |                                 |
| 第 2 回本邦研修<br>(2024 年 3 月)           | DHUP の大晦日式<br>(2024 年 4 月 11 日) |
|                                     |                                 |
| 第 4 回 JCC<br>(2024 年 6 月 18 日)      | 第 4 回 JCC<br>(2024 年 6 月 18 日)  |

# Annex

## 15

# **Lao Building Code**

## **Main text**

**( Final draft)**

Final reviewed in June 2024

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# Chapter 1: General provisions

## Article 1: Objectives

This Building Code is produced for determination of principles, regulations, technical standards, construction operation measures, using and maintenance of controlled buildings. It's also a reference use for survey-design structure system, fire protection system, facilities system and sanitization system including the management of controlled-building use.

## Article 2: Building control

Building control is an inspection and certification of adoption in principles, regulations, technical standards and construction operation measure in construction activities, the management of controlled-building use. The aim of building control are as followed.

1. Provide the strength of buildings
2. Provide a safety for inhabitants and building users
3. Provide the comforts for general and also elderly and disabled people
4. Provide esthetics of harmony with surroundings, townscape and concerning in environment protection

## Article 3: Definitions

Common definitions are defined here, and Structure Safety and Fire Safety are defined in Annex 2 and Annex 3 as Specific Definitions.

1. Approved Plan means the set of plans, designs and specifications of building submitted to the Authority as per provision of this Code and duly approved and sanctioned by the Authority.
2. Architect means a person who has a Bachelor Degree in Architecture and is a member of the Association of Architects, Laos, or a person certified as having equal or greater ability.
3. Basement means whole story or portion of story which is below grade
4. Building means any permanent or semi-permanent structure which is constructed or erected for human habitation or for any other purpose and includes but not limited to the foundation, plinth, walls, floors, roofs, stairs, etc.
5. Building committee means a group of person, whom is established according to Construction Law 2009.
6. Building lines means the line that the building must not intrude (not including the intruding part of window, balcony, windowsill, eaves and other architectural part), which is specified by the local competent officer.
7. Committee means a Building Construction Committee constituted for any area in the prescribed manner, if necessary.
8. Construction means the acts of building erection or installation or repair or demolition or extension or renovation or modification or restoration of a part or entire building to restore or change its utilization purposes;
9. Construction Monitoring and Inspection means the periodic inspection of the progress of construction work from the beginning to the completion date.
10. Construction Permit means the permit, which is issued to the applicant by Construction Management Authority after it studied, considered and admitted that construction is correct and consistent with City Plan and regulation concerned
11. Construction Plan means document that consists of scaled design drawings and specifications for the purpose of construction of new facilities or modification to existing facilities.

12. Controlled Building means a large building with accommodate many populations or the building with more than 20 meters of height and considered of being under potential risks.
13. Covered Area means the ground area above the plinth level which is covered by a building structure. The covered area of a building shall exclude gardens, wells, septic tank, soak well, unpaved uncovered water body, drainage structures, boundary wall, gates, porch, detached pump house, and other uncovered utility structures.
14. Engineer means a person who has a bachelor's degree in engineering and is a member of the Association of Engineers in Laos or a person certified as having equal or greater ability.
15. Final Inspection refers to an inspection to ensure that the construction is carried out in accordance with the approved plans prior to the issuance of Building Occupancy Certificate.
16. Floor Height mean the vertical distance above a reference datum measured to the highest point of the next story.
17. Floor or story mean that portion of building included between the upper surface of a floor and the upper surface of the floor or roof next above.
18. Floor Plan is any drawing, which is seen from the top view.
19. Foundation means the part of building used for transferring the load of the building onto the ground.
20. Ground Floor means a floor in a building that is recognized as a floor and whose height is at the same level as ground level or is not more than 150 cm above or below ground level.
21. Height of building means the vertical distance above ground level measured to the highest point of the roof or to the top of external wall (including the parapet)
22. Initial Inspection refers to an inspection to ensure the compliance of building lines, property lines with the conditions specified in the Construction Permits;
23. Inspector means the person who has been appointed by the local competent officer as an inspector or or a person entrusted with similar services
24. Occupancy means the purpose for which a building, or part thereof, is used or intended to be used.
25. Permit means a written document or certificate issued by the Authority for carrying out a specific activity under the provisions of this Code.
26. Progress Inspection refers to a mid-inspection to ensure the compliance of construction works with the conditions specified in the accredited architectural and structural plans;
27. Structure means that which is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manner
28. Total Floor Area of Building means the total area of all floors of the building.
29. Wall means a member, usually vertical, used to enclose, separate spaces or fencing.

#### **Article 4. Principles of building control**

Construction and application of controlled buildings shall meet the following principles:

1. During the design period, all documents of permission shall be inspected and verified in design before submission.
2. During the construction period, the inspection of the construction shall be in line with construction technical and standard. When the construction is completed, the inspection and verification of conformity is needed.
3. After the occupation of building, the inspection and affirmation shall be conducted on situation of building condition, facility system in the building and safety system during the management of building use.

## **Article 5: Scope of application**

This decision/code is specifically applied for construction, maintenance and management of controlled-building use for both government and economic sectors in national wide.

In case of controlled-buildings have been constructed prior the enforcement of this decision, building must be inspected and adjustment measure shall be done in comply with this decision.

# **Chapter 2: Type of controlled buildings**

## **Article 6: Type of controlled buildings**

The controlled buildings are comprised of three categories, which determined by the largeness, high and risk in using of the buildings as the Decision on Construction Management 2017.

Type 1: Building in floor area is classified into less than 400sqm, 10,000sqm, 30,000sqm and over 30,000sqm.

Type 2: Building in height is classified into less than 10m, 20m, 100m and over 100m

Type 3: Building in risks is applied as Article 8 below.

## **Article 7: Classification of scale buildings**

The controlled buildings are classified according to the following levels based on the height and floor area of the building. Buildings of each category shall comply with the requirements specified in this regulation as Annex 1.

Level 1: Buildings with a floor area not exceeding 400sqm or a building height not exceeding 10m.

Level 2: Building with a floor area from 400sqm to 10,000sqm or a building height from 10m to 20m.

Level 3: Building with a floor area from 10,000sqm to 30,000sqm or a building height from 20m to 100m.

Level 4: Buildings with a floor area over 30,000sqm or a building height over 100m.

## **Article 8: Building in risks**

The building in risks is the buildings to serve a large number of people, buildings that are not classified as large-scale buildings and high-rise buildings, buildings that some parts of buildings are used for public, entertainment, stadium, auditorium (demonstration, cinema, sport seats), passenger-hall building in airport and mass-transport passenger buildings, industrial buildings, warehouse of flammable and explosive objects. The classification of controlled building is determined in the Annex 1.

## **Article 9: Adaptation and change of building use**

All controlled-buildings may adapt or change the function such as more or less building floor; building function is changed from one to another objective based on the purpose of building owner. All adaptations and change of function must undergo to survey-design by architect and engineer and verify by legal building survey-design Company. Permission from the authority of management and inspection on building control must be done prior process with adaptation and change of function.



## **Chapter 3: Design of controlled buildings**

### **Article 10: General provisions**

All controlled buildings must implement to survey, design and calculation of structure system and other system comprehensively; including socio and environmental impact assessment and must comply with following principles:

1. The controlled building shall be designed by legal building survey-design Company or building consulting Company.
2. The controlled building shall be in comply with design standard, determined urban plans and construction management regulation
3. The design shall be subjected to site survey data particular geographical, geological, etc.
4. Environmental impact assessment (EIA) must be done in case of controlled buildings are under the inventory of construction activities that environmental impact assessment is required based on the decision of construction management, No. 2241/PWT, dated 31 January 2019, or latest revised decision.
5. All the documents of design-survey, report and bill of quantities must be authorized by architects and engineers, designer, specialist, inspector and must be approved by survey-design Company. EIA must be carried out by relevant organizations.

### **Article 11: Submission of survey and design application**

Design documents of controlled buildings to be submitted to the authorized offices shall consist of the following items:

1. Design documents of survey, design with engineering reports
2. Architectural plans
3. Structural plans
4. Plans of electrical, mechanical, water supply and sanitation system
5. Plans of fire protection system
6. Technical specifications of materials, tools, construction and installations
7. Bill of quantities

### **Article 12: Specification of construction materials**

Construction materials to be applied in controlled buildings e.g. reinforcing bar, cement, gravel and sand shall ensure the quality, safety, strength and duration of building, the quality of construction materials must meet the national or international or any reliable country's standards

### **Article 13: Specification of decorative materials**

Finishing materials for decoration shall meet a standard of strength, simple maintenance, safety and suitable function as follows:

1. Inflammable decorative materials are prohibited to apply in fire exit staircase,
2. Material which produced fine dust or powder e.g. asbestos, silica, except the material is coated completely,
3. The light reflecting material shall not be decorated to the external wall more than 30 % of the wall,
4. Glaze tile assembled at the external wall of large scale building must be a multi-layer glaze avoiding injury to people if broken on impact.

## **Chapter 4: Structure of Controlled Buildings**

### **Article 14 General provisions**

#### **1. Objectives**

To ensure the determined standard of building on durability and sustenance, building structure must be able to resist to any action forces at the same time such dead load, live load, natural impact force and other of which wind load, earthquake, affected force/load, liquid pressure, earth pressure and change of temperature force.

#### **2. Scope / Occupant loads**

The provisions of this chapter shall govern the structural design of controlled buildings.

#### **3. Definition/technical words**

Definitions to be seen in Annex 2.1.

### **Article 15 Analysis and structural design**

Analysis and structure design of controlled building is acceptable to use international building codes in Lao People Democratic Republic, provided that the building codes factor safety is equivalent to Lao Building Code factor safety.

### **Article 16 Dead loads**

Dead loads are the loads of any building structures and the loads of some element's that fix with building structure throughout usage period of structure and it is unchanged load. For the structure that bears mechanical load which makes sudden actions must increase load rate of building structure. For more detail, see Annex 2.3.

### **Article 17 Live loads**

Live load is stable load or may be dynamic load which impacts to each structural component after the structure has finished or while using the building and the load which impacts to the structure while under construction, live loads are human weight, furniture, housing objects, materials to be stored in the warehouse and etc. value of live load are indicated in Annex 2.4.

As load combination, live load in each story of high-rise building will reduction rate multiplies number of loads. Details are indicated in Annex 2.4.

### **Article 18 Natural forces and others**

Natural force such as wind load, earthquake load, the value of these forces are based on the height of the building, especial point or constructional area or building location. Other forces such as action load, liquid pressure, ground pressure and pressure from the change of temperature. The calculation of the value of the force from these load types are indicated in Annex 2.5 to 2.7.

### **Article 19 Load combinations**

Combinations of load or force in structural building must consider each case of force and having coefficient for the safety of any types of loads comply with the international and regional theoretical calculation of structural design, based on the appropriation of control level for material quality, construction and building construction, based on the indication of coefficient for safety of the load by any types based on the theory. For more detail, see Annex 2.8.

Load combination of each load type to be applied for calculation-design is based on the following case below:

- Case 1: Location of the building is not affected by natural force. Only Dead load and live load are considered applied in the calculation-design.
- Case 2: Location of the building is affected by wind load. Dead load, live load and wind load are considered applied in the calculation-design.
- Case 3: Location of the building is affected by earthquake load. Dead load, live load, earthquake load, wind load or other loads (if have) are considered applied in the calculation-design.

### **Article 20 Importance factor**

The owner should increase the external force (seismic force, wind force, etc.) according to the importance of the building.

### **Article 21 Soils and foundations**

#### **1. Soil investigation**

The owner or applicant shall implement a soil investigation. Soil investigations shall be based on observation and any necessary tests of the materials disclosed by borings or other subsurface exploration made in appropriate locations. Additional studies shall be made as necessary to evaluate slope stability, soil strength, position and adequacy of load-bearing soils, the effect of moisture variation on soil-bearing capacity, compressibility, liquefaction and expansiveness.

The soil investigation shall be conducted in two stages, the first stage shall be conducted during the basic design (cost estimation) period and the second stage with a loading test shall be conducted during construction period. For more detail, see Annex 2.9.

#### **2. Foundations**

Foundations shall be designed to transfer building loads safely to the underlying ground. They must satisfy two design criteria Bearing capacity and Settlement. For more detail, see Annex 2.10 and 2.11.

### **Article 22 Concrete**

The provisions of this Article shall govern the material, quality, control, design and construction of concrete used in buildings.

The required strength and durability of concrete shall be determined by compliance with the proportioning, mixing and placing provisions of Annex 2.12 and 2.13. Details of Reinforcement is also to see Annex 2.14 and 2.15.

### **Article 23 Property of concrete in considering the durability**

Property of Concrete must ensure the durability and using period of building at least 50 years and more. High quality of concrete must have protection of chemical penetration to concrete and reinforce steel, sufficient period of covering concrete in reinforcing steel can adapt to any environment.

Quality consideration and property of concrete such as concrete mixing ratio, determination of acceptable load, highest creaking, least covering concrete for reinforce steel. Details are provided in Annex 2.16.

### **Article 24 Fire resistant rate**

Fire resistant rate of controlled building structure is indicated by two factors, type of construction and activities of building use. Indication of minimum fire-resistant rate are indicated in Annex 2.17.

## Article 25 Steel

The provisions of this Article shall govern the material, quality, design, fabrication and erection of steel used in buildings. For more detail, see Annex 2.18 to 2.19.

### 1. Structural steel

The design, fabrication and erection of structural steel for buildings shall be in accordance with Annex 2.19.

### 2. Connections

- 1) Welding: The details of design, workmanship and technique for welding, inspection of welding and qualification of welding operators shall confirm to the requirements of Annex 2.20.
- 2) Bolting: The design, installation and inspection of the bolts shall be in accordance with the requirements of Annex 2.20.

## Chapter 5. Fire escape system

### Article 26 General provisions

The provisions of this chapter provide that user of newly built or expanded controlled buildings can evacuate safely and install appropriate evacuation facilities to expedite firefighting promptly.

Definitions and terminology related to this chapter of fire safety regulation is shown in the Annex 3.1.

### [Means of escape]

### Article 27 Requirements of exit

The capacity of evacuation passages, Exit staircases, Exit doors, and other evacuation facilities are measured in unit width (mm). The width of passages, Exit staircases, and Exit doors is calculated from the number of residents according to the purpose of the building.

The number of Exit doors and Exit routes for evacuation from the living room shall be provided as Annex 3.2.

### Article 28 Travel distance to exits and staircases

The travel distance of working from each part of the room to one of the Exit staircases is indicated in Annex 3.3.

When there are two or more Exit doors or staircases, the distance between them should be at least 1/2 of the maximum diagonal length of the floor of building.

### Article 29 Components of exit

Fire Exit Door shall be half hour fire resistant rating (FR-30) and open to direction of evacuation and close automatically avoiding smoke or fire frame not come in evacuation area.

The width of the corridor shall be an effective width excluding protrusions such as handrails or balusters as Annex 3.4.

### Article 30. Structure of exit staircase

Structure of Exit staircase and Ramp required followings. for more details, see Annex 3.5.

1. The riser of the stairs in the dwelling unit shall be 23 cm or less, and the tread shall be 15 cm or more.
2. All controlled buildings except Level-1 building shall have direct staircases and provide two or more independent direct staircases from all floors of the building to the evacuation floor or ground level, unless permitted by other regulations.

3. Provide the following types of stairs according to regulations in Annex 3.5.4.
  - a: Internal Exit staircase inside of building
  - b: External Exit staircase outside of the building
  - c: Special Exit staircases for fire/smoke protection

### Article 31. Escape for disables (PWD)

All types of controlled buildings for public use must be provided the facilities for elderly, pregnant and PWD groups, including:

1. Facilitate safe entrance-exit of building including access way from up to down, parking spaces and others
2. Public toilets must be provided.
3. Entrances-exits inside buildings such as: bedrooms, living rooms, dining rooms, bar, lounge, retail, laundry and so forth must be designed notably.

In addition to complying with the barrier-free regulations if separately stipulated, the following requirements must be met.

1. Exit routes.
2. Wheelchair Waiting Space (PWD Holding Point)
3. Alarms and means of communication.

The detail of technical installation is indicated in the Annex 3.6.

## [Building control]

### Article 32 Fire resistance

The purpose of this provision is to require controlled buildings to have a stable structure, delay the collapse of building by fires, and to give time for evacuation and firefighting as Annex 3.7.

#### 1. Fire Resistance of Structure Elements

The fire resistance structure is a structure in which walls, pillars, floors, etc., which are the main structural parts of a building, have a constant fire resistance performance. In addition, fire resistance performance refers to the performance required for buildings to delay the "fall or spread" of buildings due to the fire until the end of a normal fire.

#### 2. Steel fireproof coating

In the steel structure, the main structural elements of the third floor or higher is provided with a fireproof coating by boards, spraying, painting, etc. When fire-resistant paint is used, a nameplate stating the manufacturer name, the painting date, the scheduled repaint date, etc. shall be installed in accordance with the prescribed standards.

#### 3. Fire Rating of Elements

Buildings used for the purposes shown in Table 3.7.1 of Annex 3.7. shall be fire-resistant buildings with fire resistance time according to the number of floors and floor area. If the fire-resistant building is partitioned with a two-hour fireproof wall ( $FR \geq 120$ ), fire safety may be treated as a separate building for each other.

### Article 33 External wall and roof

The purpose of this provision is to suppress the spread of fire inside of building and buildings adjacent in the accident of a fire as Annex 3.8.

#### 1. External wall structure

The external wall structure of controlled buildings where there is a risk of fire spreading shall have performance related to fire resistance. For more details, see Annex 3.8.1

2. Openings on the External Walls

Openings on the external walls that may allow fire to spread from other parts of the controlled building to such openings shall be provided with fire protection equipment.

3. Roof Construction

The roof construction of controlled buildings shall meet the performance requirements for roofs to prevent building fires caused by fire sparks assuming a normal fire. For more details, see Annex 3.8.3.

### **Article 34 Fire compartment**

The purpose of this provision is to prevent the spread of fires inside of the building by appropriately partitioning the building with fire walls and floors. The detail of technical installation is indicated in Annex 3.9. Requirement of Fire Compartment

2. Structure of Fire Doors/Windows fittings
3. Fire Stopping for service void
4. Requirements by type of Fire Compartment
  - a. Fire compartment by floor area
  - b. Fire compartment by height of building
  - c. Fire Compartment by purpose
  - d. Fire Compartment of vertical opening
5. Separating wall

### **Article 35 Protection of openings**

The openings in exterior walls will be protected from fire to prevent the spread of fire.

If an Atrium has three or more floors and inscribes a circle with a diameter of 6m or more, a protective partition shall be provided to prevent smoke and fire spreading. A fire separation wall or shutter must be installed within 3.5m of the atrium or install sprinkler system.

The detail of technical installation is indicated in Annex 3.10.

## **[Site planning control]**

### **Article 36 Fire spread precautions**

The spread of fire between buildings is prevented by regulating the distance from the site or adjacent buildings and by regulating exterior walls and openings. For more details, see Annex 3.11.

### **Article 37 Site planning and access by fire services**

The purpose of this Article is to ensure access to site and buildings necessary for rapidly firefighting and rescue operations in buildings. The target building shall be a building with a height of 31m or more and a total floor area 10,000 m<sup>2</sup> or more. The detail of technical installation is indicated in Annex 3.12.

1. Fire Truck Access shall be 4m wide and head clearance with 4.5m
2. Access to the Breeching Inlet/Fire Department Connection (FDC) shall be installed near the gate so that fire trucks can connect water hoses.
3. Fire Water Reservoir (more than 40m<sup>3</sup>) shall be provided.
4. Firemen's Access Door to the building shall be provided.
5. Installation of Emergency Lifts

## Chapter-6 Fire protection and firefighting system

### [Electrical system]

#### Article 38 Exit lighting and emergency lighting

Exit lighting and emergency lighting shall be installed for the purpose of indicating to evacuees the direction of the exit route and the location of the Exit door. Installation requirement and performance shall be as Annex 4.1.

#### Article 39 Fire alarm and detectors

Fire alarm system shall be installed to notify the occurrence of a fire at an early stage for prompt evacuation.

1. Manual call point
  - The installation target shall be all buildings of 3 stories or more or a total floor area  $\geq$  of 500 m<sup>2</sup> or more, excluding private residences.
2. Automatic Fire Alarm System
  - Automatic Fire Alarm System shall be installed for the purpose of automatically detecting heat, smoke and flame generated by fire and notifying at an early stage.
  - The installation shall be buildings with 5 stories or more or a total floor area of 2,000m<sup>2</sup> or more.

Details and specification is indicated in Annex 4.2.

#### Article 40 Lightning protection system

Lightning rod shall be installed for the purpose of reducing the risk of damage to electrical equipment and fire occurrence due to lightning strikes by releasing electric current to the earth when a building is struck by lightning. Installation requirement to be Annex 4.3.

#### Article 41 Safety control center (SCC)

The Safety Control Center shall be maintained a comprehensive control panels for fire safety such as evacuation, alert and rescuer, firefighting in the facility, and to serve as a base for evacuation guidance and fire extinguishing activities in the event of a fire. SCC control system, Fire lift and other systems shall be supplied emergency power . Installation requirement to be Annex 4.4.

### [Mechanical system]

#### Article 42 Mechanical ventilation system

Maintain a healthy space by circulating the air in the workroom or residence by installing mechanical ventilation system. Target of installation shall be as Annex 4.5.

#### Article 43 Smoke control system

Smoke Control System shall be installed for the purpose of discharging smoke generated by the fire to the outdoors and reducing the risk of evacuation and fire extinguishing activities. Target of installation and performance shall be as Annex 4.6.

#### **Article 44 Pressurized smoke control system**

The pressurized smoke control system shall be installed for the purpose of minimizing the effects of heat and smoke from the outside by pressurizing the mechanical supply air in the rooms attached to the Special Exit staircases and in the lobby of Emergency Lift, etc., and to assist in evacuation and fire extinguishing activities. In addition to the pressurized part, the Mechanical smoke control system in the previous section is provided, which enables "smoke protection" by supplying air to the base and "smoke elimination" of other fire spaces. Target of installation and performance shall be as Annex 4.7.

### **[Firefighting systems]**

#### **Article 45 Portable fire extinguisher**

In the event of a fire, a Portable Fire Extinguisher is for initial fire extinguishing by a resident using pressure radiating a fire extinguishing agent such as water, chemical powder. Installation requirement and performance shall be as Annex 4.8.

#### **Article 46 Fire hydrant system**

1. Indoor Fire Hydrant system (IFH)

Indoor Fire Hydrants shall be installed in the event of a fire and before the arrival of the fire brigade, for the purpose of extending the fire hose to release water and extinguish the fire.

2. Outdoor Fire Hydrant system (OFH)

Outdoor Fire Hydrant equipment shall be installed for use by residents and fire brigades in order to extinguish and prevent the spread of fire by releasing water from the outside.

Installation Requirement is for the building with a total floor area of 3,000 m<sup>2</sup> or more.

3. Fire Department Connection (FDC)

When there is a shortage of water supply for firefighting equipment, FDC shall be installed in a position easily accessible to the fire brigade, such as the front of the building, for the purpose of supplying water from the fire truck to help extinguish the fire.

Installation requirement shall be as Annex 4.9.

#### **Article 47 Sprinkler system**

Sprinkler equipment is installed for the purpose of extinguishing the fire by automatically spraying a shower when the water discharge head installed on the ceiling of the building detects the heat of the fire or smoke, cooling it, and extinguishing the fire.

Installation requirement shall meet one of the conditions as follows;

- A building with a total floor area of 5,000 sqm or more,
- A building with a total floor area of 1,000 sqm with a height of floor of 20 m or more,
- Floor height of 31m or more
- Rack-type warehouse with a ceiling height of 8m or more and a total floor area of 1,500 m<sup>2</sup> or more

The detail of technical installation is indicated in Annex 4.10.

#### **Article 48 Fire pump system**

1. Fire Pump System

- Fire pumps shall be installed for the purpose of supplying water at a predetermined pressure and amount of water to indoor and outdoor fire hydrants, sprinklers, etc.



- The Pump shall be installed a pressurized Jorkey Pump, an Electric Pump and an Engine Pump as standby pump.

2. Fire Water Reservoir

- A large amount of water necessary to extinguish a fire shall be secured on the premises or in the surrounding area and installed for the purpose of striving for early extinguishing the fire. This reservoir is provided separately from fire water tanks installed in Fire Hydrant or Sprinkler equipment.
- Fire water reservoir shall be installed in buildings with a site area of 20,000 sqm or more and a total floor area of 10,000 sqm or more or a height of 31 m or more.

The detail of technical installation is indicated in Annex 4.11.

#### **Article 49 Emergency lift**

Emergency elevator is installed to use as an elevator for general use normally, and in the event of a fire, the fire brigade use for firefighting and rescuer assisting evacuees to the fire floor where the ladder truck cannot reach. Installation requirement is the high-rise building with a height of 31 m or more-with each floor area of 500 m<sup>2</sup> or more.

Other requirements shall be as Annex 4.12.

## **Chapter 7: Additional requirements by type of buildings**

#### **Article 50 General requirements for high-rise or large building.**

The following tall and large buildings are subject to additional regulation. The regulatory items are in accordance with the following building regulations and fire regulations.

The detail of additional requirements is indicated in Annex-5.

1. Target of regulated Buildings

Buildings of Level -3 and Level-4 ; total floor area over 10,000 m<sup>2</sup> and /or a height over 20m.

2. General Requirement

A. Building Requirements

- 1) Fire resistance rating:
- 2) Fire Compartment:
- 3) Fire Staircase:
- 4) Special Fire Staircase with ante-room:
- 5) Fire Lift/Elevator:

B. Firefighting equipment

- 1) Portable Fire Extinguishers
- 2) Sprinkler System: .
- 3) Fire Hydrant Indoor and Outdoor:
- 4) Public announce facility:
- 5) Fire water reservoir:
- 6) Dry riser connecting water pipes:
- 7) Emergency outlets from standby generator:
- 8) Comprehensive control panel:
- 9) Automatic fire alarm system

- 10) Smoke ventilation system
- 11) Disaster prevention center:

### **Article 51 Additional requirements for type of use**

The additional requirements by type of usage of the buildings are shown in Annex-5, item-2.

|                              |                                      |
|------------------------------|--------------------------------------|
| PG-1: Residential            | Houses, Apartment, Condominium       |
| PG-2: Hotel, Hostel          | Accommodation, Dormitories           |
| PG-3: Hospital, Nursing Home | Patients accommodation               |
| PG-4: Educational            | Schools, Universities                |
| PG-5: Office                 | Business building                    |
| PG-6: Shop, Commercial,      | Commercial facilities, Malls, Museum |
| PG-7: Assembly, Theater      | Meeting Venues, Cinema, Auditorium   |
| PG-8: Industrial Factory     | Factory, Garage                      |
| PG-9: Storage, Carparking    | Warehouse, Terminals                 |

## **Chapter 8: Health and facility**

### **Article 52: Health and ~~facility~~ considerations in buildings**

Buildings related to health and easement such as health therapy buildings, hotels, schools, terminals, commercial buildings, banks, sport facilities and amphitheaters in all type of buildings, architects must consider facilities to serve all types of building user particularly PWD (person with disability) such as elderly, the pregnant and the handicapped/disabled groups in order to ensure some criteria as follow:

1. Easy to access
2. Safe in using
3. Good environment

### **Article 53: Facilities for PWD**

All types of controlled buildings use for public must be provided the facilities for elderly, pregnant and PWD groups, including:

1. Entrances, stairs, ramps and car parks must be safe and easy to use.
2. Public toilets must be provided
3. Entrances-exits inside buildings such as: bedrooms, living rooms, dining rooms, bar, lounge, retail, laundry and so forth must be designed notably.

### **Article 54: Approach to the entrances**

The entrance to public buildings should consider to outside area of the building as followings:

1. Walking Paths must be flat slops, no slope, no hole or no complexity. Along these paths, benches must be installed partly. For area of different ground level or area that potentially stumble or slippery, stair rail must also install. In case of increasing or decreasing path level is necessary, it must need to paint in different color than other areas, lamps and lights must be installed along the paths to guarantee that users will see the surrounding space clearly.
2. Parking spaces should allocate for handicapped vehicles with the wide area to ensure the accessibility of wheelchair and should be located close to the main entrance of buildings as possible.

3. Slopes and ramps for disabled groups must be designed under the standards of them. In particular, the 1:12 portion should be applied for a more than 3 meters long ramp and 1:20 portion should be designed for more than 6 meters long ramp, with a minimum step width of 1.5 m of transition space every 0.75 m of height or less.

#### **Article 55: Safe and convenient entrance-exit doors**

The main entrance and exit doors of building must have a space or any materials for building users to see through inside the building when entry and building users can be also seen outside the building when exit. This is to avoid an accident when opening-closing doors to building users entry-exit building. The entrance-exit spaces (both inside and outside the door) must have the area of 150cm x 150cm in order to serve wheelchairs. For building users unable to open-close the door by one hand, arranging seating and shelves spaces should be done for building user to place objects or belongings prior open the door.

#### **Article 56: Passage inside buildings**

A specific function of passage inside the building, particularly, hallway to bedroom, living room, dining room, bar area, lounge area, cozy area, shops, ticket room and laundry must be at least 1 meter wide. The hallway to serve wheelchairs must be at least 1.5 meters wide, and to facilitate the U-turn of wheelchairs, the width of the door must be 85-90cm. Besides, side of the door, the hinge position side should leave 45cm to the wall in order to avoid the door to hit against wheelchair or pushcart users when opening-closing doors. No obstacles or barriers along the hallway, avoid changing floor level. In case of step with different floor-levels are needed, different texture must be painted in different color other than the ground's color. To install signboards inside building, the signboard shall be installed a visible height from wheelchair.

For the hallway of elevators: apartment should have an area of 0.9m x 1.2m or more and public buildings should have an area of 1.1m x 1.4m or more.

#### **Article 57: Restrooms for PWD**

Controlled building to be served as public buildings must consist of restrooms for PWD which to be located in the simple accessibility, hallway to restrooms must be flat and no complexity.

1. A disabled restroom must have an appropriate width to support the wheelchairs to entry and exit. Size of restroom shall be at least 1.2m x 1.5m to allow a wheelchair to turn around.
2. Doors should be designed appropriately regarding the size of wheelchair; size should be bigger than 85cm.
3. Surrounding the toilet seat must provide sufficient space to accommodate wheelchairs at the sides of seat and the front side of toilet seat must install handrail to support when standing-sitting.
4. Under the sink shall be left sufficient space to accommodate wheelchairs for disabled people can be used easily.
5. Pull-out Handle faucet type should be use in the disabled restroom.
6. Mirror should be installed regarding the height of wheelchairs.
7. Shower room should consist of shower and chair and separate area of dry and wet parts.

#### **Article 58: Facilities for the blind**

The buildings to facilitate the accessibility of the blinds shall consist of clear braille letters and braille alphabet symbols must be in consistency with international standard. Loudspeaker shall be installed in any building of such, hospital, terminal buildings and other important places to accommodate both the blind and the deaf groups in term of hearing level.

Signals or loudspeaker should also provide at the stairways, elevators, escalators and ramps to notify by sound when they are close by.

#### **Article 59: Increasing the level of sounds**

Along with the permanent loudspeaker for the emergency case to increase level of sounds, other loudspeakers should be installed in the important places: meeting rooms, terminal, receptions, lobbies and public gathering spaces.

## **Chapter 9: Inspection and conformity certification**

#### **Article 60: Inspection of controlled building**

Controlled buildings must be inspected and certified building standard and safety by management and inspection of Building Control Authority. The Authority shall verify and certify the conformity of design before requesting construction permission. to inspect and certify the conformity of construction (construction period) and to inspect durability or safety during the management of building use.

#### **Article 61: Design verification and conformity certification**

The verification and certification of the design conformity is the inspection of the designing document of the controlled building which is verified by the management and inspection authority of the building control work in order to add in the technical comments and must proceed before requesting construction permission. The inspection and certification of the design conformity must verify the following items:

1. Verify structure design: structure system, indicating the force to design the size of the structure.
2. Verify the strength of the structure; the size of cross-section structure, various technical system.
3. Verify the fire-exit system
4. Verify the fire systems and the fire protection equipment
5. Verify the ventilation system and the emergency lights
6. Verify the efficiency.

#### **Article 62: Inspection and conformity certification for controlled-building construction**

Inspection and certification of the conformity of the construction of controlled buildings is inspecting the implementation of the controlled-building construction of the construction contractor and the consultant company. This inspection must proceed after the completion of construction and before hand-over construction project by the management and inspection authority of the building control work. Every construct works must have the certification or approval document of construction consulting. The inspection is to inspect the actual construction compared to the design of which designed by designing, in order to ensure the followings:

1. The construction must implement according to the designed model
2. The use of construction material must be accurate to the types, size and standard that the designer indicates
3. The main construction material must go through the experiment and verification letter
4. In case of changing design or specification of materials and construction equipment, the quality must follow as the initial requirements and must have authorize by the consultant in document papers. Also, there must be a quality certification of the manufacturer
5. There must be the physical construction model certified by the construction consultant.

### **Article 63: Regular inspection of controlled buildings**

Regular inspection of controlled buildings is the inspection of the building condition during the period of building management and building use, the inspection must be performed in every year which is inspected by the management and inspection authority of the building control work. This regular inspection is to monitor and inspect the stability of a building and the using ability of every safety protector.

Details of check points are indicated in the Annex 5

### **Article 64: Large-scale inspection of controlled buildings**

Large-scale inspection for controlled building is the inspection of building's condition in period defending-utilizing that must be managed every 5 years by the management and inspection authority of the building control work and verify using ability of protect materials including inspection of safety administration and organization of controlled-building owner.

### **Article 65: Document form for inspection and conformity verification of controlled buildings**

Entity or organization with the purpose to construct or utilizing controlled building including controlled, must subject to apply for inspection and the management and inspection authority of which details are provided as followings:

1. Requesting for inspection and conformity certification of design under the name of owner
  - Proposal letter of inspection and conformity certification must be under the name of owner
  - Comprehensive designing documents as stipulated in article 11
  - Environmental-study report
2. Requesting for inspection and conformity certification of construction (Construction period)
  - Proposal letter of inspection and conformity certification must be under the name of owner
  - The consultant company's report about technical for construction
  - The certificate result of the construction material's experiment
  - The certificate of quality and other system installation
3. Requesting for inspection and conformity certification in the period of building use management
  - Proposal letter of inspection and conformity certification must be under the name of owner
  - The layout for actual construction.

## **Chapter 10: Management and inspection authorities**

### **Article 66: Management and inspection authorities on building control**

The Ministry of Public Works and Transport manages and inspects controlled building centrally and unity across the country, by assigning Department of Housing and Urban Planning as the central coordinator with other related sectors from central to local regions.

Management and inspection authorities on controlled buildings divides into three levels as following:

- Central level: Department of Housing and Urban Planning
- Provincial level: provincial department of public works and transport, Vientiane capital.
- District level: Office of Public Works and Transport at district level.

#### **Article 67: Rights and obligations of the Department of Housing and Urban Planning**

In the management and inspection of controlled-buildings, Department of Housing and Urban Planning has the following rights and obligations:

1. make and revise the regulations, guidelines and technical standards of the-building control work.
2. Research, add in technical comments on the conformity of the controlled-building design that utilizing central government budget and controlled-building invested by international investment in the country and other controlled buildings based on the proposal of provincial and Vientiane capital, Department of Public Works and Transport.
3. Inspect and issuing quality certificate of the controlled building in the period of building use management that utilized the central government budget and controlled-building invested by international investment in the country and other controlled buildings based on the proposal of provincial and Vientiane capital, Department of Public Works and Transport—
4. Coordinate with the Fire Department, the Ministry of Public Security, the Technological Science Standard Department, the Ministry of Science and Technology, the Environmental Department, the Ministry of Natural and Environments, other relevant organizations in order to planning the implementation and evaluating on control buildings works.
5. Promote, disseminate the policies, laws, regulations, guidelines and technical standards on the work of building control to Department of Public Works and Transport at provincial level and Vientiane capital and Office of Public Works and Transport at district level, municipality in the country.
6. Mobilize the fund, implement a workshop on techniques for building control to the authority of building management and inspection at provincial, capital and district and municipality level across the country
7. Develop plans to construct and enhance the capacity on control building works.
8. Regular monitor, conclude, and report the implementation of building control works to the Ministry.

#### **Article 68: Rights and obligations of the Department of Public Works and Transport at provincial and capital city level**

In the management and inspection of controlled-building, department of public works and transport at provincial level and capital consist of the following rights and obligations:

1. Implement, promote, disseminate the regulations, guidelines and technical standards on the work of building control that the Ministry issued to office of Housing and Urban Planning at district, municipality level under their own management.
2. Research, add in technical comments on the conformity of the controlled-building design that utilizing provincial, city level of budget and every type of controlled building under domestic investment which under the management of their own province and city.
3. Inspect and issuing quality certificate of the controlled building in the period of building use management that utilized the provincial, city level of budget and every types of controlled building under domestic investment which under the management of their own province and city.
4. Have the rights to present to the upper building management and control authorities to research and add in technical comments on the conformity of the controlled building design that they cannot consider by themselves.
5. To consider the issuance of controlled-building construction permission after reviewed, technically commented on designing conformity by Ministry, Department of Public Works and Transport at provincial and city level.
6. Coordinate with all relevant sectors of building control works under the management of province in order to monitor and evaluate on building control works.
7. Lead, monitor, collect data, statistics on the work of building control work under their own management

8. Regular conclude, report the result of the implementation of building control works to their own higher sector and to and provincial and city administration authorities.

#### **Article 69: Rights and obligations of the Public Works and Transport office at District, Municipality and City level.**

In the management and inspection of controlled-building, office of the Public Works and Transport at district, municipality and city level, have the rights and obligations as following:

1. Strictly implement the regulation, guideline and technical standards on building control works issued by Ministry and DPWT at provincial and city level.
2. Promote, raise awareness on building control works to the residents under their own district and municipality.
3. Lead, monitor the construction implementation and controlling building use within their own district and municipality.
4. Regular conclude, report the result from the implementation of controlled building construction within their own district, municipality to their own relevant departments and to administration authorities at district and municipality level.

#### **Article 70: Obligations and responsibilities of the controlled building owner**

The owner of every type of controlled building must have the following responsibilities:

1. During the period of constructing or renovating process, the owner must consult with consultant company in order to keep track and inspect on the quality and techniques.
2. During the period of building use management, the owner must have an engineer to keep track-verify the building operation, maintain the fire prevention equipment and other systems in the building.
3. Cooperate with building control administration authority during inspection according to the time schedule.
4. Make a plan on fire prevention training, how to use the fire extinguishing equipment and how to escape fire to controlled building users when there is a fire incident.

## **Chapter 11: The policy of good performers and measures**

#### **Article 71: The policy of good performers**

Individuals, legal entities or organizations with outstanding performances on implementing this regulation of building control and other requirements of building control, will be praised or achieved any policy.

#### **Article 72: Measures against violators**

Individuals, legal entities or organizations violate this regulation will be taken following measures: –

1. Officers or personnel of building control management and inspection authority violate this regulation particularly ignorance of their tasks, will be warned, suspended the promotion or expelled based on soft or heavy violation
2. Controlled-building owners violate this regulation will be educated and warned.
- In case of the owners do not revise the design based on the supervision of building management and inspection authority, the approval of construction permission will not be considered.



- In case of the construction is not in comply with the approved design, the owner will be warned. Suspension or permanent removal of building will be done based on case by case.
- In case of building use period has not undergone the inspection and certification of safety system, resulting suspension of building-use.
- 3. Survey-design company of controlled buildings which not comply with this regulation, will be warned and educated. If no change, the company will be prohibited to design the controlled-building or will be suspended based on case by case
- 4. Construction consulting company on the construction project of controlled buildings which not strictly comply with the dedicated design will be warned, educated. If no change, the company will be prohibited to participate as a consultant to construction project of controlled buildings or will be suspended based on case by case.
- 5. Construction company of controlled building construction project which not strictly comply with the dedicated design will be warned, educated. If no change, the company will be prohibited to participate in the construction project of controlled buildings or will be suspended based on case by case.

#### **Article 73: Education measure**

Individuals, legal entities or organizations violate this regulation will be warned, educated, warned, notify to suspend construction operation, demolishing order, ordering to suspend business operation rules by control building management and inspection authority.

#### **Article 74: Legal measure**

In case of controlled-building damaged from the consequence of error survey-design, construction contractor company constructed not in comply with construction technique, reckless of building owner such no any monitor-inspect in the construction period and building use management phase as stipulated in this regulation of which caused to live injury and social properties. All occurred damages must be under justice process, fines, discipline based on soft or serious damage.

## **Chapter 12: Final Provisions**

#### **Article 75: Implementation**

Given to the department of housing and urban planning as implementing unit and central coordination, collaboration with relevant government organizations to issue technical guideline and detailed technical standard as a reference for the building control management and inspection authority as a mutual agreement across the country.

#### **Article 76: Effectiveness**

This regulation is effective from the date of the signature, until the new amendment  
All requirements and regulations that are unsuitable with this regulation shall be cancelled.

**Minister**



# **Lao Building Code**

## **Annex**

**(Final draft)**

Final reviewed in June 2024

### **Annex:**

Annex 1: Classification of controlled building

Annex 2: Structure of controlled buildings

Annex 3: Fire escape way/route

Annex 4: Fire protection system

Annex 5. Additional requirements by type of buildings

Annex 6: Controlled buildings inspection

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## Annex 1: Classification of controlled building

### 1.1 Classification of controlled buildings

#### 1.1.1 Scale of building

**Table 1.1.1: Classification of scale of building**

| Type of building                  | Level-1:<br>Small building | Level-2:<br>Medium building | Level-3:<br>Large building | Level-4:<br>Extra large building |
|-----------------------------------|----------------------------|-----------------------------|----------------------------|----------------------------------|
| Type 1:<br>Total floor area(m2)   | Not exceeding 400m2        | From 400m2 to 10,000m2      | Over 10,000m2 to 30,000m2  | Over 30,000m2                    |
| Type-2:<br>Height of Building (m) | Not exceeding 10m          | From 10m to 20m             | Over 20m to 100m           | Over 100 m                       |

#### 1.1.2 Risk of building

**Table 1.1.2: Classification of Risk of Building**

| Type of building             | Building categories                                                                           | Capacity/size of total floor area                                                    |
|------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Type 3:<br>Risk of buildings | 1. Sport stadium or auditorium                                                                | Floor area of 2,500 m2 or more                                                       |
|                              | 2. All level of buildings, more than 3 floors are used as assembly room or multi-purpose room | Capacity of 200 people or more                                                       |
|                              | 3. Airport terminal, land-transport station                                                   | Total floor area of 10,000 m2 or more                                                |
|                              | 4. Entertainment, Bar, Night club                                                             | Total floor area of 500 m <sup>2</sup> or more, or service seat of 50 chairs or more |
|                              | 5. Indoor parking or parking building                                                         | Parking lot of 50 cars or more.                                                      |
|                              | 6. Industrial building, Factory                                                               | Capacity of 50 horse-power or workers of 50 person or more                           |
|                              | 7. Industrial building, Factory                                                               | Explosive product processing                                                         |
|                              | 8. Warehouse, Storage for inflammable materials                                               | Cubic capacity of 20 m <sup>3</sup> or more                                          |
|                              | 9. Warehouse, Storage                                                                         | Explosive material storage                                                           |

Remark: In case of one building divide into 2 types of building or more, extra special safety must be enhanced

## Annex 2: Structure of controlled buildings

### 2.1 Definition / technical words and Units

#### 2.1.1 Definition/technical words

|    | Technical words                          | Definitions                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Allowable Stress Design (ASD)            | A method of proportioning structural members, such that elastically computed stress produced in the members by nominal loads do not exceed specified allowable stresses (also called "working stress design").                                                                                                                                                                                                                                                       |
| 2  | Base Shear                               | Total design lateral force or shear at the base.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 3  | Dead Loads                               | The weight of materials of construction incorporated into the building, including but not limited to walls, floors, roofs, ceilings, stairways, built-in partitions, finishes, cladding and other similarly incorporated architectural and structural items, and the weight of fixed service equipment, such as cranes, plumbing stacks, and risers, electrical feeders, heating, ventilating and air-conditioning systems and fire sprinkler systems.               |
| 4  | Deck                                     | An exterior floor supported on at least two opposing sides by an adjacent structure, and/or posts, piers or other independent supports.                                                                                                                                                                                                                                                                                                                              |
| 5  | Design Strength                          | The product of the nominal strength and a resistance factor (or strength reduction factor).                                                                                                                                                                                                                                                                                                                                                                          |
| 6  | Diaphragm                                | A horizontal or sloped system acting to transmit lateral forces to the vertical-resisting elements. When the term "diaphragm" is used, it shall include horizontal bracing systems.                                                                                                                                                                                                                                                                                  |
| 7  | Duration of Load                         | The period of continuous application of a given load, or the aggregate of periods of intermittent applications of the same load.                                                                                                                                                                                                                                                                                                                                     |
| 8  | Factored Load                            | The product of a nominal load and a load factor.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 9  | Frame                                    | Braced Frame:<br>An essentially vertical truss, or its equivalent of the concentric type or eccentric type that is provided in a building frame system or dual system to resist seismic forces.<br>Moment Frame:<br>A frame in which members and joints resist lateral forces by flexure as well as along the axis of the members. Moment frames are categorized as intermediate moment frames (IMF), ordinary moment frames (OMF), and special moment frames (SMF). |
| 10 | Impact Load                              | The load resulting from moving machinery, elevators, craneways, vehicles and other similar forces and kinetic loads, pressure and possible surcharge from fixed or moving loads.                                                                                                                                                                                                                                                                                     |
| 11 | Importance Factor                        | The importance factor is a factor that adds external forces (seismic force, wind force, etc.) at the structural design stage according to the importance of the building (eg government office, police station, hospital, etc.).                                                                                                                                                                                                                                     |
| 12 | Limit State                              | A condition beyond which a structure or member becomes unfit for service and is judged to be no longer useful for its intended function (serviceability limit state) or to be unsafe (strength limit state).                                                                                                                                                                                                                                                         |
| 13 | Live Loads                               | Those loads produced by the use and occupancy of the building or other structure and do not include construction or environmental loads such as wind load, snow load, rain load, earthquake load, flood load or dead load.                                                                                                                                                                                                                                           |
| 14 | Live Loads (Roof)                        | Those loads produced (1) during maintenance by workers, equipment and materials; and (2) during the life of the structure by movable objects such as planters and by people.                                                                                                                                                                                                                                                                                         |
| 15 | Load and Resistance Factor Design (LRFD) | A method of proportioning structural members and their connections using load and resistance factors such that no applicable limit state is reached when the structure is subjected to appropriate load combinations. The term "LRFD" is used in the design of steel and wood structures.                                                                                                                                                                            |

|    | Technical words    | Definitions                                                                                                                                                                                                                                                                                                                                                                 |
|----|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16 | Load Factor        | A factor that accounts for deviations of the actual load from the nominal load, for uncertainties in the analysis that transforms the load into a load effect, and for the probability that more than one extreme load shall occur simultaneously.                                                                                                                          |
| 17 | Loads              | Forces or other actions that result from the weight of building materials, occupants and their positions, environmental effects, differential movement and restrained dimensional changes. Permanent loads are those loads in which variations over time are rare or of small magnitude, such as dead loads. All other loads are variable loads (see also "Nominal Loads"). |
| 18 | Nominal Loads      | The magnitudes of the loads specified in this chapter (dead, live, soil, wind, snow, rain, flood, and earthquake).                                                                                                                                                                                                                                                          |
| 19 | Occupancy Category | A category used to determine structural requirements based on occupancy.                                                                                                                                                                                                                                                                                                    |
| 20 | Resistance Factor  | A factor that accounts for deviations of the actual strength from the nominal strength and the manner and consequences of failure (also called "strength reduction factor").                                                                                                                                                                                                |
| 21 | Story Drift        | The horizontal deflection at the top of the story relative to the bottom of the story as determined.                                                                                                                                                                                                                                                                        |
| 22 | Strength Nominal   | The capacity of a structure or member to resist the effects of loads, as determined by computations, using specified material strength and dimensions and equations derived from accepted principles of structural mechanics or by field tests or laboratory tests of scaled models, allowing for modeling effects and differences between laboratory and field conditions. |
| 23 | Strength Required  | Strength of a member, cross section or connection required to resist factored loads or related internal moments and forces in such combinations as stipulated by these provisions.                                                                                                                                                                                          |
| 24 | Strength Design    | A method of proportioning structural members such that the computed forces produced in the members by factored loads do not exceed the member design strength (also called "load and resistance factor design" (LRFD)). The term strength design" is used in the design of concrete and masonry structural elements.                                                        |

## 2.1.2 Units

SI Units

| BASE UNITS             | Unit     | Symbol                   |
|------------------------|----------|--------------------------|
| <b>Quantity</b>        |          |                          |
| Length                 | Meter    | m                        |
| Mass                   | Kilogram | kg                       |
| Time                   | Second   | s                        |
| <b>SI Derived Unit</b> |          |                          |
| Force                  | newton   | N (kg-m/s <sup>2</sup> ) |
| Pressure, stress       | pascal   | Pa (N/m <sup>2</sup> )   |

## 2.2 Analysis and structural design

### 2.2.1 Reference codes

The concept of this code is based on the American codes IBC, ASCE 7-16, ACI318-14, AISC 360-10, ASTM Standard and Laos Building Code draft (2016).

### 2.2.2 Foundation modeling

For purposes of determining seismic loads, it is permitted to consider the structure to be fixed at the base.

### 2.2.3 Effective seismic weight

The effective seismic weight,  $W$ , of a structure shall include the dead load and other loads listed below:

- 1) In areas used for storage, a minimum of 25% of the floor live load shall be included.

**EXCEPTIONS:**

- a) Where the inclusion of storage loads adds no more than 5% to the effective seismic weight at that level, it need not be included in the effective seismic weight.
  - b) Floor live load in public garages and open parking structures need not be included.
- 2) Where provision for partitions is required by Section “Uniformly distributed Live Loads” in the floor load design, the actual partition weight or a minimum weight of 0.48 kN/m<sup>2</sup> of floor area, whichever is greater.
  - 3) Total operating weight of permanent equipment.
  - 4) Weight of landscaping and other materials at roof gardens and similar areas.

### 2.2.4 Structural modeling

A mathematical model of the structure shall be constructed for the purpose of determining member forces and structure displacements resulting from applied loads and any imposed displacements or P-delta effects. The model shall include the stiffness and strength of elements that are significant to the distribution of forces and deformations in the structure and represent the spatial distribution of mass and stiffness throughout the structure. In addition, the model shall comply with the following:

- a) Stiffness properties of concrete and masonry elements shall consider the effects of cracked sections.
- b) For steel moment frame systems, the contribution of panel zone deformations to overall story drift shall be included.

Structures that have horizontal structural irregularity shall be analyzed using a 3D representation. Where a 3D model is used, a minimum of three degrees of freedom consisting of translation in two orthogonal plan directions and rotation about the vertical axis shall be included at each level of the structure.

## 2.3 Dead load

### 2.3.1 Minimum design dead loads

The Dead load is a reference value and should be calculated according to the actual situation.

**Table 2.3.1 Minimum design dead loads (kN/m<sup>2</sup>)**

| No                                                      | Component                               | Load (kN/m <sup>2</sup> ) |
|---------------------------------------------------------|-----------------------------------------|---------------------------|
| <b>Ceilings</b>                                         |                                         |                           |
| 1                                                       | Acoustical fiberboard                   | 0.05                      |
| 2                                                       | Gypsum board (per mm thickness)         | 0.008                     |
| 3                                                       | Mechanical duct allowance               | 0.19                      |
| 4                                                       | Plaster on tile or concrete             | 0.24                      |
| 5                                                       | Plaster on wood lath                    | 0.38                      |
| 6                                                       | Suspended steel channel system          | 0.10                      |
| 7                                                       | Suspended metal lath and cement plaster | 0.72                      |
| 8                                                       | Suspended metal lath and gypsum plaster | 0.48                      |
| 9                                                       | Wood furring suspension system          | 0.12                      |
| <b>Covering, Roof and Wall</b>                          |                                         |                           |
| 1                                                       | Asbestos-cement shingles                | 0.19                      |
| 2                                                       | Asphalt shingles                        | 0.10                      |
| 3                                                       | Cement tile                             | 0.77                      |
| <b>Clay tile (for mortar add 0.48 kN/m<sup>2</sup>)</b> |                                         |                           |
| 4                                                       | Book tile 51mm                          | 0.57                      |
| 5                                                       | Book tile 76mm                          | 0.96                      |
| 6                                                       | Ludowici                                | 0.48                      |

| No | Component                                         | Load (kN/m <sup>2</sup> ) |
|----|---------------------------------------------------|---------------------------|
| 7  | Roman                                             | 0.57                      |
| 8  | Spanish                                           | 0.91                      |
|    | <b>Composition:</b>                               |                           |
| 9  | Three-ply ready roofing                           | 0.05                      |
| 10 | Four-ply felt and gravel                          | 0.26                      |
| 11 | Five-ply felt gravel                              | 0.29                      |
| 12 | Copper or tin                                     | 0.05                      |
| 13 | Corrugated asbestos-cement roofing                | 0.19                      |
| 14 | Deck, metal, 20 gauge                             | 0.12                      |
| 15 | Deck, metal, 18 gauge                             | 0.14                      |
| 16 | Decking, 51-mm wood (Douglas fir)                 | 0.24                      |
| 17 | Decking, 76-mm wood (Douglas fir)                 | 0.38                      |
| 18 | Fiberboard, 13mm                                  | 0.04                      |
| 19 | Gypsum sheathing, 13mm                            | 0.10                      |
|    | <b>Insulation, roof boards (per mm thickness)</b> |                           |
| 1  | Cellular glass                                    | 0.0013                    |
| 2  | Fibrous glass                                     | 0.0021                    |
| 3  | Fiberboard                                        | 0.0028                    |
| 4  | Perlite                                           | 0.0015                    |
| 5  | Polystyrene foam                                  | 0.0004                    |
| 6  | Urethane foam with skin                           | 0.0009                    |
| 7  | Plywood (per mm thickness)                        | 0.006                     |
| 8  | Rigid insulation, 13mm                            | 0.04                      |
| 9  | Skylight, metal frame, 10-mm wire glass           | 0.38                      |
| 10 | Slate, 5mm                                        | 0.34                      |
| 11 | Slate, 6mm                                        | 0.48                      |
|    | <b>Waterproofing membranes:</b>                   |                           |
| 1  | Bituminous, gravel-covered                        | 0.26                      |
| 2  | Bituminous, smooth surface                        | 0.07                      |
| 3  | Liquid applied                                    | 0.05                      |
| 4  | Single-ply, sheet                                 | 0.03                      |
|    | <b>Wood sheathing (per mm thickness)</b>          |                           |
| 1  | Plywood                                           | 0.0057                    |
| 2  | Oriented strand board                             | 0.0062                    |
| 3  | Wood shingles                                     | 0.14                      |
|    | <b>Floor fill</b>                                 |                           |
| 1  | Cinder concrete, per mm                           | 0.017                     |
| 2  | Lightweight concrete, per mm                      | 0.015                     |
| 3  | Sand, per mm                                      | 0.015                     |
| 4  | Stone concrete, per mm                            | 0.023                     |
|    | <b>Floors and Floor Finishes</b>                  |                           |
| 1  | Asphalt block (51mm), 13-mm mortar                | 1.44                      |
| 2  | Cement finish (25mm) on stone-concrete fill       | 1.53                      |
| 3  | Ceramic or quarry tile (19mm) on 13-mm mortar bed | 0.77                      |
| 4  | Ceramic or quarry tile (19mm) on 25-mm mortar bed | 1.10                      |
| 5  | Concrete fill finish (per mm thickness)           | 0.023                     |
| 6  | Hardwood flooring, 22mm                           | 0.19                      |
| 7  | Linoleum or asphalt tile, 6mm                     | 0.05                      |
| 8  | Marble and mortar on stone-concrete fill          | 1.58                      |
| 9  | Slate (per mm thickness)                          | 0.028                     |
| 10 | Solid flat tile on 25-mm mortar base              | 1.10                      |

| No                      | Component                                         | Load (kN/m <sup>2</sup> ) |
|-------------------------|---------------------------------------------------|---------------------------|
| 11                      | Subflooring, 19mm                                 | 0.14                      |
| 12                      | Terrazzo (38mm) directly on slab                  | 0.91                      |
| 13                      | Terrazzo (25mm) on stone-concrete fill            | 1.53                      |
| 14                      | Terrazzo (25mm), 51-mm stone concrete             | 1.53                      |
| 15                      | Wood block (76mm) on mastic, no fill              | 0.48                      |
| 16                      | Wood block (76mm) on 13-mm mortar base            | 0.77                      |
| <b>Frame Partitions</b> |                                                   |                           |
| 1                       | Movable steel partitions                          | 0.19                      |
| 2                       | Wood or steel studs, 13-mm gypsum board each side | 0.38                      |
| <b>Frame Walls</b>      |                                                   |                           |
| 1                       | Windows, glass, frame, and sash                   | 0.38                      |

Reference: ASCE 7-16

### 2.3.2 Minimum densities for design loads from materials

**Table 2.3.2 Minimum densities for design loads from materials (kN/m<sup>3</sup>)**

| No                           | Component                       | Load (kN/m <sup>3</sup> ) |
|------------------------------|---------------------------------|---------------------------|
| 1                            | Aluminum                        | 27                        |
| 2                            | Cement, Portland, loose         | 14.1                      |
| <b>Concrete, plain</b>       |                                 |                           |
| 3                            | Cinder                          | 17.0                      |
| 4                            | Expanded-slag aggregate         | 15.7                      |
| 5                            | Haydite (burned-clay aggregate) | 14.1                      |
| 6                            | Slag                            | 20.7                      |
| 7                            | Stone (including gravel)        | 22.6                      |
| <b>Concrete, reinforced</b>  |                                 |                           |
| 8                            | Cinder                          | 17.4                      |
| 9                            | Slag                            | 21.7                      |
| 10                           | Stone (including gravel)        | 23.6                      |
| 11                           | Copper                          | 87.3                      |
| <b>Earth (not submerged)</b> |                                 |                           |
| 12                           | Clay, dry                       | 9.9                       |
| 13                           | Clay, damp                      | 17.3                      |
| 14                           | Clay and gravel, dry            | 15.7                      |
| 15                           | Silt, moist, loose              | 12.3                      |
| 16                           | Silt, moist, packed             | 15.1                      |
| 17                           | Silt, flowing                   | 17.0                      |
| 18                           | Sand and gravel, dry, loose     | 15.7                      |
| 19                           | Sand and gravel, dry, packed    | 17.3                      |
| 20                           | Sand and gravel, dry, wet       | 18.9                      |
| <b>Earth (submerged)</b>     |                                 |                           |
| 21                           | Clay                            | 12.6                      |
| 22                           | Soil                            | 11.0                      |
| 23                           | River mud                       | 14.1                      |
| 24                           | Sand or gravel                  | 9.4                       |
| 25                           | Sand or gravel and clay         | 10.2                      |
| 26                           | Glass                           | 25.1                      |
| 27                           | Gravel, dry                     | 16.3                      |
| 28                           | Gypsum, loose                   | 11.0                      |
| 29                           | Gypsum, wallboard               | 7.9                       |
| 30                           | Lead                            | 111.5                     |
| 31                           | Mortar, cement, or lime         | 20.4                      |



| No | Component                       | Load (kN/m3) |
|----|---------------------------------|--------------|
|    | <b>Sand</b>                     |              |
| 32 | Clean and dry                   | 14.1         |
| 33 | River, dry                      | 16.7         |
| 34 | Slate                           | 27.0         |
| 35 | Steel, cold-drawn               | 77.3         |
|    | <b>Brick</b>                    |              |
| 36 | Hard brick                      | 20.4         |
| 37 | Medium brick                    | 18.1         |
| 38 | Soft brick                      | 15.7         |
|    | <b>Stone, quarried, piled</b>   |              |
| 39 | Basalt, granite, gneiss         | 15.1         |
| 40 | Limestone, marble, quartz       | 14.9         |
| 41 | Sandstone                       | 12.9         |
| 42 | Shale                           | 14.5         |
| 43 | Greenstone, hornblende          | 16.8         |
|    | <b>Water</b>                    |              |
| 44 | Fresh                           | 9.7          |
| 45 | Sea                             | 10.1         |
|    | <b>Wood, seasoned</b>           |              |
| 46 | Ash, commercial white           | 6.4          |
| 47 | Cypress, southern               | 5.3          |
| 48 | Fir, Douglas, coast region      | 5.3          |
| 49 | Hem fir                         | 4.4          |
| 50 | Oak, commercial reds and whites | 7.4          |
| 51 | Pine, southern yellow           | 5.8          |
| 52 | Redwood                         | 4.4          |
| 50 | Spruce, red, white, and Sitka   | 4.5          |
| 51 | Western hemlock                 | 5.0          |
| 52 | Zink, rolled sheet              | 70.5         |

Reference: ASCE 7-16

## 2.4 Live loads

### 2.4.1 Minimum uniformly distributed live loads

**Table 2.4.1 Minimum uniformly distributed live loads (kN/m2)**

| Occupancy or use                 | Live load (kN/m2) |
|----------------------------------|-------------------|
| Air conditioning (machine space) | 9.58              |
| Boiler room, framed              | 14.36             |
| Computer equipment               | 7.18              |
| Dormitories, nonpartitioned      | 3.83              |
| Dormitories, partitioned         | 1.92              |
| Elevator machine room            | 7.18              |
| Fan room                         | 7.18              |
| Fuel rooms, framed               | 19.15             |
| Kitchens, other than domestic    | 7.18              |
| Laboratories, scientific         | 4.79              |
| Laundries                        | 7.18              |
| Restrooms                        | 2.87              |
| Storage, hay or grain            | 14.36             |
| Theaters, dressing rooms         | 1.92              |

| Occupancy or use  | Live load (kN/m <sup>2</sup> ) |
|-------------------|--------------------------------|
| Transformer rooms | 9.58                           |

Reference: ASCE 7-16

## 2.4.2 Typical live load statics

**Table 2.4.2 Typical live load statics (kN/m<sup>2</sup>)**

| Occupancy or use             | Live load (kN/m <sup>2</sup> ) |
|------------------------------|--------------------------------|
| Office buildings: office     | 2.63                           |
| Residential, renter occupied | 1.72                           |
| Residential, owner occupied  | 1.82                           |
| Hotels: guest rooms          | 2.2                            |
| Schools: classrooms          | 1.92                           |

Reference: ASCE 7-16

## 2.5 Wind loads

### 2.5.1 General

#### 2.5.1.1. Sign convention

Positive pressure acts toward the surface and negative pressure acts away from the surface.

#### 2.5.1.2 Critical load condition

Values of external and internal pressures shall be combined algebraically to determine the most critical load.

#### 2.5.1.3 Wind pressures acting on opposite faces of each building surface

In the calculation of design wind loads, the algebraic sum of the pressures acting on opposite faces of each building surface shall be taken into account.

### 2.5.2 Determination of wind load

#### 2.5.2.1. Minimum wind load

Minimum wind load  $w$ , used in the determination of design wind loads on buildings shall be determined from the followings Table 2.5.1.

**Table 2.5.1: Site-classification for wind load**

| Building height or parts of building height (h) | Minimum wind load, $w$ (N/m <sup>2</sup> ) |
|-------------------------------------------------|--------------------------------------------|
| $h \leq 10$ meters                              | 500                                        |
| $10 < h \leq 20$ meters                         | 800                                        |
| $20 < h \leq 40$ meters                         | 1200                                       |
| $h > 40$ meters                                 | 1600                                       |

### 2.5.3 Gust effects

#### 2.5.3.1 Gust-effect factor

The gust-effect factor for a rigid building or other structure is permitted to be taken as 0.85.

### 2.5.4 Internal pressure coefficients

Internal pressure coefficients,  $(GC_{pi})$ , shall be determined from following Table 2.5.2.

**Table 2.5.2: Site classification**

| Enclosure classification | Internal pressure | Internal pressure coefficient ( $GC_{pi}$ ) |
|--------------------------|-------------------|---------------------------------------------|
| Enclosed buildings       | Moderate          | - 0.18, +0.18                               |
| Open buildings           | Negligible        | 0.00                                        |

Notes: Plus and minus signs signify pressures acting toward and away from the internal surfaces, respectively.  
Based on ASCE 7-16, P.271

## 2.5.5 Wind loads on buildings: main wind force resisting system (directional procedure)

### 2.5.5.1 Enclosed and partially enclosed rigid and flexible buildings

Design wind pressures for buildings of all heights in  $kN/m^2$ , shall be determined by the following equation:

$$p = w(GC_p - GC_{pi}) \quad (5.1)$$

Where;

$G$  = gust-effect factor. For flexible buildings,  $G_f$  shall be substituted for 1.0.

$C_p$  = external pressure coefficient.

$(GC_{pi})$  = internal pressure coefficient.

### 2.5.5.2 Wall and roof pressure coefficient, $C_p$

**Table 2.5.3: Wall and flat roof pressure coefficient  $C_p$** 

| Surface                           | $C_p$       | Horizontal distance from windward edge |
|-----------------------------------|-------------|----------------------------------------|
| WALL                              |             |                                        |
| Windward                          | 0.8         |                                        |
| Leeward wall                      | -0.5        |                                        |
| Side wall                         | -0.7        |                                        |
| ROOF                              |             |                                        |
| Flat roof ( $\theta < 10^\circ$ ) | -0.9, -0.18 | 0 to $h$                               |
|                                   | -0.5        | $> h$                                  |

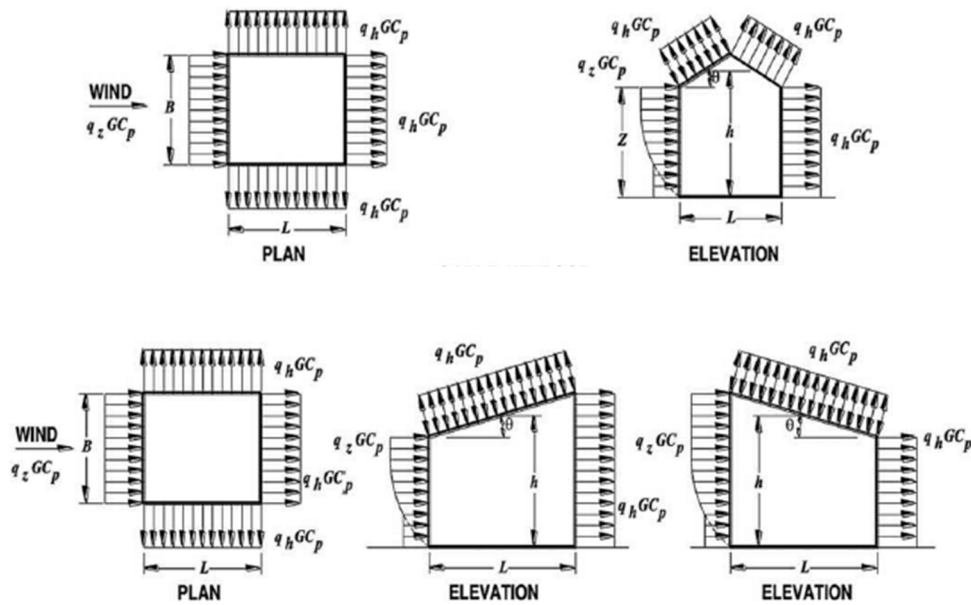
Notes:  $h$  = Mean roof height in meters

Based on ASCE 7-16, P.276

**Table 2.5.4: Sloped roof pressure coefficient  $C_p$** 

| Wind direction                                | Windward                  |      |      |     |           | Leeward |
|-----------------------------------------------|---------------------------|------|------|-----|-----------|---------|
|                                               | Angle, $\theta$ (degrees) |      |      |     |           |         |
|                                               | 10                        | 20   | 30   | 45  | $\geq 60$ |         |
| Normal to ridge for<br>$\theta \geq 10^\circ$ | -0.9                      | -0.4 | -0.2 | 0.0 |           | -0.5    |
|                                               | -0.18                     | 0.0  | 0.2  | 0.4 | 0.8       |         |

Based on ASCE 7-16, P.276



## 2.6 Earthquake load

### 2.6.1 Scope of application

Scope of application applies for Level-B and C of Type-2 (see Annex 1.1.1). For Level S and A of Type 2 (see Annex 1.1.1) buildings, a technical committee shall be set up to conduct a design review for each building.

### 2.6.2 Determination of earthquake load

The earthquake load shall be either by the base shear coefficient method or by the design response spectrum method.

### 2.6.3 The base shear coefficient method (Method A)

This method is available for Type 1 and Type 2 of Level-1 (see Annex 1.1.1) only.

The seismic base shear coefficient,  $C_b$  shall be up to 1/10 or more of building weight.

$$V = C_b W \quad (6.1)$$

Where;

$V$  = the seismic base shear

$C_b$  = the seismic base shear coefficient, 0.10 or more

$W$  = the effective seismic weight

### 2.6.4 The design response spectrum method (Method B)

This method is available for Type 1 and Type 2 of Level-2, Type 1 of Level-3 and less than 30 m height of Level 3(see Annex 1, Item 1.1).

#### 2.6.4.1 Mapped acceleration parameters

The parameters  $S_s$  and  $S_1$  shall be determined from the 0.2- and 1-s spectral response accelerations.

#### 2.6.4.2 Site classification

Based on the site soil properties, the site shall be classified as Site Class A, B, C, D, or E.

For situations in which site investigations, performed, reveal rock conditions consistent with Site Class B, but site-specific velocity measurements are not made, the site coefficients  $F_a$ ,  $F_v$ , and  $F_{PGA}$  shall be taken as unity (1.0).

**Table 2.6.1: Site classification**

| Site class                       | $V_s$           | N        | Su                         |
|----------------------------------|-----------------|----------|----------------------------|
| A. Hard rock                     | > 1500 m/s      | NA       | NA                         |
| B. Rock                          | 750 to 1500 m/s | NA       | NA                         |
| C. Very dense soil and soft rock | 375 to 750 m/s  | > 50     | > 95 kN/m <sup>2</sup>     |
| D. Stiff soil                    | 185 to 375 m/s  | 15 to 50 | 47 to 95 kN/m <sup>2</sup> |
| E. Soft clay soil                | < 185 m/s       | < 15     | < 47                       |

Based on ASCE 7-16, P.204 and IBC 2006 P.303

Any profile with more than 3.0 m of soil having, plasticity index  $PI > 20$ , moisture content  $w > 40\%$  and undrained shear strength  $s_u < 24$  kN/m<sup>2</sup>, shall be E. Soft clay soil.

#### 2.6.4.3 Site coefficients and risk-targeted maximum considered earthquake (MCER ) spectral

##### Response acceleration parameters

The  $MCE_R$  spectral response acceleration parameters for short periods ( $S_{MS}$ ) and at 1 s ( $S_{M1}$ ), adjusted for site class effects, shall be determined by Eqs. (6.2) and (6.3), respectively.

$$S_{MS} = F_a S_s \quad (6.2)$$

$$S_{M1} = F_v S_1 \quad (6.3)$$

Where;

$S_s$  = the mapped  $MCE_R$  spectral response acceleration parameter at short periods as determined in accordance with ASCE 7 and

$S_1$  = the mapped  $MCE_R$  spectral response acceleration parameter at a period of 1 s as determined in accordance with ASCE 7.

where site coefficients  $F_a$  and  $F_v$  are defined in the following Table 2.6.2 and Table 2.6.3 respectively. Where Site Class D is selected as the default site class, the value of  $F_a$  shall not be less than 1.2.

#### (1) Short-period site coefficient, $F_a$

**Table 2.6.2: MCER spectral response acceleration at short period**

| Site Class | $S_s < 0.25$ | $S_s=0.5$ | $S_s=0.75$ | $S_s=1.0$             | $S_s=1.25$            | $S_s > 1.5$           |
|------------|--------------|-----------|------------|-----------------------|-----------------------|-----------------------|
| A          | 0.8          | 0.8       | 0.8        | 0.8                   | 0.8                   | 0.8                   |
| B          | 0.9          | 0.9       | 0.9        | 0.9                   | 0.9                   | 0.9                   |
| C          | 1.3          | 1.3       | 1.2        | 1.2                   | 1.2                   | 1.2                   |
| D          | 1.6          | 1.4       | 1.2        | 1.1                   | 1.0                   | 1.0                   |
| E          | 2.4          | 1.7       | 1.3        | Considered separately | Considered separately | Considered separately |

Based on ASCE 7-16, P.84

## (2) Long-period site coefficient, $F_v$

**Table 2.6.3: MCER Spectral Response Acceleration at 1-s Period**

| Site Class | $S_1 < 0.1$ | $S_1=0.2$             | $S_1=0.3$             | $S_1=0.4$             | $S_1=0.5$             | $S_1 > 0.6$           |
|------------|-------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| A          | 0.8         | 0.8                   | 0.8                   | 0.8                   | 0.8                   | 0.8                   |
| B          | 0.8         | 0.8                   | 0.8                   | 0.8                   | 0.8                   | 0.8                   |
| C          | 1.5         | 1.5                   | 1.5                   | 1.5                   | 1.5                   | 1.4                   |
| D          | 2.4         | 2.2                   | 2.0                   | 1.9                   | 1.8                   | 1.7                   |
| E          | 4.2         | Considered separately | Considered separately | Considered separately | Considered separately | Considered separately |

Based on ASCE 7-16, P.84

### 2.6.4.4 Design spectral acceleration parameters.

Design earthquake spectral response acceleration parameters at short periods,  $SDS$ , and at 1-s periods,  $SD1$ , shall be determined from Eqs. (6.4) and (6.5), respectively.

$$S_{DS} = 2/3 S_{MS} \quad (6.4)$$

$$S_{D1} = 2/3 S_{M1} \quad (6.5)$$

### 2.6.4.5 Design response spectrum

Where a design response spectrum is required by this standard and site-specific ground motion procedures are not used, the design response spectrum curve shall be developed as indicated in the following Figure and as follows:

- 1) For periods less than  $T_0$ , the design spectral response acceleration,  $S_a$ , shall be taken as given in Eq. (6.6):

$$S_a = S_{DS}(0.4 + 0.6 \times T/T_0) \quad (6.6)$$

- 2) For periods greater than or equal to  $T_0$  and less than or equal to  $T_S$ , the design spectral response acceleration,  $S_a$ , shall be taken as equal to  $SDS$ .
- 3) For periods greater than  $T_S$  and less than or equal to  $T_L$ , the design spectral response acceleration,  $S_a$ , shall be taken as given in Eq. (6.7):

$$S_a = S_{D1}/T \quad (6.7)$$

- 4) For periods greater than  $T_L$ ,  $S_a$  shall be taken as given in Eq. (6.8):

$$S_a = (S_{D1} \times T_L)/T^2 \quad (6.8)$$

where;

$S_{DS}$  = the design spectral response acceleration parameter at short periods

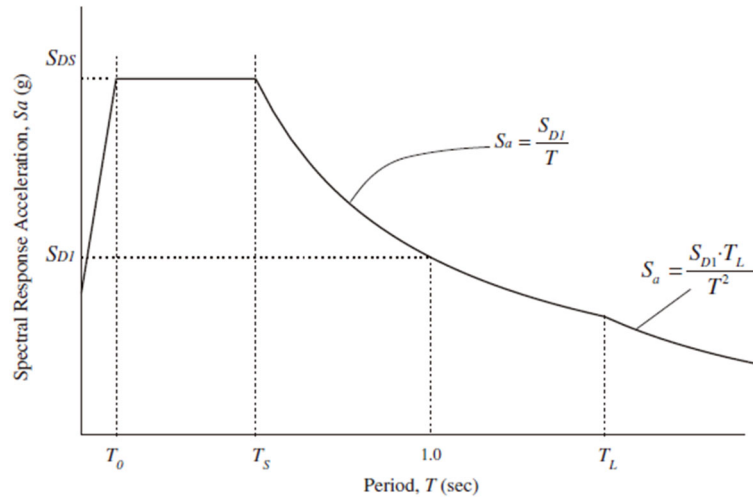
$S_{D1}$  = the design spectral response acceleration parameter at a 1-s period

$T$  = the fundamental period of the structure, s

$T_0 = 0.2(SD1/SDS)$

$T_S = SD1/SDS$ , and

$T_L$  = long-period transition period(s)



**Figure 6.1: Design response spectrum**

#### 2.6.4.6 Risk-targeted maximum considered earthquake (MCER) response spectrum

Where an  $MCE_R$  response spectrum is required, it shall be determined by multiplying the design response spectrum by 1.5.

#### 2.6.4.7 Seismic design category

Risk Category I, II, or III structures located where the mapped spectral response acceleration parameter at 1-s period,  $S_1$ , is greater than or equal to 0.75 shall be assigned to Seismic Design Category E.

All other structures shall be assigned to a Seismic Design Category based on their Risk Category and the design spectral response acceleration parameters,  $S_{DS}$  and  $S_{D1}$ .

Each building shall be assigned to the more severe Seismic Design Category in accordance with the following Table 2.6.4 and Table 2.6.5, irrespective of the fundamental period of vibration of the structure,  $T$ .

**Table 2.6.4: Seismic design category based on short-period response acceleration parameter**

| Value of $S_{DS}$       | Risk category  |    |
|-------------------------|----------------|----|
|                         | I or II or III | IV |
| $S_{DS} < 0.167$        | A              | A  |
| $0.167 < S_{DS} < 0.33$ | B              | C  |
| $0.33 < S_{DS} < 0.50$  | C              | D  |
| $0.50 < S_{DS}$         | D              | D  |

Based on ASCE 7-16, P.85

**Table 2.6.5: Seismic design category based on 1-s-period response acceleration parameter**

| Value of $S_{D1}$        | Risk category  |    |
|--------------------------|----------------|----|
|                          | I or II or III | IV |
| $S_{D1} < 0.067$         | A              | A  |
| $0.067 < S_{D1} < 0.133$ | B              | C  |
| $0.133 < S_{D1} < 0.20$  | C              | D  |
| $0.20 < S_{D1}$          | D              | D  |

Based on ASCE 7-16, P.85

#### 2.6.4.8 Geologic hazards and geotechnical investigation

#### 2.6.4.9 Geotechnical investigation report requirements for seismic design categories C through E

A geotechnical investigation report shall be provided for a structure assigned to Seismic Design Category C, D, or E in accordance with this section. An investigation shall be conducted, and a report shall be submitted that includes an evaluation of the following potential geologic and seismic hazards.

- a) Slope instability,
- b) Liquefaction,
- c) Total and differential settlement, and
- d) Surface displacement caused by faulting or seismically induced lateral spreading or lateral flow.

The report shall contain recommendations for foundation designs or other measures to mitigate the effects of the previously mentioned hazards.

**EXCEPTION:** Where approved by the authority having jurisdiction, a site-specific geotechnical report is not required where prior evaluations of nearby sites with similar soil conditions provide direction relative to the proposed construction.

#### 2.6.4.10 Additional geotechnical investigation report requirements for seismic design categories D through E

The geotechnical investigation report for a structure assigned to Seismic Design Category D, E, or F shall include all of the following, as applicable:

- 1) The determination of dynamic seismic lateral earth pressures on basement and retaining walls caused by design earthquake ground motions.
- 2) The potential for liquefaction and soil strength loss evaluated for site peak ground acceleration, earthquake magnitude, and source characteristics consistent with the MCEG peak ground acceleration. Peak ground acceleration shall be determined based on either a site-specific study taking into account soil amplification effects as specified in ASCE 7 or the peak ground acceleration PGAM, from Eq. (6.9)

$$PGAM = F_{PGA} - PGA \quad (6.9)$$

where;

$PGAM$  =  $MCE_G$  peak ground acceleration adjusted for site class effects.

$PGA$  = Mapped  $MCE_G$  peak ground acceleration

$F_{PGA}$  = Site coefficient from following Table 2.6.6.

where Site Class D is selected as the default site class, the value of  $F_{PGA}$  shall not be less than 1.2.

- 3) Assessment of potential consequences of liquefaction.

Site Coefficient,  $F_{PGA}$

**Table 2.6.6:  $MCE_G$  peak ground acceleration,  $PGA$**

| Site Class | $PGA < 0.1$ | $PGA=0.2$ | $PGA=0.3$ | $PGA=0.4$ | $PGA=0.5$ | $PGA=0.6$ |
|------------|-------------|-----------|-----------|-----------|-----------|-----------|
| A          | 0.8         | 0.8       | 0.8       | 0.8       | 0.8       | 0.8       |
| B          | 0.9         | 0.9       | 0.9       | 0.9       | 0.9       | 0.9       |
| C          | 1.3         | 1.2       | 1.2       | 1.2       | 1.2       | 1.2       |
| D          | 1.6         | 1.4       | 1.3       | 1.2       | 1.1       | 1.1       |
| E          | 2.4         | 1.9       | 1.6       | 1.4       | 1.2       | 1.1       |

Based on ASCE 7-16, P.86



## 2.6.5 Equivalent lateral force (ELF) procedure

### 2.6.5.1 Seismic base shear

The seismic base shear,  $V$ , in a given direction shall be determined in accordance with the following equation:

$$V = C_b W \text{ (Method A)} \quad (6.1)$$

$$V = C_s W \text{ (Method B)} \quad (6.10)$$

where;

$C_b$  = the seismic base shear coefficient, 0.10 or more, and

$C_s$  = the seismic response coefficient determined in accordance with Section 6.4.2, and

$W$  = the effective seismic weight per section 2.2 .

### 2.6.5.2 Calculation of seismic response coefficient

The seismic response coefficient,  $C_s$ , shall be determined in accordance with Eq. (6.11).

$$C_s = \frac{S_{DS}}{\left(\frac{R}{I_e}\right)} \quad (6.11)$$

where;

$S_{DS}$  = the design spectral response acceleration parameter in the short period range

$R$  = the response modification factor in the following table 2.6.7; and

$I_e$  = the Importance Factor determined.

**Table 2.6.7: Design coefficients and factors for seismic force-resisting systems**

| Seismic force-resisting system                                                                         | Response modification coefficient, $R$ |
|--------------------------------------------------------------------------------------------------------|----------------------------------------|
| BEARING WALL SYSTEMS                                                                                   |                                        |
| Special reinforced concrete shear walls                                                                | 5                                      |
| Ordinary reinforced concrete shear walls                                                               | 4                                      |
| BUILDING FRAME SYSTEMS                                                                                 |                                        |
| Steel eccentrically braced frames                                                                      | 8                                      |
| Steel special concentrically braced frames                                                             | 6                                      |
| Steel ordinally concentrically braced frames                                                           | $3\frac{1}{4}$                         |
| Special reinforced concrete shear walls                                                                | 6                                      |
| Ordinary reinforced concrete shear walls                                                               | 5                                      |
| MOMENT-RESISTING FRAME SYSTEMS                                                                         |                                        |
| Steel special moment frames                                                                            | 8                                      |
| Steel ordinally moment frames                                                                          | $3\frac{1}{2}$                         |
| Special reinforced concrete moment frames                                                              | 8                                      |
| Ordinally reinforced concrete frames                                                                   | 3                                      |
| DUAL SYSTEMS WITH SPECIAL MOMENT FRAMES CAPABLE OF RESISTING AT LEAST 25% OF PRESCRIBED SEISMIC FORCES |                                        |
| Steel eccentrically braced frames                                                                      | 8                                      |
| Steel special concentrically braced frames                                                             | 7                                      |

| Seismic force-resisting system            | Response modification coefficient, R |
|-------------------------------------------|--------------------------------------|
| Special reinforced concrete shear walls   | 7                                    |
| Ordinally reinforced concrete shear walls | 6                                    |
| Steel buckling-restrained braced frames   | 8                                    |

Based on ASCE 7-16, P.90

The value of  $C_s$  computed in accordance with Eq. (6.12) need not exceed the following:

for  $T \leq T_L$

$$C_s = \frac{S_{DI}}{T \left( \frac{R}{I_e} \right)} \quad (6.12)$$

for  $T > T_L$

$$C_s = \frac{S_{DI} T_L}{T^2 \left( \frac{R}{I_e} \right)} \quad (6.13)$$

$C_s$  shall not be less than

$$C_s = 0.044 S_{DS} I_e \geq 0.01 \quad (6.14)$$

In addition, for structures located where  $S_1$  is equal to or greater than 0.6g,  $C_s$  shall not be less than

$$C_s = 0.5 S_1 / (R/I_e) \quad (6.15)$$

where;  $I_e$  and  $R$  are as defined in this section, and

$S_{DI}$  = the design spectral response acceleration parameter at a period of 1.0 s

$T$  = the fundamental period of the structure(s)

$T_L$  = long-period transition period(s) and

$S_1$  = the mapped maximum considered earthquake spectral response acceleration parameter

### 2.6.5.3 Period Determination

The fundamental period of the structure,  $T$ , in the direction under consideration shall be established using the structural properties and deformational characteristics of the resisting elements in a properly substantiated analysis.

The fundamental period,  $T$ , shall not exceed the product of the coefficient for upper limit on calculated period ( $C_u$ ) from Table 2.6.8 and the approximate fundamental period,  $T_a$ , determined from Eq. (6.16).

**Table 2.6.8: Coefficient for upper limit on calculated period**

| Design spectral response acceleration parameter at 1 s, $S_{DI}$ | Coefficient $C_u$ |
|------------------------------------------------------------------|-------------------|
| $\geq 0.4$                                                       | 1.4               |
| 0.3                                                              | 1.4               |
| 0.2                                                              | 1.5               |
| 0.15                                                             | 1.6               |
| $\leq 0.1$                                                       | 1.7               |

Based on ASCE 7-16, P.102

### 2.6.5.4 Approximate fundamental period

The approximate fundamental period ( $T_a$ ) for concrete and steel moment resisting frames, in s, is permitted to determine from the following equation:

$$T_a = 0.1 N \quad (6.16)$$

Where;

N = number of stories (not exceeding 12 stories and the story height is at least 3 m)

#### 2.6.5.5 Vertical Distribution of Seismic Forces

The lateral seismic force ( $F_x$ ) (kN) induced at any level shall be determined from the following equations:

$$F_x = C_{vx}V \quad (6.16)$$

and

$$C_{vx} = (w_x h_x^k) / \left( \sum w_i h_i^k \right) \quad (6.17)$$

Where;

$C_{vx}$  = vertical distribution factor;

V = total design lateral force or shear at the base of the structure [kN];

$w_i$  and  $w_x$  = portion of the total effective seismic weight of the structure (W) located or assigned to level i or x;

$h_i$  and  $h_x$  = height [m] from the base to level i or x; and k = an exponent related to the structure period as follows:

- for structures that have a period of 0.5 s or less,  $k = 1$ ;
- for structures that have a period of 2.5 s or more,  $k = 2$ ; and
- for structures that have a period between 0.5 and 2.5 s, k shall be 2 or shall be determined by linear interpolation between 1 and 2.

#### 2.6.5.6 Horizontal Distribution of Forces

The seismic design story shear in any story ( $V_x$ ) [kN] shall be determined from the following equation:

$$V_x = \sum F_i \quad (6.18)$$

Where;

$F_i$  = the portion of the seismic base shear (V) [kN] induced at level i.

The seismic design story shear ( $V_x$ ) [(kN)] shall be distributed to the various vertical elements of the seismic force-resisting system in the story under consideration based on the relative lateral stiffness of the vertical resisting elements and the diaphragm.

## 2.7 Other forces

### 2.7.1 Calculation of force from temperature change

Structure under situation of temperature change caused to structure expand or contract. In case of structure expand or contract is not independent, it will cause to force in the building. The formula of material expands or contract consequence from temperature change is provided below:

$$\varepsilon = \alpha * \Delta T \quad (6.19)$$

Where;

$\varepsilon$  = depression

$\alpha$  = coefficient of material expansion horizontally (see figure)

$\Delta T$  = Difference of temperature change

The calculation of forces to be occurred in structure when temperature is change, is followed the following formula:

$$f = E * \alpha * \Delta T \quad (6.20)$$

Where;

f = occurred force

E = Modulus of material's elasticity

## 2.8 Load combinations

### 2.8.1 Symbols

D = dead load

E = earthquake load

Eh = effect of horizontal earthquake load

Ev=vertical seismic effect applied in the vertical downward direction.

Ev shall be subject to reversal to the upward direction in accordance with the applicable load combinations.

L = live load

Lr = roof live load

W = wind load

### 2.8.2 Load combinations for strength design

Structures, components, and foundations shall be designed so that their design strength equals or exceeds the effects of the factored loads in the following combinations. Effects of one or more loads not acting shall be considered. Wind and seismic loads need not be considered to act simultaneously.

1.  $1.4D$
2.  $1.2D + 1.6L + 0.5Lr$
3.  $1.2D + 1.6Lr + (L \text{ or } 0.5W)$
4.  $1.2D + 1.0W + L + 0.5Lr$
5.  $0.9D + 1.0W$
6.  $1.2D + Ev + Eh + L$
7.  $0.9D + Ev + Eh$

(Based on ASCE/SEI 7-16, P.7 to 8)

### 2.8.3 Load combinations for allowable stress design

Loads listed herein shall be considered to act in the following combinations; whichever produces the most unfavorable effect in the building, foundation, or structural member shall be considered. Effects of one or more loads not acting shall be considered. Wind and seismic loads need not be considered to act simultaneously. Increases in allowable stress shall not be used with the loads or load combinations given in this standard unless it can be demonstrated that such an increase is justified by structural behavior caused by rate or duration of load.

1.  $D$
2.  $D + L$
3.  $D + Lr$
4.  $D + 0.75L + 0.75Lr$
5.  $D + (0.6W)$
6.  $D + 0.75L + 0.75(0.6W) + 0.75Lr$
7.  $0.6D + 0.6W$
8.  $1.0D + 0.7Ev + 0.7Eh$
9.  $1.0D + 0.525Ev + 0.525Eh + 0.75L$
10.  $0.6D - 0.7Ev + 0.7Eh$

(Based on ASCE/SEI 7-16, P.8 to 9)

## 2.8.4 Importance factor

- An Importance Factor,  $I_e$ , shall be assigned to each structure.
- The importance factor should be determined by the building owner by referring to the Table 2.8.1 below.

**Table 2.8.1 Important factor**

| Category | Building type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Wind | Earthquake |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------------|
| I        | A low hazard to human life in the event of failure, including but not limited to: <ul style="list-style-type: none"><li>· Agricultural facilities</li><li>· Certain temporary facilities</li></ul>                                                                                                                                                                                                                                                                                                         | 0.87 | 1.00       |
| II       | Except those listed I, III and IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.00 | 1.00       |
| III      | A substantial hazard to human life in the event of failure, including but not limited to: <ul style="list-style-type: none"><li>· Covered structures whose primary occupancy is public assembly with an occupant load greater than 300</li><li>· Schools with an occupant load greater than 250</li><li>· Jails</li><li>· Buildings and other structures not included in Category IV containing sufficient quantities of toxic or explosive substances to be dangerous to the public if released</li></ul> | 1.15 | 1.25       |
| IV       | As essential facilities, including but not limited to: <ul style="list-style-type: none"><li>· Hospitals</li><li>· Fire, rescue and police stations</li><li>· Aviation control towers and air traffic control centers</li><li>· Buildings having critical national defense functions</li></ul>                                                                                                                                                                                                             | 1.15 | 1.50       |

Based on IBC 2006, P.281

## 2.9 Soil investigation

### 2.9.1 Soil boring and sampling

The soil boring and sampling procedure and apparatus shall be in accordance with generally accepted engineering practice. The registered design professional shall have a fully qualified representative on the site during all boring and sampling operations.

### 2.9.2 Soil investigation reports

The soil classification and design load-bearing capacity shall be shown on the construction documents. Where required by the building official, a written report of the investigation shall be submitted that includes, but need not be limited to, the following information:

1. A plot showing the location of test borings
2. A complete record of the soil samples
3. A record of the soil profile
4. Elevation of the water table, if encountered
5. Recommendation for foundation type and design criteria
6. Expected total and differential settlement

## 2.10 Footings

### 2.10.1 Allowable load-bearing values of soils

As a general rule, the allowable bearing capacity shall be determined by a soil investigation. However, the presumptive load-bearing values provided in the following Table 2.10.1 shall be able to use with the allowable stress design load combinations.

**Table 2.10.1: Presumptive load-bearing values**

| Class of materials                                                                         | Allowable foundation pressure (kN/m <sup>2</sup> ) | Lateral bearing (kN/m <sup>2</sup> /m) |
|--------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------|
| Crystalline bedrock                                                                        | 570                                                | 57                                     |
| Sedimentary and foliated rock                                                              | 190                                                | 19                                     |
| Sandy gravel and/or gravel (GW and GP)                                                     | 140                                                | 9                                      |
| Sand, silty sand, clayey sand, silty gravel and clayey gravel (SW, SP, SM, SC, GM, and GC) | 90                                                 | 7                                      |
| Clay, sandy clay, silty clay, clayey silt, silt and sandy silt (CL, ML, MH, and CH)        | 70                                                 | 4                                      |

Based on IBC 2006, P.346

### 2.10.2 Depth of footings

The minimum depth of footings below the undisturbed ground surface shall be 300 mm in 3 stories or more.

### 2.10.3 Isolated footings

Footings on granular soil shall be so located that the line drawn between the lower edges of adjoining footings shall not have a slope steeper than 30 degrees (0.52 rad) with the horizontal.

## 2.11 Pile foundations

### 2.11.1 Precast non-prestressed piles

Concrete shall be a 28-day specified compressive strength ( $f_c'$ ) of not less than 21 MPa. The minimum amount of longitudinal reinforcement shall be 0.8 percent of the concrete section and shall consist of at least four bars.

### 2.11.2 Precast prestressed piles

Concrete shall be a 28-day specified compressive strength ( $f_c'$ ) of not less than 35 MPa.

### 2.11.3 Cast-in-place concrete piles

Concrete shall be a 28-day specified compressive strength ( $f_c'$ ) of not less than 18 MPa. The minimum amount of longitudinal reinforcement shall be 0.5 percent of the concrete section.

## 2.12 Concrete mixing

The values in the Table 2.12.1 and Table 2.12.2 are reference values, and the values for each concrete strength shall be determined based on the experience values and testing of each factory.

As a rule, the mixing of concrete is determined by weight. If volumetric method is used, weight shall be converted to volume.

### 2.12.1 Concrete mixture ratio (cement: sand: stone) by volume

**Table 2.12.1: Concrete mixture ratio by volume**

| Mixture ratio by volume | Type of activity                                              |
|-------------------------|---------------------------------------------------------------|
| 1:1 <sup>1/2</sup> :3   | concrete needs Waterlogging                                   |
| 1:2:4                   | ordinary concrete structure                                   |
| 1:1 <sup>1/2</sup> :4   | Flooring, wall, building wall and foundation                  |
| 1:3:5                   | Large-scale concrete and concrete with no high level of force |

Reference: LBC draft

**2.12.2 Concrete mixture ratio (cement: sand: stone) by weight****Table 2.12.2: Concrete mixture ratio by weight**

| Mixture ratio by volume     | Maximum rock size                | Water-cement ratio by weight | Activity                                                          |
|-----------------------------|----------------------------------|------------------------------|-------------------------------------------------------------------|
| 1: 1.9: 2.3<br>1: 1.7 : 3.1 | $\frac{3}{4}$<br>1 $\frac{1}{2}$ | 0.48                         | Activity with the serious weather                                 |
| 1: 3.1: 3.3<br>1: 2.2 : 3.7 | $\frac{3}{4}$<br>1 $\frac{1}{2}$ | 0.57                         | Ordinary concrete                                                 |
| 1: 3.1: 3.3<br>1: 2.8 : 4.2 | $\frac{3}{4}$<br>1 $\frac{1}{2}$ | 0.66                         | Foundation, fence and activity with large-scale of concrete works |

Reference: LBC draft

**2.13 Strength of concrete and steel reinforcement****2.13.1 Determination of minimum compressive strength of concrete**

Concrete strength is indicated by cylinder strength. If cube strength is used, it shall be converted to cylinder strength according to EN 206-1 and Eurocode 2.

**Table 2.13.1: Determination of minimum compressive strength of concrete (f<sub>c</sub>)**

| Type or location of construction by concrete                                                             | Minimum compressive strength of samples (f <sub>c</sub> , 28-days age, Mpa) |                       |                     |
|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------|---------------------|
|                                                                                                          | Low-severe weather                                                          | Middle-severe weather | High-severe weather |
| Retaining wall of ground floor and foundation which does not confront with weather                       | 17.5                                                                        | 17.5                  | 17.5                |
| Floor of ground floor, inner wall except parking areas                                                   | 17.5                                                                        | 17.5                  | 17.5                |
| Ground floor wall, foundation wall, external wall and retaining horizon wall which confront with weather | 17.5                                                                        | 20                    | 20                  |
| Vehicle carriage lane, curving corridor, balcony and parking area                                        | 17.5                                                                        | 20                    | 25                  |

Reference: LBC draft and IBC 2006 P.374

**2.13.2 Steel reinforcement****2.13.2.1 Non prestressed bars shall be deformed.**

### 2.13.2.2 Yield strength of non prestressed bars shall be determined by (a).

- a) The offset method, using an offset of 0.2 percent in accordance with ASTM A370.

## 2.14 Beams

### 2.14.1 Minimum depth of beams

For concrete beams not supporting or attached to partitions or other construction n likely to be damaged by large deflections, overall beam depth h shall satisfy the limits in the following Table 2.14.1.

**Table 2.14.1: Minimum depth of beams**

| Support condition    | Minimum h  |
|----------------------|------------|
| Simply supported     | $L / 16$   |
| One end continuous   | $L / 18.5$ |
| Both ends continuous | $L / 21$   |
| Cantilever           | $L / 8$    |

Reference: ACI 318-14

### 2.14.2 Minimum area of flexural reinforcement, $A_{s,min}$

$A_{s,min}$  shall be the greater of a) and b). For a statically determinate beam with a flange in tension, the value of  $b_w$  shall be the lesser of  $b_f$  and  $2b_w$ .

- a)  $((0.25\sqrt{f'_c})/f_y)xb_wxd$   
b)  $(1.4/f_y)xb_xxd$

### 2.14.3 Transverse reinforcement / stirrup

Transverse reinforcement shall be in accordance with this section. The most restrictive requirements shall apply. If required, shear reinforcement shall be provided using stirrups and hoops. Maximum spacing of shear reinforcement shall be in accordance with the following Table 2.14.2.

**Table 2.14.2: Maximum spacing of shear reinforcement**

| $V_s$                      |           | Non stressed beam, mm |
|----------------------------|-----------|-----------------------|
| $\leq 0.33\sqrt{f'_c}b_wd$ | Lesser of | $d / 2$               |
|                            |           | 600                   |
| $> 0.33\sqrt{f'_c}b_wd$    | Lesser of | $d / 4$               |
|                            |           | 300                   |

Reference: ACI 318-14

## 2.15 Columns

### 2.15.1 Minimum area of longitudinal reinforcement

Minimum area of longitudinal reinforcement shall be at least  $0.01 A_g$  but shall not exceed  $0.08 A_g$ .

### 2.15.2 Minimum area of shear reinforcement

Minimum area of shear reinforcement,  $A_{v,min}$  shall be the greater of (a) and (b).

- a)  $(0.75\sqrt{f'_c})(b_ws)/f_yt$   
b)  $50(b_ws)/f_yt$



## 2.16 Walls

### 2.16.1 Minimum wall thickness

Minimum wall thickness shall be in accordance with Table 2.16.1. Thinner walls are permitted if adequate strength and stability can be demonstrated by structural analysis.

**Table 2.16.1: Maximum wall thickness h**

| Wall type   | Maximum wall thickness h |                                                              |
|-------------|--------------------------|--------------------------------------------------------------|
| Bearing     | Greater of               | 100 mm                                                       |
|             |                          | 1/25 the lesser of unsupported length and unsupported height |
| Non-bearing | Greater of               | 100 mm                                                       |
|             |                          | 1/30 the lesser of unsupported length and unsupported height |

Reference: ACI 318-14

## 2.17 Property of concrete in considering the durability

### 2.17.1 Consideration of concrete properties and structure environment

**Table 2.17.1: Considerations of concrete properties and structure environment**

| Construction properties and environment situation                                                                             | Design considerations on following resistance                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| 1. River water<br>a. Under water<br>b. Dry-wet situation<br>c. Relative with water steam                                      | Not applicable<br>Rust<br>Resistance to carbonation and/or rust<br>Resistance to rust and sulfur<br>Rust due to chlorine |
| 2. Sea water<br>a. Under water<br>b. Dry-wet situation<br>c. Relative with water steam                                        | Resistance to rust due to chlorine and sulfa<br>Rust due to chlorine<br>Rust due to chlorine or carbonation              |
| 3. Sewage                                                                                                                     | Resistance to folic and sulfa and other chemical                                                                         |
| 4. Basement or under ocean<br>a. Sulfa exists<br>b. Non-existence of sulfa                                                    | Resistance to sulfur<br>Not applicable                                                                                   |
| 5. Attach with surface (such pier, ground beam and ground surface structure)<br>a. Sulfur exists<br>b. Non-existence of sulfa | Rust of reinforced steel due to chlorine<br>Rust of reinforced steel                                                     |
| 6. Atmosphere (relative with gas carbon dioxide)                                                                              | Rust of reinforced steel due to carbonation                                                                              |
| 7. Under the condition of materials contract (humidity less than 100%)                                                        | Cracked consequence from materials contract                                                                              |
| 8. Dam structure of large-scale foundation and thickness structure                                                            | Cracked consequence from materials contract                                                                              |

| Construction properties and environment situation | Design considerations on following resistance |
|---------------------------------------------------|-----------------------------------------------|
| 9. Some restrained parts                          | Cracked consequence from materials contract   |
| 10. The construction in touch with chemical       | Chemical resistance capacity                  |

### 2.17.2 Covering period of concrete to reinforced steel

#### (1) Minimum covering period

In the concrete design in order to for concrete lasting against deterioration and able to prevent the rust of reinforced steel, reinforced concrete structure must require the covering period of reinforced steel not less than the minimum requirement of period

$$C_{min} = \alpha * C_0 \quad (17.1)$$

where;

$C_{min}$  = minimum period of covering

$\alpha$  = Coefficient of covering period

$C_0$  = covering period of ordinary reinforced steel

#### (2) Coefficient of reinforced steel covering period ( $\alpha$ )

**Table 2.17.2: Considerations of concrete properties and structure environment**

| Materials ratio or compressive force ( $f_c$ ),<br>28days age             | Coefficient value of reinforced steel covering<br>period |
|---------------------------------------------------------------------------|----------------------------------------------------------|
| w/b > 0.65 or $f_c < 20\text{Mpa}$                                        | 1.2                                                      |
| $0.45 < w/b < 0.65$ or $20\text{Mpa} < 20\text{Mpa} < f_c < 40\text{Mpa}$ | 1.0                                                      |
| w/b < 0.45 or $f_c < 40\text{Mpa}$                                        | 0.9*                                                     |

\*Remark:

Exceptional cases: covering period of more than 20mm reinforced steel or in case of sulfur occurrence from median level, the value of coefficient should be 1.0

#### (3) Covering period of ordinary reinforced steel ( $C_0$ ) for ordinary concrete structure

**Table 2.17.3: Covering period of ordinary**

| Construction feature                                                                                                                         | Minimum period<br>of covering |
|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| <b>A. Concrete pouring onsite</b>                                                                                                            |                               |
| 1. Concrete pouring on the ground by using the ground as model and concrete texturing skin touches the ground throughout the period of using | 75mm                          |
| 2. Concrete touches the ground or affected by sunshine or rainwater                                                                          |                               |
| - For reinforced steel of more than 16mm diameter                                                                                            | 50mm                          |
| - For reinforced steel of less than 16mm diameter                                                                                            | 40mm                          |
| 3. Concrete untouched the ground or not affected by sunshine or rainwater                                                                    |                               |
| Flooring concrete plate, wall and joist                                                                                                      |                               |
| - For reinforced steel of more than 40mm diameter                                                                                            | 40mm                          |
| - For reinforced steel of less than 36mm diameter                                                                                            | 20mm                          |
| Beams                                                                                                                                        |                               |
| - Reinforced steel                                                                                                                           | 40mm                          |
| Columns                                                                                                                                      |                               |
| - Single steel casing of threaded steel                                                                                                      | 40mm                          |
| <b>B. Instant concrete (Quality control from factory)</b>                                                                                    |                               |
| 1. Concrete touches the ground or affected by sunshine or rainwater                                                                          |                               |

| Construction feature                                                      | Minimum period of covering |
|---------------------------------------------------------------------------|----------------------------|
| For wall                                                                  |                            |
| - For reinforced steel of more than 40mm diameter                         | 40mm                       |
| - For reinforced steel of less than 36mm diameter                         | 20mm                       |
| For other elements                                                        |                            |
| - For reinforced steel of more than 40mm diameter                         | 50mm                       |
| - For reinforced steel of 19-36mm diameter                                | 40mm                       |
| - For reinforced steel of less than 16mm diameter                         | 30mm                       |
| 2. Concrete untouched the ground or not affected by sunshine or rainwater |                            |
| Flooring concrete plate, wall and joist                                   |                            |
| - For reinforced steel of more than 40mm diameter                         | 30mm                       |
| - For reinforced steel of less than 36mm diameter                         | 15mm                       |
| Beams                                                                     |                            |
| - Reinforced steel                                                        | 25mm                       |
| - Single steel casing or threaded steel                                   | 30mm                       |
| - For reinforced steel of less than 16mm diameter                         | 100mm                      |

**(4) Covering period of ordinary reinforced steel (C0) for concrete structure with the potential occurrence of rust**

**Table 2.17.4: Construction feature and Minimum period of covering**

| Construction feature                               | Minimum period of covering |
|----------------------------------------------------|----------------------------|
| A. Concrete pouring on site                        |                            |
| For flooring concrete plate and wall               | 50mm                       |
| For other elements                                 | 65mm                       |
| B. Instant concrete (Quality control from factory) |                            |
| For flooring concrete plate and wall               | 40mm                       |
| For other elements                                 | 50mm                       |

Reference: IBC 2006 P.374

**(5) Covering period of ordinary reinforced steel (C0) for concrete structure with fire-resistance**

**Table 2.17.5: Construction feature and Minimum period of covering**

| Construction feature                                                                          | Minimum period of covering |
|-----------------------------------------------------------------------------------------------|----------------------------|
| A. Concrete pouring onsite                                                                    |                            |
| 1. Rectangle-shape column with the width of more than 300mm                                   | 40mm                       |
| 2. Round column or hexagon column which similar with round column of more than 300mm diameter | 40mm                       |
| 3. beams with the width or more than 300mm                                                    | 40mm                       |
| 4. Flooring of more than 115mm thickness                                                      | 20mm                       |
| B. Prestressed concrete                                                                       |                            |
| 1. Beams of which steel wire is firstly pulled                                                | 75mm                       |
| 2. Beams of which steel wire is pulled afterward                                              |                            |
| - 200mm width which end of steel is unstrained                                                | 115mm                      |
| - Width of more than 300mm where end of steel is unstrained                                   | 65mm                       |
| - Width of more than 300mm where end of steel is strained                                     | 50mm                       |
| 3. Flooring with steel wire is firstly pulled, its thickness of more than 115mm               | 45mm                       |
| 4. Flooring with steel wire is pulled afterward, its thickness of more than 115mm             |                            |
| - Edge is unrestrained                                                                        | 40mm                       |

| Construction feature                    | Minimum period of covering |
|-----------------------------------------|----------------------------|
| - Edge is restrained                    | 20mm                       |
| C. Physical steel structure             |                            |
| 1. Steel column of 150 x 150 mm         | 50mm                       |
| 2. Steel column of 200 x 200 mm         | 40mm                       |
| 3. Steel column of 300 x 300 mm or more | 25mm                       |
| 4. Steel beams                          | 50mm                       |

In case of the above main structure is constructed with covering layer less than determined, other materials shall be used to cover or shall be protected by other methods in order ensure the beams or column is fire-resistant of not less than 3 hours, joist or floor 2 hours and it must be certified by reliable institute.

## 2.18 Fire resistant rate and prescriptive fire resistance

### 2.18.1 Requirement on fire-resistance ratio of building structure by construction type

Table 2.18.1: Requirement on fire-resistance ratio of building structure

|                                     | Fire-resistance ratio (hours)          |                             |                             |                                   |                                         |                                   |
|-------------------------------------|----------------------------------------|-----------------------------|-----------------------------|-----------------------------------|-----------------------------------------|-----------------------------------|
|                                     | Construction level 1                   |                             | Construction level 2        |                                   | Construction level 3                    |                                   |
|                                     | structure with non-flammable materials |                             |                             |                                   | structure with fire-flammable materials |                                   |
|                                     | Unlimited-scale building type          | Limited-scale building type | 1 hour fire-resistance type | fire-resistance is not determined | 1 hour fire-resistance type             | fire-resistance is not determined |
| Main structure of building *1       | 3                                      | 2                           | 1                           | Not mandatory                     | 1                                       | Not mandatory                     |
| Floor                               | 2                                      | 2                           | 1                           | Not mandatory                     | 1                                       | Not mandatory                     |
| Roof *2                             | 2                                      | 1                           | 1                           | Not mandatory                     | 1                                       | Not mandatory                     |
| External of building *3             | 2                                      | 2                           | 1                           | Not mandatory                     | 1                                       | Not mandatory                     |
| Retaining inner wall of building *4 | 3                                      | 3                           | 2                           | 2                                 | 2                                       | 2                                 |
| Horizontal open *5                  | 2                                      | 2                           | 1                           | 1                                 | 1                                       | 1                                 |

Remark:

- Construction level 1:
  - Unlimited-scale building type
  - Limited-scale building type
- Construction level 2:
  - 1-hour fire-resistance type
  - Fire-resistance is not determined
- Construction level 3:
  - 1-hour fire-resistance type
  - Fire-resistance is not determined

The construction of building type 1 & 2, its structure must be made of non-flammable materials such as: concrete, reinforced steel or steel. For the construction of building type 3, its structure must be made of flammable materials such wood.

- 1) Steel structure of building consists of retaining walls, columns, beams and other resistant building structures.
- 2) The roof of building which exceedingly 8m height from the ground, may construct with non-flammable materials and no any fire-resistance is needed except building uses for gathering, risk activities, commercial-purpose activities.
- 3) The external wall faces to public or the external distance with the width of not less than 12m is not limited to indicate the fire-resistance ratio except external retaining wall which fire-resistance ratio of steel structure is considered.
- 4) Building partition wall must be consistent horizontally from the foundation until 75cm of roof level
- 5) Enclosing parts of horizon open-spaces for the building height of not more than 3 storey, fire-resistance must not less than 1 hour.

**Table 2.18.2: Maximum ratio on fire-resistance of non-retaining walls**

| Types of wall                                                                | Fire-resistance ratio (minutes) |
|------------------------------------------------------------------------------|---------------------------------|
| Brick wall 10cm thickness with 2 sides plaster of 1.5-2m thickness           | 60                              |
| Brick wall 20 cm thickness with 2 sides plaster of 1.5-2m thickness          | 120                             |
| Clay soil block wall 14cm thickness with 2 sides plaster of 1.5-2m thickness | 120                             |
| Clay soil block wall 19cm thickness with 2 sides plaster of 1.5-2m thickness | 180                             |

Remark: Testing requirement on fire-resistance ratio of structure materials and other elements must in

### 2.18.3 Prescriptive fire resistance

**Table 2.18.3: Minimum protection of structural parts based on time periods for various noncombustible insulation materials**

| Structural parts to be protected     | Insulating material used                                                                                                                                                                                                                                                                             | Minimum thickness of insulating material (mm) |        |        |        |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|--------|--------|--------|
|                                      |                                                                                                                                                                                                                                                                                                      | 4 hour                                        | 3 hour | 2 hour | 1 hour |
| Reinforced concrete structure        |                                                                                                                                                                                                                                                                                                      | -                                             | -      | -      | -      |
| Columns<br>Beams<br>Girders          | Carbonate, light weight and sand-light weight aggregate concrete, members 300 mm or larger, square or round (Size limit does not apply to beams monolithic with floors)                                                                                                                              | 40                                            | 40     | 40     | 40     |
|                                      | Siliceous aggregate concrete, members 300 mm or larger, square or round (Size limit does not apply to beams monolithic with floors)                                                                                                                                                                  | 50                                            | 40     | 40     | 40     |
| Floor slabs<br>Roof slabs            | Carbonate, lightweight and sand-lightweight aggregate concrete                                                                                                                                                                                                                                       | 25                                            | 25     | 20     | 20     |
|                                      | Siliceous aggregate concrete                                                                                                                                                                                                                                                                         | 30                                            | 25     | 25     | 20     |
| Steel structure                      |                                                                                                                                                                                                                                                                                                      | -                                             | -      | -      | -      |
| Columns<br>All of trusses            | Carbonate, lightweight and sand-lightweight aggregate concrete, members 150 x 150 mm or greater (not including sandstone, granite siliceous gravel)                                                                                                                                                  | 60                                            | 50     | 40     | 25     |
|                                      | Carbonate, lightweight and sand-lightweight aggregate concrete, members 200 x 200 mm or greater (not including sandstone, granite siliceous gravel)                                                                                                                                                  | 50                                            | 40     | 25     | 25     |
|                                      | Carbonate, lightweight and sand-lightweight aggregate concrete, members 300 x 300 mm or greater (not including sandstone, granite siliceous gravel)                                                                                                                                                  | 40                                            | 25     | 25     | 25     |
|                                      | Siliceous aggregate concrete, members 150 x 150 mm or greater                                                                                                                                                                                                                                        | 75                                            | 50     | 40     | 25     |
|                                      | Siliceous aggregate concrete, members 200 x 200 mm or greater                                                                                                                                                                                                                                        | 60                                            | 50     | 25     | 25     |
|                                      | Siliceous aggregate concrete, members 300 x 300 mm or greater                                                                                                                                                                                                                                        | 50                                            | 25     | 25     | 25     |
| Webs or flanges of beams and girders | Carbonate, lightweight and sand-lightweight aggregate concrete (not including sandstone, granite and siliceous gravel) with 75 mm or finer metal mesh placed 25 mm from the finished surface anchored to the top flange and providing not less than 52 mm2 of steel area per meter in each direction | 50                                            | 40     | 25     | 25     |
|                                      | Siliceous aggregate concrete and providing not less than 52 mm2 of steel area per meter in each direction                                                                                                                                                                                            | 60                                            | 50     | 40     | 25     |

## **2.19 Structural steel**

### **2.19.1 General**

The design, fabrication, erection and quality of structural steel for buildings shall be in accordance with

- AISC 360 (structural steel)
- AISC 341 (seismic design)
- AISI NAS 2016 (cold-formed steel, steel deck)
- ASCE 8 (cold-formed steel, steel deck)
- ASTM (See 19.2 below)

### **2.19.2 Structural steel**

Carbon steel

- ASTM A36 (for Angles, Plates, C-, M- and S-shapes)
- ASTM A53 Grade B (Pipe)
- ASTM A500 Grade B, (for HSS)
- ASTM A500 Grade C, (for HSS)

High-strength Low-alloy steel

- ASTM A572 Grade 50 (for HP-shape, C-shape)
- ASTM A992 (for W-shape)

### **2.19.3 Limiting slenderness ratio**

The slenderness ratio preferably should not exceed 200 for compression members.

## **2.20 Connections**

### **2.20.1 Bolting**

The design, installation and inspection of bolts shall be in accordance with the requirements of the specifications of the code. Available standard specification shall be the followings.

- ASTM A307, A325, A449, A563 and F436

### **2.20.2 Welding**

The detail design, workmanship, and technique for welding, inspection of welding and qualification of welding operators shall confirm to the requirements of the code. Available standard specification shall be AWS D1.1 Structural Welding - Steel.

## Annex 3: Fire escape way / route

### [Means of escape]

#### 3.1 Definitions of fire safety words

|    | Technical words                  | Definitions                                                                                                                                                                                                                                                                                                                                                                                |
|----|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Air Pressurization               | Air Pressurization means the creation and maintenance of pressure levels in zones of a building, including elevator shafts and stairwells that are higher than the pressure level at the smoke source, such pressure levels being produced by positive pressures of a supply of uncontaminated air, by exhausting air and smoke at the smoke source, or by a combination of these methods. |
| 2  | Area of Refuge                   | Areas of Refuge means a space, which is temporary used during egress, protected from the effects of fire. Area is classified to two types as follows:                                                                                                                                                                                                                                      |
| 3  | Atrium                           | Atrium means an opening through two or more floor levels other than enclosed stairways, elevators, hoist-ways, escalators, plumbing, electrical, air-conditioning or other equipment, which is closed at the top and not defined as mall. The area of opening is more than 93 m <sup>2</sup> or the width of opening is more than 6 meters.                                                |
| 4  | Basement story                   | Basement storey refers to a storey of a building for which at least half the storey height is below the ground level, and which also adjoins its perimeter walls for at least half the length of such walls.                                                                                                                                                                               |
| 5  | Exit                             | Exit refers to a means of egress from the inside of the building to an external space. An Exit includes any of the following, either singly or in combination: a door opening leading to external space, exit staircase, exit ramp and/or exit passageway. But not including an access stair, aisle, corridor door or corridor and an access door to a room or space.                      |
| 6  | Exit Access                      | Exit Access means that portion of a means of egress that leads to an exit.                                                                                                                                                                                                                                                                                                                 |
| 7  | Exit door                        | Exit door is a door (including doors that open to the outside space) that is installed at entrances and exits to allow people to evacuate and that constitutes part of an evacuation route.                                                                                                                                                                                                |
| 8  | Exit Discharge                   | Exit Discharge means that portion of a means of egress between the termination of an exit and a public way.                                                                                                                                                                                                                                                                                |
| 9  | Exit Staircase                   | Exit staircase is a staircase that is constructed of non-flammable materials and protected from fire (a staircase of fire-resistant construction or installed in an exterior space) for the purpose of escaping to the outside of a building.                                                                                                                                              |
| 10 | Fire Alarm System                | Fire Alarm System means a manual or automatic alarm system notifying in case of fire.                                                                                                                                                                                                                                                                                                      |
| 11 | Fire Control Center              | Fire Control Center means room or area collecting significant building information, in order to inspect and command any operation during fire events.                                                                                                                                                                                                                                      |
| 12 | Fire Compartment                 | Fire Compartment means a space within a building that is enclosed by fire barriers on all sides, including the top and bottom.                                                                                                                                                                                                                                                             |
| 13 | Fire Damper                      | Fire Damper is a device that automatically controls the temperature fusible link to prevent the spread of smoke or fire inside a duct in the event of a fire. The fire resistance rating of a fire damper must be equal to or higher than the fire resistance rating of the structure in which it is installed.                                                                            |
| 14 | Fire Department Connection (FDC) | Fire Department Connection means a connection through which the fire department can pump water into a standpipe system, or sprinkler system.                                                                                                                                                                                                                                               |
| 16 | Fire Hose Nozzle                 | Fire Hose Nozzles means a device used for injection water to fight the fires. Nozzle is made of light – weight materials, one end is equipped with adjustable injection head (stream, spray or curtain) and another end equipped with quick coupling or thread coupling.                                                                                                                   |
| 17 | Fire Hydrant                     | Fire Hydrant means any quick coupling connection on a water supply system having one or more outlets used to supply hose and fire department pumping with water. Fire hydrant shall be located to inside and outside of building.                                                                                                                                                          |

|    | Technical words        | Definitions                                                                                                                                                                                                                                                                                                                                       |
|----|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 18 | Fire Pumps             | Fire Pumps means the water pump with capacity not less than 150% of the specified volume, with dispatching pressure not less 65% of the specified pressure, and the water pressure when closing the valve is not less than 140% of the specified pressure.                                                                                        |
| 19 | Fire Resistance        | Fire Resistance means construction to resist the spread of fire, details of which are specified in this code.                                                                                                                                                                                                                                     |
| 20 | Fire Resistance Rating | Fire Resistance Rating means the time, in minutes or hours, that materials have withstood a fire exposure as established in accordance with the test procedures of International Standards.                                                                                                                                                       |
| 21 | Fire Resisting Wall    | Fire Resisting Walls means a solid wall made of ordinary bricks with a thickness of at least 18 cm or equivalent fire resistance, without openings for the passage of fire or smoke. For reinforced concrete walls, the thickness must be at least 12 cm.                                                                                         |
| 22 | Height of Building     | Height of building means the vertical distance above ground level measured to the highest point of the roof or to the top of external wall (including the parapet).                                                                                                                                                                               |
| 23 | Horizontal Exit        | Horizontal Exit means a way of passage from one building to an area of refuge in another building on approximately the same level, or a way of passage through or around a fire barrier to an area of refuge on approximately the same level in the same building that affords safety from fire and smoke originating from the area of incidence. |
| 24 | Interior wall          | Interior Wall is any wall other than weather-exposed surface.                                                                                                                                                                                                                                                                                     |
| 25 | Jockey Pump            | Jockey Pump means small water pump for pumping water as replacement for the leak or for testing, thereby the fire water pump does not need to be started unnecessary, or to control operation and stopping by pressure switch.                                                                                                                    |
| 26 | Land property lines    | Land Property Lines means the line dividing land and property between buildings which serves as the line dividing boundary                                                                                                                                                                                                                        |
| 27 | Means of Egress        | Means of Egress means a continuous and unobstructed way of exit travel from any point in a building or structure to a public way and consists of three separate and distinct parts: Exit access, Exit and Exit discharge                                                                                                                          |
| 28 | Non-combustible        | Non-combustible Materials means the construction materials having been used for construction as materials with no part flammable or flare up when having been on fire.                                                                                                                                                                            |
| 29 | Occupancy              | Occupancy means the purpose for which a building, or part thereof, is used or intended to be used.                                                                                                                                                                                                                                                |
| 30 | Riser Height           | Riser Height means a vertical distance between adjacent tread nosing of step.                                                                                                                                                                                                                                                                     |
| 31 | Smoke Damper           | Smoke Damper means an approved damper designed to resist the passage of smoke to any part of ductworks. Damper shall be automatically operated by command signal from smoke detector. No fire rating of smoke damper is required.                                                                                                                 |
| 32 | Sprinkler System       | Sprinkler System means a watering system for fire protection that operates automatically in the event of a fire. It consists of a fire water pipe network, a pump system, control valves, sprinkler heads and others.                                                                                                                             |
| 33 | Staircase              | Staircase is vertical exit passageway, including stair's step and landing.                                                                                                                                                                                                                                                                        |
| 34 | Standpipe              | Standpipe System is a wet or dry system of piping, valves, outlets and related equipment designed to provide water at specified pressures and install exclusively for the fighting of fires.                                                                                                                                                      |
| 35 | Travel distance        | Travel Distance refers to the distance required to be traversed from the most remote point in any room or space to the edge of a door opening, directly to an exit staircase or external space.                                                                                                                                                   |
| 36 | Tread Depth            | Tread Depth means a horizontal distance between adjacent tread nosing.                                                                                                                                                                                                                                                                            |
| 37 | Two-way Travel         | Two-way Travel refers to a situation where occupants within a space have the choice of more than one route/direction from a splitting point to reach multiple exits.                                                                                                                                                                              |



## 3.2 Requirements of exit

### 3.2.1 Capacity of exits and exits facilities

The capacity of exits and exits facilities shall be applied of all of the following items.

- 1) The capacity of evacuation passages, Exit staircases, Exit doors, and other evacuation facilities are measured in unit width (mm/person). The width of passages, Exit staircases, and Exit doors is calculated from the number of residents according to the purpose of the building.
- 2) If two exits are required for a room or space, each exit must be wide enough to be at least half the number of residents.

### 3.2.2 Number of exit doors and exit routes from the room

The number of exit doors and exit routes from the room shall be applied of all of the following items.

- 1) The number of Exit doors and Exit routes for evacuation from the room shall be that the number of people per door is equal to or less than the number of occupants shown in Table 3.2.1. For example, in Classroom, if 80 persons for one room,  $80/50 = 1.6 < 2$  doors or routes are required.
- 2) If two Exit doors are required, the distance between the two Exit doors must be separated by at least 1/2 (half) of the diagonal of the room (diameter of the circumscribed circle).
- 3) When SPR (sprinkler) equipment is installed in item 2) above, 1/2 can be deducted to 1/3.

**Table 3.2.1 Number of residents per exit door**

| Type of use                      | Number of residents (persons) |
|----------------------------------|-------------------------------|
| Patient accommodation area       | 50                            |
| Classrooms                       | 50                            |
| Warehouse, stores, and factories | 50                            |
| High hazard facility             | 25                            |

### 3.2.3 Number of exit doors for assembly facility

The number of Exit Doors for Assembly facility shall be applied of the following items.

- 1) The minimum number and width of Exit Doors for assembly facilities such as theaters, movie theaters, public halls, and conference rooms shall be more than the Table 3.2.2.
- 2) The Exit door should be opened to evacuation direction from inside without any key to evacuate and close automatically preventing smoke and flame from entering.

**Table 3.2.2 Minimum width of evacuation routes for assembly facilities**

| Number of occupants (people) | Minimum number of exit doors | Minimum width of corridor |
|------------------------------|------------------------------|---------------------------|
| 51 ~ 200                     | 2                            | 1.20m                     |
| 201 ~ 500                    | 2                            | 1.25m                     |
| 501 ~ 1000                   | 3                            | 1.25m                     |
| Over 1000                    | 4                            | 1.25m                     |

## 3.3 Travel distance to exits and staircases

### 3.3.1 Travel distance

The Travel Distance to exits and staircases shall be applied of all of the following items.

- 1) The walking distance from each part of the living room to one of the Exit staircases, the value of Table 3.3.1 or less.
- 2) The walking distance of overlapping sections when heading to two or more Exit staircases shall be not more than 1/2 of the walking distance to the staircases.
- 3) When a rout is blocked and dead-end in a corridor, the walking distance to the dear end must be shorter than the value shown in Table 3.3.1

**Table 3.3.1: Allowable travel distance (m)**

| Purpose group | One way     |          | Two way     |          | Dead end    |          |
|---------------|-------------|----------|-------------|----------|-------------|----------|
|               | without SPR | With SPR | without SPR | with SPR | without SPR | with SPR |
| Shop          | 15          | 25       | 45          | 60       | 15          | 20       |
| Office        | 15          | 35       | 40          | 75       | 15          | 20       |

|         |    |    |    |    |    |    |
|---------|----|----|----|----|----|----|
| Hotel   | 15 | 20 | 30 | 60 | 15 | 20 |
| Factory | 10 | 20 | 20 | 35 | 15 | 20 |

SPR: Sprinkler Equipment

## 3.4 Components of exit

### 3.4.1 Fire exit doors

The Fire Exit doors shall be applied of all of the following items.

- 1) Fire Exit Door shall be more than half hour fire resistant rating (FR-30) and open to direction of evacuation without any key and close automatically avoiding smoke /fire frame not come in evacuation area.
- 2) Width of fire Exit Door opening shall be more than 1.8m height and 80cm wide as minimum and width of door shall followed by number of occupants, 12 mm per person.

### 3.4.2 Wall

The Wall of Exit shall be applied of all of the following items.

- 1) Wall for Exit shall be more than one hour fire resistant rating (FR-60) and finished by non-combustible material.
- 2) Wall for Exit shall not be decorated with flammable materials.

### 3.4.3 Corridors for evacuation routes

The Corridors for evacuation routes shall be applied of all of the following items.

- 1) The width of the corridor must not be less than the minimum width shown in Table 3.4.1.
- 2) The width of the corridor shall be excluding protrusions such as handrails and column types.

**Table 3.4.1 Minimum width of the corridor**

| Use                               | One side corridor | Middle corridor |
|-----------------------------------|-------------------|-----------------|
| Elementary and Junior High School | 1.8m or more      | 2.3m or more    |
| Apartments (>200m <sup>2</sup> )  | 1.2m or more      | 1.6m or more    |
| Hospital Patient Corridor         | 1.6m or more      | 2.0m or more    |

### 3.4.4 Discharge of fire exit

Exit of escape is final part of escape way in locating people to evacuate from building safely. A good of escape exit is a direct locating people to public road or exit way of building such the yard or opened space. The exit support adequate space for safe landing and providing the sign that indicate the direction to public space. If the building has a staircase directing to the basement or lower level of the exit, it needs to have a sign to indicate the exit and to provide the Exit Door or protection wall.

- 1) The distance from any part of the space or room to the outdoor exit on the ground floor shall be not more than twice the Allowance travel distance in Table 3.3.1.
- 2) The total width of the outdoor exit of the evacuation floor of shopping facility shall be more than 60 cm per every 100m<sup>2</sup> of floor area with the largest floor area.
- 3) From the evacuation exit to the outside of the evacuation floor, more than 1.5m wide of passageway leads to public roads or open spaces.
- 4) The outdoor exit (evacuation Exit Door) has a structure that can be unlocked from the inside even if there is no key. The same must be unlocked from the inside when a security grille is installed.
- 5) Electric shutters cannot be used as evacuation Exit Doors for outdoor exits.

## 3.5 Structure of exit staircase

### 3.5.1 Structure of stair

The Structure of Stairs shall be applied of all of the following items.

- 1) The width of the stairs and their landings, as well as the dimensions of the risers and treads of the stairs, shall be Table 3.5.1.
- 2) The riser of the Exit staircase shall be less than 22 cm, and the tread shall be 25 cm or more.
- 3) If the stairs height exceed 1 m or more, a continuous handrail shall be provided, and if the stair width is 2 m or more, a handrail shall be provided on both sides.

**Table 3.5.1 Stair structure**

| Use                                   | Width               | Riser              | Tread              | Landing height |
|---------------------------------------|---------------------|--------------------|--------------------|----------------|
| Elementary school children            | $\geq 140\text{cm}$ | $\leq 16\text{cm}$ | $\geq 26\text{cm}$ | every < 3m     |
| School, store, theater, meeting place |                     | $\leq 18\text{cm}$ |                    |                |
| Other than the above                  | $\geq 75\text{cm}$  | $\leq 22\text{cm}$ | $\geq 21\text{cm}$ | every < 4m     |
| External staircase (direct stairs)    | $\geq 90\text{cm}$  |                    |                    |                |

### 3.5.2 Structure of ramp

The Structure of Ramps shall be applied of all of the following items.

- 1) The slope of ramp shall be 1/10, and the surface is finished non-slip material.
- 2) The width must be at least 120 cm instead of the stairs and 90 cm or more attached to the stairs.
- 3) In addition, it follows the barrier-free regulations separately stipulated.

### 3.5.3 Installation of direct exit staircases

The Installation of direct staircases shall be applied of the following items.

- 1) Provide at least one independent direct Exit staircases from all floors of the building to the evacuation floor or ground level, unless permitted by other regulations.
- 2) On the lower floors of the building (5th floor or lower), evacuation equipment from the balcony can be installed.
- 3) Table 3.5.2 shows the purpose group and number of floors of buildings in which direct Exit staircases should be installed.

**Table 3.5.2 Installation of direct exit staircase**

| Use/purpose group (PG)                        | Installation of direct exit staircases |
|-----------------------------------------------|----------------------------------------|
| Apartments                                    | $\geq$ 4th floor/storey                |
| Hotels, offices, stores                       | $\geq$ 3rd floor/storey                |
| Hospital (examination and ward part), theater | $\geq$ 2nd floor/storey                |
| Factory, Warehouse                            | $\geq$ 2nd floor/storey                |

### 3.5.4 Type of exit staircase

#### A: Interior exit staircase

The Interior Exit staircases in the building shall be applied as follows.

- 1) The walls of the staircase shall have a Fire Resistance structure (FR-120) and the interior shall be finished non-combustible material for both the base.
- 2) The staircase is equipped with an automatic closure fire Exit Door (FR-60) and opens in the evacuation direction without a key.
- 3) The staircases must be equipped with a continuous handrail and run directly to the evacuation floor or the ground.
- 4) When a window facing indoor is provided in the stairway, it shall be a fixed window with an glass area of 1 m<sup>2</sup> or less.
- 5) There shall be provided a lighting window on the exterior wall of the stairway or emergency lighting with a spare power supply.
- 6) The window which provided on the exterior wall of the stairway shall be open-type for exhaust smoke outside of the building in the event of a fire.
- 7) The windows which provided on the exterior wall of the stairway and building should be more than 1m apart each other.

#### B: Structure of external exit staircase outside of the building

The External Exit staircase installed outside of the building shall be applied as follows.

- 1) The External Exit staircase must have at least open 50% of the fire-resistant wall (FR-120), and must provide direct access to the escape ground. If the open area is less than 50%, the stairs must be same requirement on Interior exit staircase.
- 2) The exit from the building shall be an automatic closure fire Exit Door (FR-60) and open in the

- evacuation direction without a key.
- 3) When installing a window facing indoors, the fire prevention facility shall be a fixed window within a glass area of 1 m<sup>2</sup>.
  - 4) When installing a general window on the Exterior wall surface, install it at least 2m away from the External Exit staircase.
  - 5) The staircases are equipped with continuous handrails on both sides.

### **C: Structure of special exit staircases**

The Structure of Special Exit staircases shall be applied as follows.

- 1) The Exit staircases leading to the room with a height of 24 meters or more or below the 3rd basement floor shall be applied a Special Exit staircase.
- 2) In addition to the provisions of A and B above, the structure of special escape stairs must be provided with buffer spaces for evacuation and rescue (annex rooms, balconies, etc.).
- 3) The structure of the Special Exit staircase must be provided, in addition to the above provisions A and B, with a buffer space (attached room, balcony, etc.) for evacuation and rescue.
- 4) There are "natural smoke exhaust type" through the balcony or the attached room with windows, and "mechanical smoke exhaust type" through the attached room with mechanical smoke evacuation or pressurization. The Smoke control shall apply Annex 4. Section 2. Item 2.
- 5) The Special Exit staircase shall provide with Fire Hydrant, Emergency call and Emergency Lift for rescue and firefighting. The Emergency lift shall apply as Annex 4. Item 5.

## **3.6 Escape for disables (PWD)**

### **3.6.1 General requirements**

All types of controlled buildings use for public shall be provided the facilities for elderly, pregnant and disable person (PWD). In addition to complying with the barrier-free regulations separately stipulated, the following requirements shall be considered.

### **3.6.2 Exit routes**

- 1) There are no steps on the floor of the evacuation route.
- 2) When a ramp/slope is provided, it is a 1/10 gradient that wheelchairs can pass.
- 3) If stairs are provided in addition to the evacuation ramp, handrails must be installed.

### **3.6.3 Wheelchair waiting space (PWD holding point)**

- 1) The space for wheelchair waiting shall be provided for PWDs and helper to wait for relief.
- 2) The installation site shall be near the Exit staircases on each floor or the fire lift lobby.
- 3) The size shall be 0.9m x1.4m or calculated from number of residents, where wheelchair can be operated and finished with non-combustible materials.

### **3.6.4 Alarms and communication device**

- 1) An alarm light and an acoustic alarm are provided in the waiting space.
- 2) Establish communication device that can be contacted with the Safety Control Center (SCC) on the ground in case of emergency.

## **【Building Control】**

## **3.7 Fire resistance**

### **3.7.1 Fire resistance of structure elements**

#### **1) General**

The fire resistance structure is a structure in which walls, pillars, floors, etc., which are the main structural components of a building, have a constant fire resistance performance. In addition, fire resistance

performance refers to the performance required for buildings to delay the "collapse of building" or "spread of fire" due to the fire until the end of a normal fire.

## 2) Fire resistance performance

The part of the building shall not cause deformation, melting, destruction or other damage that is difficult to structural strength when the fire heat is applied for the time shown in Table 3.7.1.

The Fire resistance grade 2 is provision for small buildings of Level-1.

**Table 3.7.1 Fire resistance performance of main structural parts (min)**

|                           | Fire resistant Grade-1<br>(count from top floor) |                            |                        | Fire resistant<br>Grade-2 |
|---------------------------|--------------------------------------------------|----------------------------|------------------------|---------------------------|
|                           | 2nd floor to<br>4th floor                        | 5th floor to<br>14th floor | 15th floor and<br>over | All floor                 |
| Load Bearing wall         | 60                                               | 120                        | 120                    | 45                        |
| non-bearing exterior wall | 60                                               | 120                        | 120                    | —                         |
| pillar                    | 60                                               | 120                        | 180                    | 45                        |
| floor                     | 60                                               | 120                        | 120                    | 45                        |
| beam                      | 60                                               | 120                        | 180                    | 45                        |
| Roof, stairs, and ramps   | 30                                               |                            |                        | 30                        |

## 3) Specifications of fire resistance structure

The specifications of the main structural part required for each fire resistance performance must be at least the numerical value shown in Table 3.7.2.

In the case of specifications other than this, confirm that it has the prescribed performance and is above the prescribed performance by receiving the certification of the inspection body.

**Table 3.7.2 Fire resistance covering thickness in reinforced concrete (RC):**

| Member                  | FR-180min                                     | FR-120min                                       | FR-60min                                     |
|-------------------------|-----------------------------------------------|-------------------------------------------------|----------------------------------------------|
| Load bearing wall (RC)  | n.a.                                          | $B \geq 100\text{mm}$ ,<br>$t \geq 30\text{mm}$ | $B \geq 70\text{mm}$<br>$t \geq 30\text{mm}$ |
| Pillar (RC)             | $B \geq 400\text{mm}$<br>$t \geq 30\text{mm}$ | $B \geq 250\text{mm}$<br>$t \geq 30\text{mm}$   | n.a.<br>$t \geq 30\text{mm}$                 |
| Steel with mortar       | $B \geq 400\text{mm}$<br>$t \geq 80\text{mm}$ | $B \geq 250\text{mm}$<br>$t \geq 60\text{mm}$   | n.a.<br>$t \geq 40\text{mm}$                 |
| Floor (RC)              | n.a.                                          | $B \geq 100\text{mm}$<br>$t \geq 30\text{mm}$   | $B \geq 70\text{mm}$<br>$t \geq 30\text{mm}$ |
| Beam (RC)               | $t \geq 50\text{mm}$                          | $t \geq 50\text{mm}$                            | $t \geq 30\text{mm}$                         |
| Steel beams, las mortar | $t \geq 80\text{mm}$                          | $t \geq 60\text{mm}$                            | $t \geq 40\text{mm}$                         |

Note) B: outer dimensions of the member, t: covering additional thickness

## 4) Steel fireproof coating

In the steel structure, the main structure part of the third floor or higher shall be provided with a fireproof coating by boards, spraying, painting, etc. When fire-resistant paint is used, a plate stating the manufacturer name, the painting date, the scheduled repaint date, etc. shall be installed in accordance with the prescribed standards.

## 3.7.2 Fire rating of elements

### 1) Fire resistance performance of buildings

Buildings used for the purposes shown in Table 3.7.3 shall be fire-resistant buildings with fire resistance time according to the number of floors and floor area. If the fire-resistant building is partitioned with a two-hour fireproof wall ( $FR \geq 120$ ), fire safety may be treated as a separate building for each other.

**Table 3.7.3 Fire-resistant buildings and fire resistance**

|                                                                                      | Fire resistance rate: FR ≥ 60 (min) |                                                         | FR ≥ 45 (min)                       |
|--------------------------------------------------------------------------------------|-------------------------------------|---------------------------------------------------------|-------------------------------------|
|                                                                                      | Story                               | Floor area                                              | Floor area                          |
| PG-1: Residential, Apartment<br>PG-2: Hotel, Hostel<br>PG-3: Hospitals, Nursing home | 3F or higher                        | n.a.                                                    | 2F or higher<br>≥ 400m <sup>2</sup> |
| PG-4: Educational, Schools<br>PG-5: Office                                           |                                     | n.a.                                                    | ≥ 2,000m <sup>2</sup>               |
| PG-6: Commercial Shop, Markets                                                       |                                     | ≥ 3,000m <sup>2</sup>                                   | 2F or higher<br>≥ 400m <sup>2</sup> |
| PG-7: Assembly and Theaters                                                          |                                     | Seating area ≥ 200m <sup>2</sup><br>Or 50 seats or more | n.a.                                |
| PG-8: Industrial Factory                                                             | n.a.                                | 3F or higher,<br>≥ 200m <sup>2</sup>                    | ≥ 1,500m <sup>2</sup>               |
| PG-9: Storage, Car garages                                                           | 3F or higher                        | n.a.                                                    | ≥ 150m <sup>2</sup>                 |

PG: purpose group

**2) Fire protection wall**

If the total floor area exceeds 1,000 m<sup>2</sup> in a building other than a fire-resistant structure, the floor area shall be partitioned by a fire wall every 1,000 m<sup>2</sup>. The fire wall shall have the following structure.

- A self-sustaining fireproof structure made by non-combustible materials that protrudes at least 50 cm from the building at both ends and tops of the fire wall.
- If the outer wall has a fireproof structure and there is no opening within 3.6 m in width from the fire wall, protrusion is not required.
- When installing an opening in the fire wall, set the width and height to 2.5 m or less, and install fire extinguishing fittings (FDW-60).

**3.8 External wall and roof****3.8.1 External wall structure**

The External wall structure shall be applied of all of the following items.

- The following parts are made of fire-resistance structure (FR-60) on the outer wall, and the wall surface is finished with non-combustible material.
  - Areas that may spread fire on the outer wall within 1m of the adjacent boundary line
  - Areas with an exterior wall at a height of 15 m or more that are difficult to extinguish normally
- The pillars and beams in contact with the outer wall shall have the same fireproof structure (FR-30) as the outer wall.

**3.8.2 Openings on the external walls**

The Openings on the External Walls shall be applied of all of the following items.

- Fire window/door fittings (FWD-20) should be installed at the openings on the outer walls within 3.0 meters of the adjacent boundary line.
- Place Fire window/door fittings (FWD-20) at least 4 meters apart from the openings on the outer walls between buildings in the adjacent area or the same site.

**3.8.3 Roof construction**

The Roof construction shall be applied of the following items.

- Roofs are made with non-combustible materials that do not spread fire.
- This does not include buildings that are installed with automatic sprinkler facilities throughout the roof surface.

## 3.9 Fire compartment

### 3.9.1 Requirement of fire compartment

The Fire Component shall be applied of all of the following items.

- 1) The Fire compartments shall be partitioned with walls and floors with fire-resistance structures, and fire door shall be provided at the openings that are always closed or automatically closed in the accident of a fire.
- 2) The Fire compartment requires the following provisions depending on the usage, floor area, height (number of floors) and opening of floor.

### 3.9.2 Structure of fire doors / windows fittings

- 1) Fire doors/windows (FDWs) provided in the fire compartment shall be as follows and certified by an inspection agent.
- 2) The Fire doors always close by door-closer or automatically close by sensing smoke and heat caused by fire to prevent entering of smoke and flames.
- 3) The Fire door can be unlocked from the inside without any key and to open toward the evacuation direction.

**Table 3.9.1 Structure of fire doors/windows (FDW)**

| Type                            | FDW-60                              | FDW-20                              |
|---------------------------------|-------------------------------------|-------------------------------------|
| Steel flat door (double-sided)  | Plate thickness $\geq 0.5\text{mm}$ | n.a.                                |
| Steel press door (single-sided) | Plate thickness $\geq 1.5\text{mm}$ | Plate thickness $\geq 0.8\text{mm}$ |
| Steel Shatter                   | Plate thickness $\geq 1.5\text{mm}$ | n.a.                                |
| Wire-meshed glass               | n.a.                                | Certified products                  |

### 3.9.3 Fire stopping for service void.

The Fire Stopping for service void shall be applied of all of the following items.

- 1) If the water supply pipe or drainage pipe penetrates the fire compartment, fill the gap with non-combustible materials such as mortar.
- 2) If ventilation or air conditioning ducts penetrate the fire compartment, provide a fire damper that automatically closes by sensing smoke and heat caused by fire.

### 3.9.4 Requirements by type of fire compartment

#### A. Fire compartment by floor area

- 1) Buildings are divided into fire-resistance floors and walls for each area shown Table 3.9.2 below, and fire doors/windows fittings (FDW-60) are provided at the opening.
- 2) Buildings that are difficult to partition depending on the usage such as theaters, gymnasiums, exhibition halls, factories, etc., are exempted from application and separately regulated as special requirements.
- 3) When an Automatic fire extinguishing facility such as a sprinkler facility is provided, the partitioned area may be doubled.

**Table 3.9.2 Maximum floor area for fire compartment**

| Fire resistance rating (minutes) | Area of partition      |
|----------------------------------|------------------------|
| FR-120                           | $\leq 1,500\text{m}^2$ |
| FR-60                            | $\leq 1,000\text{m}^2$ |
| FR-45                            | $\leq 500\text{m}^2$   |

#### B. Fire compartment by height of building

- 1) The upper floors of residential buildings more than 20m of height ( $H \geq 20\text{m}$ ) shall have a fire compartment for every 200 m<sup>2</sup> of floor area.
- 2) When an automatic sprinkler system is provided, the partition area may be doubled.
- 3) In the evacuation part such as the stairway, Lift lobby, corridor, etc. of the building, that area partitioned

by the floor and the wall of the fireproof structure, and the fire door (FDW-60) may be excluded.

### **C. Fire compartment by purpose**

If the inside of building uses for different purpose, it should be partitioned for each application with a fire-resistance structure (FR-120) of wall, floor, and fire doors/windows for opening (FDW-60).

### **D. Fire compartment of vertical opening**

- 1) In the evacuation route (Exit), vertical openings such as stairways and atriums are divided by fire-resistance structure (FR-60) floors, walls, and fire doors/windows (FDW-60) to prevent smoke and flames from entering.
- 2) Fire doors provided at the opening should be always closed or automatically closed in conjunction with heat and smoke detectors.

### **3.9.5 Separating wall**

The Separating wall shall be applied of all of the following items.

- 1) Buildings for bedtime (apartment buildings, student dormitories, hospitals, nursing homes, etc.) shall have a barrier (FR-30) to prevent the spread of fire to the next room in the event of a fire.
- 2) The Separating wall made from non-combustible materials, must be completely closed to the outer walls and roofing materials so that flames and smoke do not diffuse.
- 3) The gap between the service duct and electrical piping that penetrates the wall should be completely closed with mortar, etc.

## **3.10 Protection of opening**

### **3.10.1 Opening of exterior wall**

If there is an opening where the fire compartment meets the exterior wall, the following methods can be used to prevent the spread of fire:

- 1) Vertical protection between upper and lower floors: provide low wall (spandrel) with height more than 120cm or horizontal protrusion more than 60cm.
- 2) Horizontal protection between adjacent rooms: provide sleeve wall more than 50 cm.  
The floor more than 24m in height of Residential building shall be prescribed in 1) above.

### **3.10.2 Atrium protection**

#### **3.10.2.1 Application of regulations**

This provision applies to Atriums where circles of the 3 floors or more and a diameter of 6 m wide or more are inscribed. When installing sprinkler system, it shall not be applicable.

#### **3.10.2.2 Structure of the atrium**

The structure of the regulations shall be applied of all of the following items.

- a) Within 3.5 m from the atrium, a protection wall or shutter is provided and partitioned.
- b) The protection wall has a fire resistance structure ( $FR \geq 60$ ), and the opening is covered by fire doors (FR-60).
- c) From each floor of the atrium, occupants shall be able to move to the evacuation floor by two or more evacuation routes.
- d) One floor of the atrium must be an evacuation floor that is directly connected to the outside.



## **【Site Planning Control】**

### **3.11 Fire spread precautions**

#### **3.11.1 Setback**

Controlled buildings should be set back from the site boundaries in accordance with city planning regulations to avoid the spread of fire from adjacent lands.

#### **3.11.2 Wall and opening**

Non-combustible materials shall be used for exterior walls within 3m from the site boundary on the 1st floor and within 5m on the 2nd floor and above. In addition, non-combustible fittings (FD-30) shall be installed at the opening.

### **3.12 Site planning and access by fire services**

#### **3.12.1 General**

- 1) The purpose of this Article is to ensure access to site and buildings necessary for firefighting and rescue operations in buildings.
- 2) The target building shall be a Level-3 and Level-4 building with a height of 20m or more and a total floor area 10,000 m<sup>2</sup> or more.

#### **3.12.2 Fire truck access**

The Fire Truck Access shall be applied of all of the following items.

- 1) The site shall be served with 6 m wide road for fire engine access necessary for firefighting activities.
- 2) The width of the road in the site shall be at least 4 m, and corners shall have a turning radius of 9 m for fire engines or equivalent corner cuts.
- 3) Clearance of 4.5 m (below the girders) shall be ensured for the premises road and entrance gate.
- 4) Depending on the purpose, scale, and height of the building, space for fire fighting activities shall be secured as Annex 5.

#### **3.12.3 Access to FDC**

The Access to FDC shall be applied of all of the following items.

- 1) The Breeching Inlet/Fire Department Connection (FDC) shall be installed near the gate so that fire trucks can connect water hoses.
- 2) If it is difficult to install FDC near the gate, it should be installed within 18 meters of the road where fire trucks can approach.
- 3) The connect outlet shall be located at a height of 1.2 m above the ground.

#### **3.12.4 Fire water reservoir**

The Fire Water Reservoir shall be applied of the following items.

- 1) On the premises, a fire water reservoir shall be set up separately from the fire hydrant and sprinkler firefighting water tank.
- 2) Swimming pools, landscaping ponds, rainwater storage tanks, etc. may be used.
- 3) Both underground tanks and above-ground ponds should be marked as "Fire Water Reservoir (capacity: m<sup>3</sup>)" in their water intake locations.
- 4) The amount of water stored shall be determined separately according to the scale of the facility.

#### **3.12.5 Firemen's access door**

The Firemen's Access Door shall be applied of all of the following items.

- 1) It is set up for the purpose of entering the building by firefighters using ladder trucks for fire extinguishing and rescue activities in the event of a fire.
- 2) It should be installed on 3 or more floors in the part of the building but lower than 20 m.

- 3) Firemen's access door shall be spaced 40 m or less on the outer wall surface (10 m or less at both ends).
- 4) The structure of the firemen's access door is as follows.
  - a) Balconies are provided with width of 4 m or more, depth of 1 m or more, handrails of 1.1 m or more.
  - b) Entrance door is wide of 75cm, height of 1.2m or more from the balcony.
  - c) At the entrance, an inverted triangle (20 cm per side) display is provided with red reflective paint or Red Light with diameter 10cm or more.

### **3.12.6 Installation of emergency lifts**

#### **A. Emergency lift / Fire lift requirements**

- 1) Fire lifts shall be installed in buildings with a height of more than 24 m or more for the purpose of facilitating fire extinguishing and rescue activities by firefighters.
- 2) The required number of emergency lifts shall be at least 2 for height of 24 m or more in the building or underground of 9 m below or more.
- 3) One unit shall be installed at a height of 24 meters in apartment buildings, and two units shall be installed in buildings over 100 meters.
- 4) If there are two emergency lifts, one can be used for evacuation of disabled person (PWD).
- 5) The number of required emergency lift shall be one with a floor area of 1,500 m<sup>2</sup>, and another one emergency lift shall be added every 3,000 m<sup>2</sup>.

#### **B. Emergency lift structure**

Comply with Annex4.12. of this Rules.

## Annex 4: Fire protection and firefighting system

### [Electrical system]

#### 4.1 Exit lighting and Emergency lighting

##### 4.1.1 Exit lighting and Exit direction lighting

The installation and performance of the exit lighting and exit direction lighting shall be applied as follows.

- 1) Exit lighting shall be installed for the purpose of indicating to evacuees the direction of the exit route and the location of the Exit door.
- 2) Installation requirement
  - The installation shall be all type of buildings excluding Level-1 building and private residences..
  - At the installation site, Exit Direction Lighting indicating the evacuation route shall be installed in the corridor that serves as an Exit route from room, and Exit lighting shall be installed at the Exit door for Exit staircase and Exit to outside.
  - In the theater, Audience Lighting (evacuation exit direction lighting, aisle guidance lights, etc.) shall be installed to indicate the Exit direction at the audience seats.
  - Exit Direction Lighting shall be installed every 10 m and every corner in the Exit route. Exit lighting shall be installed on the upper part of the Exit door.
- 3) Performance requirements
  - The power supply shall be 120 min using LEDs by rechargeable battery or Generator power supply.
  - The luminance is proportional to the size of the Lighting panel and has a minimum of 5 candelas or more.
  - Display should be figures (pictograms, arrows) or letters (EXIT), and the coloring should be Green.
  - The device itself should have built-in indicators showing the power supply and charging status.
- 4) Exception
  - Exit Lighting is exempt from installation in small room with one door.

##### 4.1.2 Emergency lighting

The installation and performance of the emergency lighting shall be applied as follows.

- 1) Emergency lights should be installed to illuminate the route so that people can evacuate safely in the event of a power outage.
- 2) Installation requirement
  - The installation shall be all type of buildings excluding Level-1 building and private residences.
  - The installation place shall be the living room and the corridor, stairs, and other passages leading from the living room to the ground.
- 3) Performance requirements
  - The illuminance shall be at least 2 Lux on the floor surface and the lighting must be continuously illuminated for 120 min. by emergency power.
- 4) Exceptions
  - Nothing in particular

#### 4.2 Fire alarm and detectors

##### 4.2.1 Manual call point

The installation and performance of the manual call point (Fire Alarm) shall be applied as follows.

- 1) Purpose of installation
  - Manual Call Point or fire alarm bell shall be activated by person to press a button and notify the occurrence of a fire at an early stage.

- 2) Installation requirement
  - The installation shall be all type of buildings excluding Level-1 building and private residences..
- 3) Performance requirements
  - The device consists of a push button, a red indicator light, and a sound device.
  - When Automatic Fire Alarm equipment is installed, it is linked to the signal system.
  - The sound device shall be 85 bB (decibel) or more at a distance of 1 m.
  - The installation shall be 25m or less of horizontal distance from any point to one sound device.
- 4) Exceptions
  - Nothing in particular.

#### 4.2.2 Automatic fire alarm system

The installation and performance of the fire alarm system shall be applied as follows.

- 1) Purpose of installation
  - Automatic Fire Alarm System shall be installed for the purpose of automatically detecting heat, smoke and flame generated by fire and notifying at an early stage.
- 2) Installation requirement
  - The installation shall be all type of buildings excluding Level-1 building and private residences..
  - As a warning zone of every 500 m<sup>2</sup> or less of floor area shall be separated and displayed on monitoring panel, so that the fire occurrence area can be indicated.
  - The System shall be a detector, repeater, receiver, transmitter, indicator light, and sound device, and shall have the following required performance.
- 3) Detector requirement
  - Type of Detectors depending to be sensed, shall be selected appropriately from the purpose of the room, ceiling height, room temperature, airflow condition, etc.
    - a) Heat detector: In order to sense a constant temperature or a temperature rise rate, it shall be installed on the ceiling where equipment can be a source of fire.
    - b) Smoke Detector: In order to detects smoke generated by fire and reacts faster than heat detectors when the installation ceiling is high.
    - c) Flame Detector: In order to detects changes in infrared and ultraviolet rays of the flame and is used for spot detection or outdoor.
    - d) Other detectors: Gas leak detectors, current leak detectors, etc. shall be installed in the warning area.
  - The installation location should follow the characteristics of the detector in addition to those shown below.
 

|                  | Ceiling height $\leq 4\text{m}$ | Ceiling height $> 4\text{m}$ |
|------------------|---------------------------------|------------------------------|
| Heat detectors:  | 70m <sup>2</sup> per unit       | 35m <sup>2</sup> per unit    |
| Smoke detectors: | 150m <sup>2</sup> per unit      | 75m <sup>2</sup> per unit    |
  - If it is partitioned with a beam depth of 0.6 m or more from the mounting position, Detectors shall be installed in each compartment.
- 4) Transmitter requirement
  - The transmitter is a signal that the fire finder manually sends a signal to the receiver, and there are push-button transmitters and emergency telephones.
  - The transmitter shall be installed at walking distance of every 25 m or less.
  - An emergency bell (85dB) and a red light are installed integrally or vertically on the transmitter.
- 5) Receiver requirements
  - A receiver is a device that automatically notifies the person concerned of the occurrence of a fire and the warning zone when receiving a fire signal from an automatic detector or a manual push button.
  - Receivers are installed in places where managers are stationed at all times, such as disaster prevention centers, and sub-receivers are installed in guard rooms and security rooms.

### 4.3 Lightning protection system

The installation and performance of the lightning protection system shall be applied as follows.

- 1) Purpose of installation
  - Lightning rod shall be installed for the purpose of reducing the risk of damage to electrical equipment and fire occurrence due to lightning strikes by releasing electric current to the earth when a building is struck by lightning.
- 2) Installation requirement
  - A building with a tip height of 20 m or more including such as a rooftop advertising tower, an elevated water tank, or a workpiece.
  - Factories and warehouses that handle dangerous goods, Commercial facilities where people gather, Education facilities, Hospitals, and other similar use-facilities.
- 3) Performance requirements
  - The protruding needle is attached to the position where the building enters the protection range with a protection angle of 60 degrees or less. A metal conductor may be provided in a loop shape on the outer periphery of the building such as a ridge, an eaves tip or a parapet.
  - A pull-down conductor connects the protruding needle to the ground pole buried in the earth and protects the height up to 2.5 m from the ground with a non-metallic tube.
  - The grounding electrode shall be a steel rod (length 1.5 m or more, external diameter  $\phi 12$  mm or more) or steel plate (area 0.35 m<sup>2</sup> or more) and buried at a depth of 0.5 m or less underground. The ground resistance shall be 10  $\Omega$  or less.
  - In steel frame construction, the steel frame may be used as a lightning shield conductor.
- 4) Exceptions
  - Buildings within the protection range of other lightning protection facilities may omit individual lightning protection equipment.

### 4.4 Safety control center

#### 4.4.1 Safety control center

The installation and performance of the safety control center shall be applied as follows.

- 1) Purpose of installation
  - The Safety Control Center shall be maintained a comprehensive control panels for fire safety such as evacuation, alert and rescuer, firefighting in the facility, and to serve as a base for evacuation guidance and fire extinguishing activities in the event of a fire.
- 2) Installation requirement
  - All type of building of Level-3 and Level-4.
  - Buildings with a total floor area of 1,000 m<sup>2</sup> or more in basements
  - Auditorium or Assembly facilities where people gather with capacity of 200 people
- 3) Performance requirements
  - The Safety Control Center shall be located on the ground floor and staffed 24 hours a day by administrative staff or guards.
  - Install a comprehensive control panel for Automatic fire alarm equipment, check the warning zone in the event of a fire, and contact the person concerned.
  - Install operation panel of Mechanical smoke exhaust system, if system is installed.
  - Install operation panel for Emergency elevators, such as re-called system and telephone devices for elevator cargo.
  - Emergency Power System for operation panel of the emergency power supply.
  - Operation panels for other evacuation, warning, and firefighting equipment
  - Establish a communication device with the fire department.
- 4) Exceptions

- Nothing in particular

#### **4.4.2 Emergency power supply**

The installation and performance of the emergency power supply shall be applied as follows.

- 1) Purpose on installation
  - Emergency power supplies (standby power supplies) shall be installed for the purpose of continuous operation of evacuation and anti-extinguishing equipment when the regular power supply is cut off.
- 2) Installation requirement
  - It should be installed in all type of buildings of Level-3 and Level-4.
  - Buildings, such as theaters, shopping center, hotels and hospitals where people gather or stay and sleep with a total floor area 1,000 m<sup>2</sup> or more,
- 3) Performance requirements
  - Emergency power sources include battery-powered equipment or power generation facilities. Uptime should be 60min
  - The installation room should be a fire resistance structure FR-120, with a fire door FR-60 for opening.
  - Wiring to fire safety system and fire elevators from emergency power supply shall be fire prevention cable using heat-resistant electric cable (600V2 type). Laying cables in metal conduit-pipes, metal ducts or non-flammable ducts.
- 4) Exceptions
  - Nothing in particular

### **[Mechanical system]**

#### **4.5 Mechanical ventilation system**

The installation and performance of the mechanical ventilation system shall be applied as follows.

- 1) Purpose of installation
  - When natural ventilation is difficult or insufficient in a room, Mechanical ventilation equipment shall be installed to take in fresh air from outside.
- 2) Target of installation
  - In all level of buildings, install in rooms that have an unpleasant odor or generate heat, such as toilets, bathrooms, fire rooms, warehouses, rooms with many occupants, workshops, and factories.
- 3) Performance requirements
  - Ensure that the room air is ventilated at a rate of 0.5 times/hour or more in rooms in homes, etc., and 0.3 times/hour or more in other rooms.
  - Mechanical ventilation equipment is determined by considering the location conditions and the characteristics of the source.
- 4) Exceptions
  - None in particular.

#### **4.6 Exhaust smoke control system**

The installation and performance of the smoke control system shall be applied as follows.

- 1) Purpose of installation
  - Smoke Control System shall be installed for the purpose of discharging smoke generated by the fire to the outdoors and reducing the risk of evacuation and fire extinguishing activities.
- 2) Target of installation
  - The areas that should be installed include ante-room of Special Exit Staircase, lobby for Emergency Lift or access, and other area for evacuation and firefighting activities.
  - All type of buildings of Level-3 and Level-4.

- Basement floor or opening-less(non-window) floor with floor area 1,000m<sup>2</sup> or more.
- 3) Performance requirements
    - As a Smoke protection compartment, every 500 m<sup>2</sup> of floor area should be divided by a smokeproof drooping wall that protrudes 50 cm or more below the ceiling surface.
    - Smoke outlet shall be provided at a horizontal distance of 30m from each part of Smoke protection compartment.
    - Air Supply inlet shall be installed directly facing the outside air or with a air supply duct at a height of 1/2 or less of the ceiling height from the floor surface.
    - Self-closing dampers shall not be provided on exhaust and supply air ducts.
  - 4) Performance of smoke exhaust equipment
    - Ante-room for Special Exit Staircase, Emergency Lift access lobby: 240m<sup>3</sup>/min or more.
    - In case of using one lobby for the Special Exit Staircase and the Emergency Lift: 360m<sup>3</sup>/min or more.
    - Basement area: 300m<sup>3</sup>/min or more.
    - Areas other than the above shall be 120m<sup>3</sup>/min or more.
  - 5) Area of natural exhaust outlets
    - The exhaust outlet shall be provided with an exhaust fan having the above performance or a natural smoke exhaust outlet with a minimum of the following area.
    - Special evacuation staircase attached room, emergency elevator boarding and exiting lobby: 2m<sup>2</sup> or more.
    - In case of using one lobby for the Special Exit Staircase and the Emergency Lift: 3m<sup>2</sup> or more.
    - Areas other than those listed above are at least 1/50 of the floor area of the smoke protection compartment.
  - 6) Area of natural air supply inlet
    - The air supply inlet shall be provided with a supply fan having the above performance or an air supply inlet that directly faces the outside air of the following area or more.
    - Ante-room for Special Exit Staircase, Emergency Lift access lobby: 1m<sup>2</sup> or more.
    - In case of using one lobby for the Special Exit Staircase and the Emergency Lift: 1.5m<sup>2</sup> or more.
  - 7) Activation device installation
    - A manual start-up device shall be installed in each smoke protection compartment at a height of 1.5 m in a position that is easy to check in the event of a fire, together with an explanation board.
    - The automatic start-up device is activated by receiving the operation signal of the detector or sprinkler and is installed in combination with the manual activation device.
  - 8) Exceptions
    - When the area that is directly open to the outside air and meets the prescribed conditions.
    - Fixed special fire extinguishing equipment such as parking lots, electric rooms, boiler rooms, etc. are installed.
    - In parking lots, electric rooms, boiler rooms, etc., where fixed Special fire extinguishing system is installed

## 4.7 Pressurized smoke control system

The installation and performance of the pressurized smoke control system shall be applied as follows.

- 1) Purpose of installation
  - The pressurized smoke control system shall be installed for the purpose of minimizing the effects of heat and smoke from the outside by pressurizing the mechanical supply air in the rooms attached to the Special Exit staircases and in the lobby of Emergency Lift, etc., and to assist in evacuation and fire extinguishing activities.
  - In addition to the pressurized part, the Mechanical smoke control system in the previous section is provided, which enables "smoke protection" to supply air to the base and "smoke elimination" of other fire spaces.

- 2) Target of installation
  - Same area as the previous Article.
- 3) Performance requirements
  - Pressurized activity areas shall be set up at a horizontal distance of 50 m or less on each floor of the regulated building.
  - The area of operations shall have a floor area of 10 m<sup>2</sup> or more and the shape should not interfere with firefighting activities.
  - Pressurized smoke prevention system shall be equipped with a manual start-up device, a smoke vent, a flue gas passage and an emergency power supply, and shall be installed in accordance with the technical standards for smoke exhaust equipment specified in the specifications.
  - Establish communication devices with the Fire Control Center and the Central Monitoring Room.
- 4) Specifications of air supply device
  - The air supply inlet shall be located at least one place at the activity area, connected to the air intake duct, and automatic closure dampers shall not be installed.
  - The performance of the air supply device is as follows international code.
  - Manual start-up devices shall be provided at the air supply port and the smoke exhaust port of each smoke protection compartment. It can be activated remotely from the Fire Control Center.
- 5) Exceptions
  - Nothing in particular

## **[Firefighting systems]**

### **4.8 Portable fire extinguisher**

The installation and performance of the portable fire extinguisher shall be applied as follows.

- 1) Purpose of installation
  - In the event of a fire, a Portable Fire Extinguisher is for initial fire extinguishing by a resident using pressure radiating a fire extinguishing agent such as water, chemical powder or gas.
- 2) Installation requirement
  - It shall be installed in all buildings with a total floor area of 200 m<sup>2</sup> or more.
  - It shall be installed in all risk building of Type-3.
  - Powder fire extinguishers ( for A, B, C of general fire ), foam fire extinguishers (or B of oil-based fires), CO<sub>2</sub> fire extinguishers (for C of electrical fires), etc. are selected according to the characteristics of the fire according to the fire extinguishing agent.
  - CO<sub>2</sub> is toxic to the human body and should not be used in enclosed rooms or basements.
- 3) Performance requirements
  - Fire Extinguishers should be installed within a walking distance of 20 meters from any location, and Trolley-type fire extinguishers should be installed within 30 meters.
  - The effective area of one fire extinguisher shall be within 100 m<sup>2</sup> for Assembly and Commercial facilities, 150 m<sup>2</sup> for Office, Hospitals, Schools and 400m<sup>2</sup> for Factories and Warehouse, etc.
  - Since the injection time of the fire extinguisher is short, around 10sec, it should be removed quickly and easily removed and installed in a place where it can be transported.
- 4) Exception
  - If Indoor Fire Hydrant or Sprinkler system are installed, the capacity of Fire Extinguisher can be relaxed to 1/2 of the capacity unit number.



## 4.9 Fire hydrant system

### 4.9.1 Indoor fire hydrant system (IFH)

The installation and performance of the indoor fire hydrant shall be applied as follows.

- 1) Purpose of installation
  - Indoor Fire Hydrants shall be installed in the event of a fire and before the arrival of the fire brigade, for the purpose of extending the fire hose to release water and extinguish the fire.
- 2) Installation requirement
  - All type buildings excluding Level-1 building and individual residences.
  - Fire hydrants type-1 shall be installed in Factories and Warehouses, and Fire hydrants type-2 shall be installed in other buildings with the following specifications.
  - The effective area shall be a radius of 25 m for the Fire hydrant type-1 and 20 m for the Fire Hydrant type-2. All floor area of targeted building shall be covered by this effective area.
- 3) Performance requirements
  - The equipment configuration consists of a water source tank, a fire hydrant pump, piping, a fire hydrant box to house the hose / nozzle, or an integrated hose reel.
  - The fixture should have a red finish and be labeled as a fire hydrant in the roof.
  - Hydrant pumps shall be automatically discharged when the valve in the hydrant box is opened, according to Annex 4. item-4.

**Table 4.9.1 Type of fire hydrant and requirement**

|                          | Indoor fire hydrants                                      |                                                       | Outdoor fire hydrants                       |
|--------------------------|-----------------------------------------------------------|-------------------------------------------------------|---------------------------------------------|
|                          | Fire hydrant type 1                                       | Fire hydrant type 2                                   |                                             |
| Target buildings         | Factories, Warehouses, and buildings with dangerous goods | Commerce, Offices, Hospitals, Schools, Theaters, etc. | Total floor area $\geq$ 3,000m <sup>2</sup> |
| Scope                    | Radius $\leq$ 25m                                         | Radius $\leq$ 20m                                     | Radius $\leq$ 40m                           |
| Hose length / diameter   | L $\geq$ 30m / D $\geq$ $\varnothing$ 40mm                | L $\geq$ 25m / D $\geq$ $\varnothing$ 25mm            | L $\geq$ 20m / D 65A                        |
| Nozzle diameter          | D $\geq$ 50A                                              | D $\geq$ 40 mm                                        | D $\geq$ 65A                                |
| Piping diameter          | D $\geq$ 50mm                                             | D $\geq$ 40mm                                         | D $\geq$ 65 mm                              |
| Water discharge amount   | 130 L/min                                                 | 60 L/min                                              | 350 L/min                                   |
| Water discharge pressure | 0.17Mpa ~ 0.7Mpa                                          | $\geq$ 0.17Mpa                                        | $\geq$ 0.25Mpa                              |
| Pump discharge capacity  | $\geq$ 150L/min x N pcs                                   | $\geq$ 80L/min x N pcs                                | $\geq$ 350L/min x N pcs                     |
| Water source capacity    | 2. 6m <sup>3</sup> x N pcs                                | 1.2m <sup>3</sup> x N pcs                             | 7.0m <sup>3</sup> x N pcs                   |

- 4) Exception
  - Electrical rooms, machine rooms, chemical warehouses, etc. that are not suitable for extinguishing fires by water discharge can be installed with fire extinguishing equipment according to the situation.
  - Sprinkler equipment, packaged fire extinguishing equipment, and special fire extinguishing equipment are exempt from this Article.

### 4.9.2 Outdoor fire hydrant system (OFH)

The installation and performance of the outdoor fire hydrant system shall be applied as follows.

- 1) Purpose of Installation
  - Outdoor Fire Hydrant equipment shall be installed for use by residents and fire brigades in order to extinguish and prevent the spread of fire by releasing water from the outside.
- 2) Installation Requirement
  - All type of building with a total floor area of 3,000 m<sup>2</sup> or more,
  - The effective area shall be a radius of 40m, and this radius shall be installed so as to encompass the outer wall of the target building. For details, refer to Table 4.9.1
- 3) Performance requirements

- The equipment configuration consists of a water source tank, a fire pump, an outdoor fire hydrant and a hose box or an outdoor fire hydrant box in which they are integrated.
  - Fixtures must have a red finish and be labeled as an outdoor fire hydrant.
- 4) Exception
- Areas with sprinkler equipment installed as substitutes for outdoor fire hydrant equipment may be omitted with the consent of the authorities.

#### 4.9.3 Standpipe system (Dry-riser)

The installation and performance of the standpipe system shall be applied as follows.

- 1) Purpose of Installation  
Standpipe system or dry riser shall be installed for use by fire brigades to extinguish the fire with connection of fire engine to supply water in to fire water pipe..
- 2) Installation Requirement
  - A building with a height  $\geq 10\text{m}$  or total floor area of  $\geq 3,000\text{ m}^2$ .
  - Provide stand pipe with  $D \geq \phi 100\text{mm}$  for height  $< 30\text{m}$ , and  $D > \phi 150\text{mm}$  floor height  $\geq 30\text{m}$ .
- 3) Performance requirements
  - The size of each standpipe depends on both the amount and size of the hose line that may use at the same time and if there aren't any issue with dividing rooms into sections then the distance between the hose and water sources can indicate the amount/number of the standpipes by utilizing building area of each floor as a main.
  - Fixtures must have a red finish and be labeled as an Standpipe.
- 4) Exception
  - Areas with SPR equipment installed as substitutes for indoor fire hydrant equipment may be omitted with the consent of the authorities.

#### 4.9.4 Fire department connection (FDC)

The installation and performance of the FDC shall be applied as follows.

- When there need to supply fire water additionally for firefighting equipment, FDC shall be installed in a position easily accessible to the fire brigade, such as the front of the building, for the purpose of supplying water from the fire truck to help extinguish the fire.
- It is installed with 2 or 4 connections and within a height of 1.2 m from ground level.

### 4.10 Sprinkler system

The installation and performance of the sprinkler system shall be applied as follows.

- 1) Purpose of installation
  - Sprinkler equipment is installed for the purpose of extinguishing the fire by automatically spraying a shower when the water discharge head installed on the ceiling of the building detects the heat of the fire or smoke, cooling it, and extinguishing the fire.
- 2) Installation requirement
  - A building with a total floor area of  $5,000\text{ m}^2$  or more,
  - A building with a total floor area of  $1,000\text{ m}^2$  and a height of  $20\text{ m}$  or more,
  - Floor on building height  $30\text{m}$  or more.
  - Rack-type warehouse with a ceiling height of  $8\text{m}$  or more and a total floor area  $1,500\text{ m}^2$  or more, with install rack-type sprinkler on rack.
- 3) Performance requirements
  - The facility configuration consists of a sprinkler head, a pressurized water supply device (fire hydrant pump), a dedicated water source, a running water detection device, an automatic alarm device, a water outlet, a terminal test valve, and piping.
- 4) Type of sprinklers

- The closed sprinkler is provided with a closed head with a heat-sensitive body, and there are wet type in which pressurized water is filled in the pipe, and an empty dry type and a pre-actuated type in the pipe.
- The open sprinkler installs an open head without a heat-sensitive body, and when the ceiling is high such as a theater, it is sprinkled in conjunction with a fire detector or the like to sprinkle water all at once.
- The head and installation location are selected appropriate type from following Table 4.10.1.
- Different types of heads shall not be installed in the same compartment.

**Table 4.10.1: Features of sprinkler heads and installation locations**

| <b>Type</b>          |                        | <b>Performance</b>                                                                                                                                                                                                                                                                                                 | <b>Installation</b>                                                                                                                                                                                              |
|----------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Closed               | Standard Type          | <ul style="list-style-type: none"> <li>• One sensitivity type, effective watering radius of 2.3 m or more, and water discharge amount is 80 L/min or more.</li> <li>• Uniformly disperse pressurized water on a circle centered on the axial center of the SPR head.</li> </ul>                                    | <ul style="list-style-type: none"> <li>• General fireproof objects</li> <li>• Underground mall, basement</li> <li>• Rack-type warehouse</li> <li>• Designated combustible material storage facilities</li> </ul> |
|                      | High-sensitivity type  | <ul style="list-style-type: none"> <li>• Standard type with one sensitivity type, effective watering radius of 2.6 m or more, water discharge amount 80 L/min or more.</li> <li>• It can detect fire at an early stage and sprinkle water over a wide area.</li> </ul>                                             | <ul style="list-style-type: none"> <li>• General fireproof objects</li> <li>• Underground mall, basement</li> <li>• Designated combustible material storage facilities</li> </ul>                                |
|                      | Small compartment type | <ul style="list-style-type: none"> <li>• There is one sensitivity type and the amount of water released 50 L/min or more.</li> <li>• The amount of water discharged is smaller than that of the standard type, but the sprinkling angle is large, and there is a sprinkling effect on the wall surface.</li> </ul> | <ul style="list-style-type: none"> <li>• Hotels, apartment buildings</li> <li>• Hospitals, nursing homes,</li> <li>• Accommodation rooms, hospital beds, etc.</li> </ul>                                         |
|                      | Sidewall type          | <ul style="list-style-type: none"> <li>• There is one sensitivity type, and the amount of water discharge 80L/min or more.</li> <li>• Uniformly disperse pressurized water on a semicircle centered on the axial center of the sprinkler head.</li> </ul>                                                          | <ul style="list-style-type: none"> <li>• ditto</li> </ul>                                                                                                                                                        |
| Open type            |                        | <ul style="list-style-type: none"> <li>• There is no heat-sensitive body, and the amount of water discharged <math>\geq 80</math> L/min.</li> <li>• The head is always open, installed on dry piping, and can be used to release water simultaneously with a detector or manually.</li> </ul>                      | <ul style="list-style-type: none"> <li>• Theater stage</li> <li>• Warehouse with high ceilings</li> </ul>                                                                                                        |
| Water discharge type |                        | <ul style="list-style-type: none"> <li>• suitable for facilities with high ceilings;</li> </ul>                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>• Building with a ceiling height of 10 m and over</li> </ul>                                                                                                              |

| Type | Performance                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Installation                                                                                                                                                                 |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      | <ul style="list-style-type: none"> <li>The water discharge range is fixed with a fixed head.</li> <li>The water discharge range can be changed by the movable head.</li> <li>The effective water discharge range of the large head 20 m2 or more, and the sprinkling density is 10 L/min or more. per 1 m2.</li> <li>The effective water discharge range of the small head 20 m2 or more, and the sprinkling density is 5L/min or more. per 1 m2.</li> </ul> | <ul style="list-style-type: none"> <li>Ceiling height 6m and over at Shopping center, Mall, Mall, etc.</li> <li>Ceiling height 6m or more in the underground mall</li> </ul> |

#### 5) Display temperature

- The display temperature (t) of the sprinkler head is selected according to the maximum temperature (T) around the mounting location.

**Table 4.10.2: Sprinkler head display temperature**

| Sprinkler head display temperature (t)             | Maximum ambient temperature (T) at the installation point |
|----------------------------------------------------|-----------------------------------------------------------|
| $t < 79^{\circ}\text{C}$                           | $T < 39^{\circ}\text{C}$                                  |
| $79^{\circ}\text{C} \leq t < 121^{\circ}\text{C}$  | $39^{\circ}\text{C} \leq T < 64^{\circ}\text{C}$          |
| $121^{\circ}\text{C} \leq t < 162^{\circ}\text{C}$ | $64^{\circ}\text{C} \leq T < 106^{\circ}\text{C}$         |
| $t \geq 162^{\circ}\text{C}$                       | $T \geq 106^{\circ}\text{C}$                              |

#### 6) Installation intervals

- The Sprinkler head should be installed within the following intervals to cover the target range.

**Table 4.10.3: Target buildings**

| Target buildings                                  | Effective radius | Head spacing | Effective area/1 piece |
|---------------------------------------------------|------------------|--------------|------------------------|
| Fireproof Buildings                               | 2.3m             | 3.25m        | 10.56m <sup>2</sup>    |
| Non-fireproof buildings                           | 2.1m             | 2.97m        | 8.82m <sup>2</sup>     |
| Stage, Underground floor, Dangerous goods storage | 1.7m             | 2.40m        | 5.76m <sup>2</sup>     |

- The sprinkler head shall be arranged that obstruct water sprinkling cannot be formed by partition walls, beams, air conditioning ducts, etc.

#### 7) Exceptions

- The areas with less risk of fire are not installed, such as stairs, toilets, bathrooms, etc.
- Places where there is a risk of collateral damage, Electric rooms, communication equipment rooms, operating rooms, X-ray rooms, etc.
- Places where effects cannot be expected; Places with air currents, places with ceiling height of 8 m or more such as theaters and warehouses
- Fire compartment with 1 hour fire rating (FR-60) divided into walls and floors: compartment of floor area of 200m2 on building height of 20m or more.

## 4.11 Fire pump system

### 4.11.1 Fire pump system

The installation and performance of the fire pump system shall be applied as follows.

- 1) Purpose of installation
  - Fire pumps shall be installed for the purpose of supplying water at a predetermined pressure and amount of water to indoor and outdoor fire hydrants, sprinklers, etc.
- 2) Installation requirement
  - The Pump shall be installed a pressurized Jorkey Pump, an Electric Pump and an Engine Pump as standby pump.
  - The structure of the fire pump room shall be provided by a fire resistance wall FR-120 and a fire door FR-60.
- 3) Performance requirements
  - The Jorkey pump pressurizes the inside of the pipe, and when a fire breaks out, the Fire Hydrant's valve is opened and the pressure drops, and the Electric pump automatically starts. When the pressure drops due to the opening of other fire hydrants or a power failure, the Engine pump is automatically activated.
- 4) Exception
  - Nothing in particular

### 4.11.2 Fire water reservoir

The installation and performance of the fire water reservoir shall be applied as follows.

- 1) Purpose of installation
  - A large amount of water necessary to extinguish a fire shall be secured on the premises or in the surrounding area and installed for the purpose of striving for early extinguishing the fire. This reservoir is provided separately from fire water tanks installed in Fire Hydrant or sprinkler equipment.
- 2) Installation requirement
  - Fire water reservoir shall be installed in buildings with a site area of 20,000 m<sup>2</sup> or more and a total floor area of 10,000 m<sup>2</sup> or a building of 30 m or more.
- 3) Performance requirements
  - As for the amount of water, 20 m<sup>3</sup> is stored every 5,000 m<sup>2</sup> of total floor area (minimum 50m<sup>3</sup>).
  - Fire water reservoir shall be allowed fire engines to approach within 2 meters and the sign says "Fire Water Reservoir".
  - The structure shall be a water tank, swimming pool, pond, river, etc., and water exceeding the prescribed amount can be always obtained.
- 4) Exception
  - If the Fire water reservoir maintained and managed in common exist within 100m, this may be used as fire extinguishing water.

## 4.12 Emergency lift

### 4.12.1 Emergency lift

The installation and performance of the emergency lift to be installed in buildings shall be applied as follows.

- 1) Purpose of installation
  - Emergency elevators is installed to use as ordinary elevators, and in the event of a fire, the fire brigade use for firefighting and rescue assisting evacuees to the fire floor where the ladder truck cannot reach.
- 2) Installation requirement
  - All type of buildings of Level-3 and Level-4 building
  - The arrangement of the emergency lift is such that it can be reached from the door of the emergency lift to each part of the building in 60 meters.
  - One unit shall be installed up to 1,500 m<sup>2</sup> on floors of a height of 30 m or more, and one additional unit shall be installed every 3,000 m<sup>2</sup> if it exceeds 1,500 m<sup>2</sup>.
  - When two or more units are installed, they should be arranged so that evacuation in two directions can be performed without being grouped in one place.

**3) Anteroom or balcony**

- On the stop-floor, a Anteroom or balcony of 15 m<sup>2</sup> or more shall be provided effective for evacuation and fire extinguishing activities.
- The Anteroom shall be equipped with pressurized smoke exhaust equipment and shall be partitioned by a fireproof wall and a fire door, including an evacuation staircase.
- The lobby shall be equipped with indoor fire hydrants, water vents for connecting water pipes, emergency outlets, and emergency telephones.
- In the event of a fire, the emergency elevator basket can be recalled to the evacuation floor or to the upper and lower floors of the evacuation floor from the boarding lobby or disaster prevention center.
- The Cart shall have a floor area of 2.7 m<sup>2</sup> (17 seater), an operating speed of 60 m/min or more with a standby power supply.
- Other provisions on installation and operations shall be in accordance with the general elevators guidelines.

**4) Exception**

- Buildings with a height of 20 m or more are less than four floors or Fire resistance compartment of 200 m<sup>2</sup> or less can be excluded.

## Annex 5: Additional requirements by type of buildings

### 5.1 Requirements of high-rise and large Building.

#### 5.1.1 Target of buildings

This provisions shall be applied all type of Level-3 and Level-4 buildings..

#### 5.1.2 General requirement

##### A Building requirements

- 1) Fire resistance rating:

**Table 5.1.1: Fire resistance rating of major structural parts of high-rise buildings.**

| Floor level from top of building                   | Columns and beams | Floors and walls |
|----------------------------------------------------|-------------------|------------------|
| Top floor to 4th floor below                       | 1 hour            | 1 hour           |
| 5th floor from top to 14 <sup>th</sup> floor below | 2 hours           | 2 hours          |
| 15th floor from top to ground floor                | 3 hours           | 2 hours          |

- 2) Fire Compartment:
  - Building with height of 30m or more for preventing horizontal fire spread, and a fire compartment is required for every 1,000 m<sup>2</sup> or less floor area when installing sprinkler equipment.
  - Building with height of 30m, a fire prevention floor area is required for with sprinkler equipment (3,000 m<sup>2</sup> or less) and no sprinkler equipment (1,500 m<sup>2</sup> or less).
- 3) Fire Staircase:
  - Buildings with 5 stories or more
- 4) Special Fire Staircase with ante-room:
  - Installed at building with height of 30m.
  - Building of 15 stories or more shall be provided two or more Special Fire Staircases.
- 5) Fire Lift/Elevator:
  - Installed in high-rise buildings with a height of 30m or more.

##### B. Firefighting equipment

- 1) Sprinkler System:
  - Install on all floor of the 11th floor or higher.
  - Install in buildings of a certain scale or larger with number of unfamiliar users.
- 2) Indoor Fire Hydrant Indoor:
  - Install in buildings with a total floor area 3,000 m<sup>2</sup> or more on the first and second floors.
- 3) Announce facility:
  - Capacity 500 person or more,
  - Install in all buildings with 11 floors or more.
- 4) Fire water reservoir:
  - Buildings with a site area of 20,000 m<sup>2</sup> or more and a floor area 15,000 m<sup>2</sup> or more.
  - Install in buildings with a height of 30m and a total floor area of 25,000 m<sup>2</sup> or more.
- 5) Dry riser connecting water pipes:
  - Install in building of 7 stories or more.
- 6) Emergency outlets standby power:
  - Installed in buildings with 11 stories or more.
- 7) Comprehensive control panel:
  - Buildings with a total floor area of 50,000 m<sup>2</sup> or more
  - Install in buildings with 15 floors or higher or more and a total floor area of 30,000 m<sup>2</sup> or more.
- 8) Automatic fire alarm system

- Install in buildings with a total floor area of 300 m<sup>2</sup> or more
- 9) Smoke ventilation system
  - Buildings with 11 floors or higher, or in specific buildings
- 10) Fire Control Center
  - Install in a building with a height of 30 m.
  - The Center has a floor area of 20 m<sup>2</sup> or more and shall be a fire-resistant structure as a base of rescue and firefighting.

## 5.2 Requirement by type of occupancy

### 5.2.1 PG-1 : Residential, apartment, condominium

#### 5.2.1.1 General features

A facility where several dwelling units are gathered for the purpose of long-term residence.

#### 5.2.1.2 Fire extinct equipment

- (1) Fire extinguisher
  - It shall be installed buildings with total floor area of 150 m<sup>2</sup> or more.
  - It shall be installed on basements, windowless floors, and floors with a floor area of 50 m<sup>2</sup> or more.
- (2) Indoor fire hydrant equipment
  - It shall be installed buildings with the total floor area shall be 700 m<sup>2</sup> or more.
  - It shall be installed on the basement, windowless, 4th or higher floors, and with a floor area of 150 m<sup>2</sup> or more.
- (3) Sprinkler Equipment
  - It shall be installed on all floors of the 11th floor or higher.
- (4) Fire suppression systems
  - It shall be installed in rooms with a floor area of 200 m<sup>2</sup> or more, such as a power receiving and transforming room, a generator room, and a boiler room.
- (5) Outdoor fire hydrant
  - It shall be installed in buildings with a total floor area of 3,000 m<sup>2</sup> or more on the first and second floors.

#### 5.2.1.3 Alarm equipment

- (1) Automatic fire alarm system
  - It shall be installed in buildings with a total floor area 500 m<sup>2</sup> or more.
  - Basement, windowless floor, or floor area 300m<sup>2</sup> or more
  - Install on all floors above the 11th floor
- (2) Emergency Alert System
  - Emergency bells shall be installed facilities with a capacity of 50 persons or more.
  - Public address equipment and emergency bells installed in building with a capacity of 800 persons or more.
  - It shall be installed on 11 floors or more excluding the basement.

#### 5.2.1.4 Equipment necessary for evacuation and firefighting

- (1) Exit lightings, emergency lightings.
  - Install in all buildings.
- (2) Fire water reservoir
  - It shall be installed in a facility with a site area of 20,000 m<sup>2</sup> or more and a total floor area of 5,000 m<sup>2</sup> or more on the first and second floors
  - It shall be installed in a facility with a height of 30m and a total floor area of 25,000 m<sup>2</sup> or more.
- (3) Connected sprinkler system



- It shall be installed in facilities with a total floor area of 700 m<sup>2</sup> or more.
- (4) Dry riser
  - It shall be installed in facilities with 7 floors or more.
  - It shall be installed in facilities with 5 floors or more and a total floor area of 6,000 m<sup>2</sup> or more.
  - Install a water outlet on the rooftop.
- (5) Emergency outlet
  - Buildings with 11 or more floors should be installed on all floors.
- (6) Stand-by power supply
  - It shall be installed on the 11th floor or higher and with a total floor area of 3 000 m<sup>2</sup> or more.
  - Installation on facilities with 7 floors or more and a total floor area of 6,000 m<sup>2</sup> or more.
- (7) Comprehensive operation panel
  - Facility with a total floor area of 50,000 m<sup>2</sup> or more.
  - 15 floors or more with a total floor area 30,000m<sup>2</sup> or more.
- (8) Fire Control Center
  - Total floor area 50,000m<sup>2</sup> or more.

## **5.2.2 PG-2. Hotel, hostel, dormitory**

### **5.2.2.1 General features**

A facility with several bedrooms for short-term lodging by users

### **5.2.2.2 Fire extinguishing equipment**

- (1) Fire extinguisher
  - It shall be installed in a total floor area 150 m<sup>2</sup> or more.
  - It shall be installed on basements, windowless floors, three or more floors, and on floor areas 50 m<sup>2</sup> or more.
- (2) Indoor fire hydrant equipment
  - It shall be installed in a total floor area of 700 m<sup>2</sup> or more.
  - It shall be installed on basements, windowless, four or more floors, and at least floor area of 150 m<sup>2</sup> or more.
- (3) Sprinkler Equipment
  - It shall be installed on two or more floors with a total floor area of 6,000 square meters.
  - It shall be installed on a basement floor or a windowless floor with a floor area of 1,000 m<sup>2</sup> or more.
  - It shall be installed on floors between 4 and 10 floors, and on floors with a floor area of 1,500 m<sup>2</sup> or more.
  - It shall be installed on all floors above the 11th floor.
- (4) Fire suppression systems
  - It shall be installed in a receiving and transforming room, generator room, boiler room, etc. with a floor area 200 m<sup>2</sup> or more.
- (5) Outdoor fire hydrant equipment
  - It shall be installed in buildings with a total floor area of 3,000 m<sup>2</sup> or more on the first and second floors.

### **5.2.2.3 Alarm equipment**

- (1) Automatic fire alarm system
  - Install in all buildings.
- (2) Emergency alarm equipment
  - Emergency bells shall be installed in facilities with a capacity of 50 or more
  - Broadcasting equipment and emergency bells/sirens installed with a capacity of 300 or more people.

- It shall be installed in buildings with 11 floors or more.

#### **5.2.2.4 Equipment necessary for evacuation and firefighting activities**

- (1) Exit lighting and emergency lighting
  - Install in all buildings.
- (2) Fire water reservoir
  - It shall be installed in a facility with a site area of 20,000 m<sup>2</sup> or more. and a total floor area of 5,000 m<sup>2</sup> or more on the first and second floors.
  - It shall be installed in a facility with a height of 30 m and a total floor area of 25,000 m<sup>2</sup> or more.
- (3) Connected sprinkler system
  - It shall be installed in facilities with a total floor area of 700 m<sup>2</sup> or more.
- (4) Dry riser
  - Install in facilities with 7 or more floors
  - It shall be installed in buildings with 5 or more floors and a total floor area of 6,000 m<sup>2</sup> or more.
  - Install a water outlet on the rooftop.
- (5) Emergency outlet
  - Install on floors 11 or higher
- (6) Stand-by power supply
  - The facility, which has a total floor area of 1000 m<sup>2</sup> or more. shall be equipped with in-house power generation facilities.
- (7) Comprehensive operation panel
  - It shall be installed in a building with a total floor area of 50,000 m<sup>2</sup> or more.
  - It shall be installed in buildings with 11 floors or more total floor area of 10,000 m<sup>2</sup> or more.
  - It shall be installed in buildings with 5 floors or more and a total floor area of 20,000 m<sup>2</sup> or more.
- (8) Disaster Prevention Center
  - It shall be installed in a building with a total floor area of 50,000 m<sup>2</sup> or more.
  - It shall be installed in buildings with 11 floors or more and a total floor area of 10,000m<sup>2</sup> or more.
  - It shall be installed in buildings with 5 floors or more and a total floor area of 20,000 m<sup>2</sup> or more.

### **5.2.3 PG-3. Hospital, nursing home**

#### **5.2.3.1 General features**

A facility consisting of several patient room or single rooms, generally used by occupant has mobility difficulties.

#### **5.2.3.2 Fire extinguishing equipment**

- (1) Fire extinguishers and large fire extinguishers
  - It shall be installed on all floors.
- (2) Indoor fire hydrant equipment
  - The total floor area shall be 700 m<sup>2</sup> or more.
  - It shall be installed on basements, windowless floors, and floors with a floor area of 150 m<sup>2</sup> or more.
- (3) Sprinkler Equipment
  - Floor area 3,000m<sup>2</sup> or more
  - It shall be installed on all floors with 11th or more, excluding basements.
  - Install hazardous goods in areas where more than the specified quantity shall be stored.
- (4) Fire suppression systems
  - It shall be installed in rooms with a floor area of 200 m<sup>2</sup> or more, such as a receiving and transforming room, a generator room, and a boiler room.
- (5) Outdoor fire hydrant equipment
  - It shall be installed in buildings with a total floor area of 3000 m<sup>2</sup> or more on the first and second

floors.

#### **5.2.3.3 Alarm equipment**

- (1) Automatic fire alarm system
  - It shall be installed on all floors.
- (2) Emergency alert equipment
  - Emergency bells shall be installed in buildings with a capacity of 20 persons or more.
  - Broadcasting equipment and emergency bells shall be installed in building with a capacity of 300 persons or more.

#### **5.2.3.4 Equipment necessary for evacuation and firefighting**

- (1) Exit lighting and emergency lighting
  - It shall be installed on all floors.
- (2) Fire water reservoir
  - The building with a site area 20,000 m<sup>2</sup> or more and with a total floor area of 5,000 m<sup>2</sup> or more. on first and second floors.
  - It shall be installed in a facility with a height of 30m and a total floor area of 25,000 m<sup>2</sup> or more.
- (3) Smoke exhaust equipment (none)
- (4) Connected sprinkler system
  - It shall be installed in buildings with a total floor area of 700 m<sup>2</sup> or more.
- (5) Articulated water pipe
  - Install in buildings with 7 floors or more.
  - It shall be installed in buildings with 5 floors or more and a total floor area of 6,000 m<sup>2</sup> or more.
- (6) Emergency outlet
  - It shall be installed on all floors of the 11th floor or higher.
- (7) Stand-by power supply
  - The building with a total floor area of 1,000 m<sup>2</sup> or more shall be equipped with private power generation facilities.
- (8) Comprehensive operation panel
  - It shall be installed in a building with a total floor area of 50,000 m<sup>2</sup> or more.
  - It shall be installed in buildings with 11 floors or more and a total floor area of 10,000 m<sup>2</sup> or more.
  - A building with more than 5 floors and a total floor area of 20,000 m<sup>2</sup> or more.
- (9) Fire Control Center
  - It shall be installed in a building with a total floor area of 50,000 m<sup>2</sup> or more.
  - It shall be installed in buildings with 11 floors or more and a total floor area of 10,000 m<sup>2</sup> or more.
  - It shall be installed in buildings with 5 floors or more and a total floor area of 20,000 m<sup>2</sup> or more.

### **5.2.4 PG-4. Educational: school, university, training facility**

#### **5.2.4.1 General features**

A facility where students gather at a fixed time.

#### **5.2.4.2 Fire extinguishing equipment**

- (1) Fire extinguisher
  - The total floor area shall be 300m<sup>2</sup> or more.
  - It shall be installed on basements, windowless floors, and floors with a floor area of 50 m<sup>2</sup> or more.
- (2) Indoor fire hydrant equipment
  - The total floor area shall be 700 m<sup>2</sup> or more.
  - It shall be installed on basements, windowless floors, and floors with a floor area of 150 m<sup>2</sup> or more.

(3) Sprinkler Equipment

- It shall be installed on all floors above the 11th floor.

(4) Special spray fire extinguishing equipment

- It shall be installed in rooms with a floor area of 200 m<sup>2</sup> or more., such as a receiving and transforming room, a generator room, and a boiler room.

(5) Outdoor fire hydrant equipment

- It shall be installed in buildings with a total floor area of 9,000 m<sup>2</sup> or more on the first and second floors.

**5.2.4.3 Alarm equipment**

(1) Automatic fire alarm system

- It shall be installed in a total floor area 500m<sup>2</sup> or more.
- It shall be installed in the basement and windowless floors with a floor area 300 m<sup>2</sup> or more.
- It shall be installed on the 11th floor or higher.

(2) Emergency alarm equipment

- Emergency bells shall be installed in buildings with a capacity more than 50 people.
- Public address equipment and emergency bells shall be installed in buildings with a capacity 800 people or more.
- It shall be installed on all floors of the 11th floor or higher.

**5.2.4.4 Equipment necessary for evacuation and firefighting activities**

(1) Exit lighting and emergency lighting

- It shall be installed in a total floor area 300m<sup>2</sup> or more.
- It shall be installed in buildings with 11th floors or more.

(2) Fire water reservoir

- The site area 20,000 m<sup>2</sup> or more. shall be installed in a building with a total floor area of 5,000 m<sup>2</sup> or more on the first and second floors.
- It shall be installed in a building with a height of 30m and a total floor area of 25,000 m<sup>2</sup> or more.

(3) Smoke exhaust equipment (separately)

(4) Connected sprinkler system

- The total floor area shall be 700 m<sup>2</sup> or more.

(5) Dry riser

- It shall be installed in buildings with 7 floor or more.
- It shall be installed on building with 5 floor or more and a total floor area of 6,000 m<sup>2</sup> or more.

(6) Emergency socket outlet

- It shall be located on a floor with a floor area of 1,000 m<sup>2</sup> or more.
- Install on all floors of 11th floor or higher

(7) Stand-by power supply

- It shall be installed in buildings with 11 floors or more and a total floor area of 3,000 m<sup>2</sup> or more.
- It shall be installed in buildings with a total floor area of 6,000 m<sup>2</sup> or more or 7 floors or more.

(8) Comprehensive operation panel

- School with a total floor area of 50,000m<sup>2</sup> or more.

(9) Disaster Prevention Center

- School with a total floor area 50,000m<sup>2</sup> or more.

## **5.2.5 PG-5. Office**

### **5.2.5.1 General features**

A facility where employees gather, with a general understanding of the situation inside the building.

### **5.2.5.2 Fire extinguishing equipment**

- (1) Fire extinguisher
  - The total floor area shall be 300m<sup>2</sup> or more.
  - It shall be installed on basements, windowless floors, and floors with a floor area of 50 m<sup>2</sup> or more.
- (2) Indoor fire hydrant equipment
  - The total floor area shall be 700 m<sup>2</sup> or more.
  - It shall be installed on basements, windowless floors, and floors with a floor area of 150 m<sup>2</sup> or more.
- (3) Sprinkler Equipment
  - Office with a total floor area 5,000m<sup>2</sup> or more
  - It shall be installed on all floors above the 11th floor.
- (4) Special spray fire extinguishing equipment
  - It shall be installed in rooms with a floor area of 200 m<sup>2</sup> or more., such as a receiving and transforming room, a generator room, and a boiler room.
- (5) Outdoor fire hydrant equipment
  - It shall be installed in buildings with a total floor area of 5,000 m<sup>2</sup> or more on the first and second floors.

### **5.2.5.3 Alarm equipment**

- (1) Automatic fire alarm system
  - Installation total floor area of 300m<sup>2</sup> or more.
  - Install on all stairs and evacuation routes
  - Install on basement and windowless floors with a floor area of 300m<sup>2</sup> or more.
  - It shall be installed on the 11th floor or higher.
- (2) Emergency alarm equipment
  - Emergency bells shall be installed capacity of 50 or more people.
  - Public address equipment with emergency bell accommodating 300 people
  - It shall be installed on the 11th floor or higher.

### **5.2.5.4 Evacuation and firefighting equipment**

- (1) Exit lighting and emergency lighting
  - It shall be installed in a total floor area 300m<sup>2</sup> or more.
  - It shall be installed in buildings with 11 floors or more.
- (2) Fire water reservoir
  - The site area 20,000 m<sup>2</sup> or more. shall be installed in a building with a total floor area of 5,000 m<sup>2</sup> or more on the first and second floors.
  - It shall be installed in a building with a height of 30m and a total floor area of 25,000 m<sup>2</sup> or more.
- (3) Smoke exhaust equipment (separately)
- (4) Connected sprinkler system
  - The total floor area shall be 700 m<sup>2</sup> or more.
- (6) Dry riser

- It shall be installed in buildings with 7 floor or more.
  - It shall be installed on building with 5 floor or more and a total floor area of 6,000 m2 or more.
- (7) Emergency socket outlet
- It shall be located on a floor with a floor area of 1,000 m2 or more.
  - Install on all floors of 11th floor or higher
- (8) Stand-by power supply
- It shall be installed in buildings with 11 floors or more and a total floor area of 3,000 m2 or more.
  - It shall be installed in buildings with a total floor area of 6,000 m2 or more. on 7 floors or more.
- (9) Comprehensive operation panel
- Office building with a total floor area of 30,000m2 or more.
- (10) Fire Control Center
- Office building with a total floor area 30,000m2 or more.

## **5.2.6 PG-6. Shop, mall, commercial facility**

### **5.2.6.1 General features**

A facility where an unspecified number of customers gather and form a crowd at time of emergency.

### **5.2.6.2 Fire extinguishing equipment**

- (1) Fire extinguisher
  - It shall be installed in buildings with total floor area of 150 m2 or more.
  - It shall be installed on basements, windowless floors, and floors with a floor area of 50 m2 or more.
- (2) Indoor fire hydrant equipment
  - The total floor area shall be 700 m2 or more.
  - It shall be installed on basements, windowless floors, and floors with a floor area of 150 m2 or more.
- (3) Sprinkler Equipment
  - The floor area of the second or higher floors 3,000 m2 or more.
  - Basement and windowless floors with floor area 1,000m2 or more.
  - Floor area of floors between 4th and 10th floors 1,000m2 or more.
  - All floors on 11th floor or higher.
- (4) Special spray fire extinguishing equipment
  - Floor area including receiving and transforming rooms, generator rooms, boiler rooms etc. 200m2 or more.
- (5) Outdoor fire hydrant equipment
  - It shall be installed in buildings with a total floor area of 3,000 m2 or more on the first and second floors.

### **5.2.6.3 Alarm equipment**

- (1) Automatic fire alarm system
  - Installation total floor area of 300m2 or more.
  - Install on all stairs and evacuation routes
  - Install on basement and windowless floors with a floor area of 300m2 or more.
  - It shall be installed on the 11th floor or higher.
- (2) Emergency alarm equipment
  - Emergency bells shall be installed capacity of 50 or more people.

- Public address equipment and emergency bell accommodating 300 people
- It shall be installed on the 11th floor or higher.

#### **5.2.6.4 Equipment necessary for evacuation and firefighting**

- (1) Exit lighting and emergency lighting
  - Install on all floors
- (2) Fire water reservoir
  - The site area 20,000 m<sup>2</sup> or more. shall be set up on a total floor area of 5,000 m<sup>2</sup> or more on the first and second floors.
  - It shall be installed on buildings with height of 30m or more and a total floor area 25,000 m<sup>2</sup> or more.
- (3) Smoke emission equipment
  - Basement, windowless floor area 1,000m<sup>2</sup> or more.
- (4) Connected sprinkler system
  - The total floor area shall be 700 m<sup>2</sup> or more.
  - Articulated water pipe
    - Install in facilities with 7 or more floors
    - It shall be installed on building with 5 floors or more and a total floor area of 6,000m<sup>2</sup> or more.
  - Emergency power outlet
    - Install on all floors above the 11th floor
  - Stand-by power supply
    - It shall be installed in a building with a total floor area 1,000 m<sup>2</sup> or more.
  - Comprehensive operation panel
    - It shall be installed in a building with a total floor area 50,000 m<sup>2</sup> or more.
    - It shall be installed in buildings with 11 floors or more and a total floor area of 10,000 m<sup>2</sup> or more.
    - It shall be installed in buildings with 5 floors or more and a total floor area of 20,000 m<sup>2</sup> or more.
  - Fire Control Center
    - It shall be installed in a building with a total floor area of 50,000 m<sup>2</sup> or more.
    - It shall be installed in buildings with 11 floors or more total floor area of 10,000 m<sup>2</sup> or more.
    - It shall be installed in buildings with 5 floors or more and a total floor area of 20,000 m<sup>2</sup> or more.

### **5.2.7 PG-7. Assembly, theater, auditorium**

#### **5.2.7.1 General features**

A gathering facility where people meet, and a facility that requires smooth evacuation at the time of emergency.

#### **5.2.7.2 Fire extinguishing equipment**

- (1) fire extinguisher
  - Floor area 150m<sup>2</sup> or more
  - Basement, windowless floor, or floor area of 3 or more floors 300m<sup>2</sup> or more
- (2) Indoor fire hydrant equipment
  - Total floor area: 500m<sup>2</sup> or more
  - Basement, windowless, or 4th floor or more facilities with a floor area of 100m<sup>2</sup> or more.
- (3) Sprinkler Equipment
  - Floor area of the stage part 300m<sup>2</sup> or more.
  - Two stories or more with a total floor area of 6,000 m<sup>2</sup> or more
  - Basement or windowless floors with a floor area of 1,000 m<sup>2</sup> or more
  - Floors between 4 and 10 floors, with a floor area of 1500 m<sup>2</sup> or more

- All floors with 11 floors or more excluding basements
- (4) Special spray fire extinguishing equipment
  - Floor area including receiving and transforming rooms, generator rooms, boiler rooms etc. 200m<sup>2</sup> or more.
- (5) Outdoor fire hydrant equipment
  - Total floor area of the first and second floors 3,000 m<sup>2</sup> or more (fireproof buildings: 9,000 m<sup>2</sup>)

#### **5.2.7.3 Alarm equipment**

- (1) Automatic fire alarm system
  - Total floor area: 300 m<sup>2</sup> or more
  - Specified one staircase fire prevention object / All
  - Basement or 2nd floor or more floor area 200 m<sup>2</sup> or more
  - Basement, windowless, or 3rd floor or more floor area 300 m<sup>2</sup> or more
  - All floors above the 11th floor
- (2) Emergency alarm equipment
  - Emergency bells can accommodate more than 50 people
  - Announce equipment and emergency bell has a capacity of 300 people or more
  - Install on the 11th floor or higher, or at least the third floor of the basement.

#### **5.2.7.4 Evacuation and firefighting equipment**

- (1) Exit lighting and emergency lighting
  - Install on all floors
- (2) Fire water reservoir
  - The site area 20,000 m<sup>2</sup> or more. shall be set up on a total floor area of 5,000 m<sup>2</sup> or more on the first and second floors.
  - It shall be installed height of 30 m and a total floor area 25,000 m<sup>2</sup> or more.
- (3) Smoke emission equipment
  - Floor area of the stage 500 m<sup>2</sup> or more
- (4) Connected sprinkler system
  - Total basement floor area 700 m<sup>2</sup> or more
- (5) Articulated water pipe
  - It shall be installed in buildings with 7 floors or more.
  - It shall be installed in buildings with 5 floors or more and a total floor area of 6,000 m<sup>2</sup> or more
- (6) Emergency socket-outlet
  - Install on the 11th floor or higher
- (7) Stand-by power supply
  - 11th floor or more and total floor area 3000m<sup>2</sup>
  - 7 floors or more and total floor area 6000m<sup>2</sup> or more.
- (8) Comprehensive operation panel
  - It shall be installed in a warehouse with a total floor area of 50,000 m<sup>2</sup> or more.
- (9) Disaster Prevention Center
  - To be installed in a warehouse with a total floor area of 50,000 m<sup>2</sup> or more.

### **5.2.8 PG-8 Industrial factory and storage**

#### **5.2.8.1 General features**

Production, processing, and storage facilities that handle a certain amount of hazardous materials and combustible materials

#### **5.2.8.2 Fire extinguishing equipment**

- (1) Fire extinguishers and large fire extinguishers



- It shall be installed total floor area of 150 square meters or more.
  - It shall be installed on basements, windowless floors, and buildings with floor area of 50 m<sup>2</sup> or more on three or more floors.
- (2) Indoor fire hydrant equipment
- It shall be installed in buildings with a total floor area of 700 m<sup>2</sup> or more.
  - It shall be installed on basements, windowless floors, four or more floors, and buildings with a floor area of 150 m<sup>2</sup> or more.
- (3) Sprinkler Equipment
- It shall be installed on all floors of the 11th floor or higher.
  - It shall be installed in a rack-type warehouse with a ceiling height of 10 m and a total floor area 700 m<sup>2</sup> or more.
  - Install hazardous goods in buildings that store more than the specified quantity.
- (4) Special spray fire extinguishing equipment
- Install in rooms with a floor area of 200 m<sup>2</sup> or more., such as a receiving and transforming room, generator room, and boiler room.
- (5) Outdoor fire hydrant equipment
- It shall be installed in buildings with a total floor area of 9,000 m<sup>2</sup> or more on the first and second floors.

#### **5.2.8.3 Alarm equipment**

- (1) Automatic fire alarm system
- It shall be installed in a warehouse with a total floor area 500 m<sup>2</sup> or more.
  - It shall be installed in a basement and windowless warehouse with a floor area of 300 m<sup>2</sup> or more.
- (2) Emergency alarm equipment
- Emergency bells shall be installed in warehouses with a capacity more than 50 people.
  - Broadcasting equipment and emergency bells shall be installed in buildings with 11 floors or higher.

#### **5.2.8.4 Equipment necessary for evacuation guidance and firefighting activities**

- (1) Exit lighting and emergency lighting
- It shall be installed in a warehouse on the 11th floor or higher.
- (2) Fire water reservoir
- The site area 20,000 m<sup>2</sup> or more. shall be set up in a warehouse with a total floor area of 5,000 m<sup>2</sup> or more on first and second floors.
- (3) Smoke exhaust equipment (none)
- (4) Connected sprinkler system
- It shall be installed in warehouses with a total floor area of 700 m<sup>2</sup> or more.
- (5) Articulated water pipe
- Install in facilities with 7 or more floors
  - It shall be installed in warehouses with five or more floors a total floor area of 6,000 square meters or more.
- (6) Emergency power outlet
- Install on the 11th floor or higher
- (7) Stand-by power supply
- Installed in buildings with 11 floors or more and a total floor area of 3,000 m<sup>2</sup> or more.
  - It shall be installed in buildings with 7 floors or more and a total floor area of 6000 m<sup>2</sup> or more.
- (8) Comprehensive operation panel
- Warehouse with a total floor area 50,000m<sup>2</sup> or more.
- (9) Disaster Prevention Center
- Warehouse with a total floor area of 50,000 m<sup>2</sup> or more.

## Annex 6: Controlled-buildings inspection

**Table 6.1: Regular and frequent inspections**

| No  | Inspections                                                                                              | Inspection list                                                | Regular inspection | Major inspection |
|-----|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------|------------------|
| 1   | Durability and strength inspections                                                                      | (1) Building extension, modification and improvement           | A                  | A                |
|     |                                                                                                          | (2) Changing of floor load                                     | A                  | A                |
|     |                                                                                                          | (3) Changing of building use                                   | A                  | A                |
|     |                                                                                                          | (4) Changing of building's materials and decoration components | A                  | A                |
|     |                                                                                                          | (4) Deterioration of buildings                                 | A                  | A                |
|     |                                                                                                          | (5) Destruction of building structures                         | A                  | A                |
|     |                                                                                                          | (6) Foundation settlements                                     | A                  | A                |
| 2   | Inspection of building system and equipment                                                              |                                                                |                    |                  |
| 2.1 | Utility systems                                                                                          | (1) Elevator systems                                           | A                  | AA               |
|     |                                                                                                          | (2) Escalator systems                                          | A                  | AA               |
|     |                                                                                                          | (3) Electrical systems                                         | A                  | AA               |
|     |                                                                                                          | (4) Air conditioning systems                                   | A                  | AA               |
| 2.2 | Environment and sanitary inspections                                                                     | (1) Water supply systems                                       | A                  | AA               |
|     |                                                                                                          | (2) Sewage and Wasted water treatment system                   | A                  | AA               |
|     |                                                                                                          | (3) Drainage systems                                           | A                  | AA               |
|     |                                                                                                          | (4) Waste disposal systems                                     | A                  | AA               |
|     |                                                                                                          | (5) Ventilation systems                                        | A                  | AA               |
|     |                                                                                                          | (6) Noise and air pollution control system                     | A                  | AA               |
| 2.3 | Inspection on Fire prevention and suppression                                                            | (1) Fire-exit stairs and fire escape                           | A                  | AA               |
|     |                                                                                                          | (2) Emergency signs and boards of emergency door               | A                  | AA               |
|     |                                                                                                          | (3) Smoke ventilation and control systems                      | A                  | AA               |
|     |                                                                                                          | (4) Emergency reserved power system                            | A                  | AA               |
|     |                                                                                                          | (5) Elevator fire safety systems                               | A                  | AA               |
|     |                                                                                                          | (6) Fire alarm systems                                         | A                  | AA               |
|     |                                                                                                          | (7) Fire suppression installation systems                      | A                  | AA               |
|     |                                                                                                          | (8) Sprinkler systems                                          | A                  | AA               |
|     |                                                                                                          | (9) Auto-fire extinguisher                                     | A                  | AA               |
|     |                                                                                                          | (10) Lightning protection system                               | A                  | AA               |
| 3   | Inspection on stability of system and other equipment of building for evacuating people in cases of fire | (1) Competences of fire emergency-exits and stairs             | A                  | AA               |
|     |                                                                                                          | (2) Competences of emergency sign and boards                   | A                  | AA               |
|     |                                                                                                          | (3) Competences of fire reporting systems                      | A                  | AA               |
| 4   | Safety management system inspections                                                                     | (1) Fire prevention and suppression plans                      | A                  | AA               |
|     |                                                                                                          | (2) Emergency evacuation drill plans                           | A                  | AA               |
|     |                                                                                                          | (3) Safety management system plans                             | A                  | AA               |
|     |                                                                                                          | (4) Management plan for building inspectors                    | A                  | AA               |

Notes:

- A : Inspection without equipment's capability test
- AA : Inspection with equipment's capability test

# Annex

## 16-1

# ບົດບັນທຶກກອງປະຊຸມ

ກ່ຽວກັບ

ວິທີການຮັບຮອງປຶ້ມຄູ່ມື, ບົດແນະນຳ ແລະ ແຜນແນວຄວາມຄິດພື້ນທີ່

ພາຍໃຕ້ການສຶກສາຄົ້ນຄວ້າໂດຍ

ໂຄງການສ້າງຂີດຄວາມສາມາດໃນການຄວບຄຸມ ແລະ ສົ່ງເສີມພັດທະນາຕົວເມືອງ  
(CDUDCP)

ກອງປະຊຸມເພື່ອຢັ້ງຢືນກ່ຽວກັບວິທີການຮັບຮອງເອົາສາມໝາກຜົນຂອງໂຄງການ i) ແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ, ii) ປຶ້ມຄູ່ມືວ່າດ້ວຍການຄຸ້ມຄອງການອອກອະນຸຍາດປຸກສ້າງໃນນະຄອນຫຼວງວຽງຈັນ ແລະ iii) ບົດແນະນຳກ່ຽວກັບການພັດທະນາຕົວເມືອງແບບມີສ່ວນຢູ່ນະຄອນຫຼວງວຽງຈັນ ເຊິ່ງສຶກສາຄົ້ນຄວ້າໂດຍ “ໂຄງການສ້າງຂີດຄວາມສາມາດໃນການຄວບຄຸມ ແລະ ສົ່ງເສີມພັດທະນາຕົວເມືອງ” (ຂຽນເປັນຕົວຫຍໍ້ໃນພາສາອັງກິດ “CDUDCP”) ເຊິ່ງໄດ້ຈັດຂຶ້ນ ຢູ່ ຫ້ອງປະຊຸມຂອງ ກຄຜ ໃນວັນທີ 17 ມິຖຸນາ 2024.

ອີງຕາມການນຳໃຊ້ບັນດາໝາກຜົນດັ່ງກ່າວ ແລະ ການແບ່ງຂັ້ນຄຸ້ມຄອງຂອງພາກລັດ, ກຄຜ ໄດ້ແນະນຳວິທີການຮັບຮອງບັນດາໝາກຜົນດັ່ງກ່າວດັ່ງຕໍ່ໄປນີ້:

1. ສາມາດຮັບຮອງເອົາແຜນແນວຄວາມຄິດພື້ນທີ່ຕົວແບບ ດ້ວຍຮູບແບບ ການເຊັນບົດບັນທຶກກອງປະຊຸມປຶກສາຫາລືຮ່ວມລະຫວ່າງ ກຄຜ, ສຍຂ ແລະ ພະແນກ ຍທຂ. ນວ.
2. ປຶ້ມຄູ່ມືວ່າດ້ວຍການຄຸ້ມຄອງການອອກອະນຸຍາດປຸກສ້າງໃນນະຄອນຫຼວງວຽງຈັນ ແລະ ບົດແນະນຳກ່ຽວກັບການສົ່ງເສີມການພັດທະນາຕົວເມືອງແບບມີສ່ວນຮ່ວມຢູ່ນະຄອນຫຼວງວຽງຈັນ ແມ່ນສາມາດຮັບຮອງ ໂດຍຫົວໜ້າພະແນກ ຍທຂ.ນວ ໂດຍພິຈາລະນາເຖິງຂອບເຂດການນຳໃຊ້ປຶ້ມຄູ່ມື ແລະ ບົດແນະນຳດັ່ງກ່າວແມ່ນກວມເອົາສະເພາະພື້ນທີ່ໃນນະຄອນຫຼວງວຽງຈັນ
3. ໃຫ້ຊ່ຽວຊານ JICA ປະສານສົມທົບກັບພະແນກ ຍທຂ. ນວ ສຳລັບວິທີການຮັບຮອງ.

ນະຄອນຫຼວງວຽງຈັນ, 17 ມິຖຸນາ 2024

Nippon Koei Urban Space Co., Ltd.

Minoru MATSUI

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Chief Specialist of International Urban  
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松井 稔

ກົມເຄຫາ ແລະ ຜັງເມືອງ, ກະຊວງ ໂຍທາທິ  
ການ ແລະ ຂົນສົ່ງ

ທ່ານ ນະລົງໄຊ ມິວາປະດິດ,  
ຮອງຫົວໜ້າ ກົມເຄຫາ ແລະ ຜັງເມືອງ,  
ກະຊວງ ໂຍທາທິການ ແລະ ຂົນສົ່ງ



# MINUTES OF MEETING

ON

**Officialization Methodology for Manual, Guideline and Area Concept Plan**

**Formulated by**

**The Project for Capacity Development on Urban Development Control and Promotion  
(CDUDCP)**

The meeting on confirmation of the officialization methodology of three outcomes; i) Area Concept Plan of Pilot Area, ii) Manual on Operation of Construction Permit in Vientiane Capital, and iii) Guideline for Promotion of Collaborative Urban Development in Vientiane Capital which were formulated by “The Project for Capacity Development on Urban Development Control and Promotion” (hereinafter referred to as “CDUDCP”) was held at DHUP meeting room on 17<sup>th</sup> June 2024.

In consideration of the function of these outcomes and jurisdiction of agency, the DHUP suggested the officialization methodology for these three outcomes as follows:

1. The Area Concept Plan of the pilot area can be agreed by the MoM of the consultation meeting with DHUP, PTI and DPWT.
2. The Manual on Operation of Construction Permit in Vientiane Capital and the Guideline for Promotion of Collaborative Urban Development in Vientiane Capital can be approved by DG of DPWT in consideration of the coverage for only Vientiane Capital
3. JICA Expert Team needs to coordinate with DPWT for the officialization procedure.

Vientiane Capital, June 17<sup>th</sup>, 2024

**Nippon Koei Urban Space Co., Ltd.**

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**Nalongxay MYVAPADITH**

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