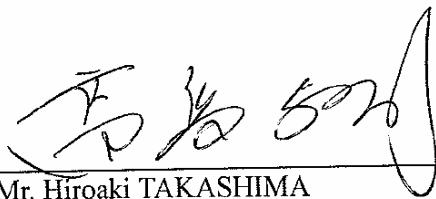


“ຂອບເຂດໜ້າວຽກ” ແລະ “ບົດບັນທຶກຂອງປະຊຸມ”

SCOPE OF WORK
FOR
THE STUDY
ON
IMPROVEMENT OF WATER ENVIRONMENT
IN
VIENTIANE CITY,
LAO PEOPLE'S DEMOCRATIC REPUBLIC

AGREED UPON BETWEEN
MINISTRY OF PUBLIC WORKS AND TRANSPORT
AND
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

VIENTIANE, 3rd November, 2008



Mr. Hiroaki TAKASHIMA
Chief Representative
Laos Office
Japan International Cooperation Agency



Mr. Sommad Pholsena
Minister
Ministry of Public Works and Transport
(MPWT)

I. INTRODUCTION

In response to the request from the Government of Lao People's Democratic Republic (hereinafter referred to as "the Government of Lao PDR"), the Government of Japan has decided to conduct "the Study on Improvement of Water Environment in Vientiane City, Lao People's Democratic Republic" (hereinafter referred to as "the Study") in accordance with the relevant laws and regulations in force in Japan.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of the Government of Japan, will undertake the Study in close cooperation with the relevant authorities concerned of the Government of Lao PDR.

The present document sets forth the Scope of Work with regard to the Study.

II. OBJECTIVE OF THE STUDY

The specific objectives of the Study are:

1. To survey and analyze the existing conditions of water environment in the Study area
2. To formulate a master plan for water environment management in Vientiane City
3. To transfer the technique on how to formulate a master plan for water environment management to Lao counterparts

III. STUDY AREA

The Study area is seven (7) districts (Sikhottabong, Chanthabury, Sissatanak, Xaisetha, Hadxaifong, Xaithany, Pakngum) especially Mak Hiao river basin in Vientiane city as shown in the attached sheet of Annex I.

IV. SCOPE OF THE STUDY

To achieve the above objectives, the Study will cover the following items:

Phase I

Baseline Survey and making draft master plan for water environment management in Vientiane City

1. Review of the existing data and information such as governmental environment policy, related legal system, hydrology, meteorology, geography, geology, natural and social environmental information and related existing reports
2. Monitoring survey for natural conditions in the Mak Hiao river basin
3. Survey of current situation of the storm water and wastewater management systems in the Study area
4. Review of the existing urban development plan, water supply project plan, wastewater treatment plan, urban drainage plan in the Study area
5. Formulation of the draft master plan for water environment management in Vientiane City including following items
 - (1) Water Environment Improvement Strategy for 2020
 - (2) Implementation plan based on the strategy
 - 1) Improvement plan of drainage water quality in Vientiane City
 - 2) Promotion plan of environmental education for water environment improvement

- 3) Consolidation plan of the legal framework for water environment
- (3) Implementation of Initial Environmental Examination (IEE)
- (4) Identification of priority items(s) among each plan showed in above: 5.(2). 1),2)and 3).
- (5) Recommendations
6. Selection of the target item(s) from priority ones showed in 5.(2).1)2)and 3) for a pilot project and a pre-Feasibility Study
7. Conducting (a) seminar(s) and/or (a) workshop(s)

Phase II

Implementation of a pilot project and a pre-Feasibility Study (pre-F/S)

1. Implementation of an environmental education pilot project
2. Implementation of a pre-F/S
 - (1) To conduct field survey at the construction site (Topographic survey, Environmental survey)
 - (2) To formulate a construction plan and a procurement plan
 - (3) To formulate an operation and maintenance plan
 - (4) To estimate the project cost
 - (5) To conduct the IEE survey (See attached Annex II)
 - (6) To evaluate the project by economical, financial, technical, social and environmental aspects)
3. Finalization of the master plan based on the result of 1) and 2) of Phase II.
4. Conducting (a) seminar(s) and/or (a) workshop(s)

V. STUDY SCHEDULE

The Study will be carried out in accordance with attached tentative schedule shown in the Annex III. The schedule is tentative and subject to be modified when both parties agree upon and any necessity that arises during the course of the Study.

VI. REPORTS

JICA shall prepare and submit the following writing reports and a digital data to the Government of Lao PDR.

1. Inception Report:
Twenty five (25) copies in English at the commencement of the Study
2. Progress Report (1)
Twenty five (25) copies in English during Phase I
3. Interim Report:
Twenty five (25) copies in English at the end of Phase I
4. Progress Report (2)
Twenty five (25) copies in English during Phase II
5. Draft Final Report:
Twenty five (25) copies in both English and Lao at the end of Phase II
The Government of Lao PDR shall submit its comments within one (1) month after receipt of the Draft Final Report.
6. Final Report:
Fifty (50) copies in both English and Lao within one (1) month after receipt of the comments on the Draft Final Report from the Government of Lao PDR.

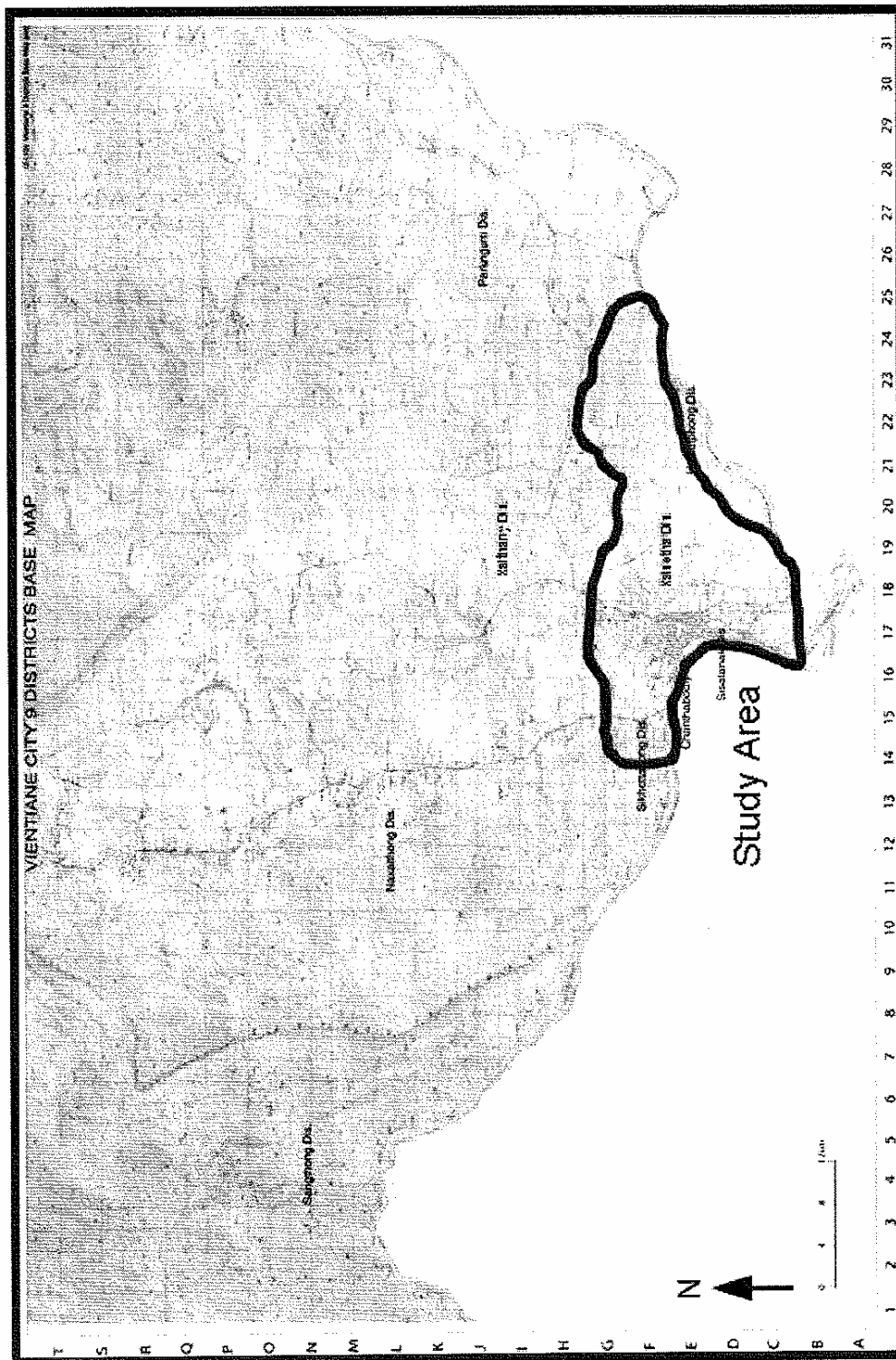
VII. UNDERTAKING OF THE GOVERNMENT OF LAO PDR

1. To facilitate smooth conduct of the Study, the Government of Lao PDR shall take the following necessary measures ;
 - (1) To secure the safety of the Japanese study team (hereinafter referred to as "the Team"),
 - (2) To permit the members of the Team to enter, leave and sojourn in Lao People's Democratic Republic (hereinafter referred to as "Lao PDR") for the duration of their assignments therein and exempt them from foreign registration requirements and consular fees,
 - (3) To exempt the members of the Team from taxes, duties, fees and any other charges on equipment, machinery and other materials brought into and out of Lao PDR for the conduct of the Study,
 - (4) To exempt the members of the Team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Team for their services in connection with the implementation of the Study,
 - (5) To provide necessary facilities to the Team for remittance as well as utilization of the funds introduced into Lao PDR from Japan in connection with the implementation of the Study,
 - (6) To secure permission for the Team to enter into private properties or restricted areas for the implementation of the Study,
 - (7) To secure permission for the Team to take all data and documents including maps and photographs related to the Study out of Lao PDR to Japan, and
 - (8) To provide medical services as needed. Its expenses will be chargeable to the members of the Team.
2. The Government of Lao PDR shall bear claims, if any arises, against the members of the Team resulting from, occurring in the course of, or otherwise connected with, the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the member of the Team.
3. Public Works and Transport Institute (hereinafter referred to as "PTI") shall act as counterpart agency to the Team and also as coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.
4. PTI and the related organizations shall nominate a counterpart team that will work closely with the Team throughout the study period.
5. PTI shall, at its own expense, provide the Team with the followings, in cooperation with other organizations concerned:
 - (1) available data and information related to the Study,
 - (2) counterpart personnel,
 - (3) suitable office space with necessary equipment such as desks, chairs, telephone,
 - (4) credentials or identification cards to members of the Team,
 - (5) necessary permission by security authorities for field surveys of the Team, and
 - (6) information on as well as support in obtaining medical services.
6. Ministry of Public Works and Transport (MPWT) will be the executing agency for the Study. A Steering Committee will be organized under the chairmanship of MPWT consisting of all the concerned organizations, such as PTI, DHUP, the related departments of the Water Resources and Environment Administration (WREA), Department of Public Works and Transport of Vientiane city and Vientiane Urban Development Administration Authority (VUDAA). The Committee will be convened at times when there is a need to discuss and resolve critical issues related to development policies and strategy.

VIII. OTHERS

JICA and PTI shall consult with each other in respect of any matter that may arise from or in connection with the Study.

Map of the Study Area



k

W

Terms of Reference for the Environmental and Social Considerations Study

Environmental and Social Considerations Study (IEE Level)

1. Analysis of environmental baseline data
 - (1) Social and economic conditions
population, economy, employment, infrastructure/public facilities (water supply, sewerage, etc.), land use, water use, landownership, public health, local conflicts, religious groups, cultural heritage/historical site, hazards(risk), accident, protection/reserve area, etc.
 - (2) Natural conditions
Topography, geology, soil, ground water, meteorology, hydrology (water level, tidal current, wave, etc.), ecology (fauna & flora), vegetation/forests, water bodies (river, canal, reservoir, pond, etc), erosion, landscape, natural disaster, etc.
 - (3) Polluted situations
Air pollution/quality, water pollution/quality, soil contamination, noise and vibration, land subsidence, offensive odor, waste materials, etc.
 - (4) Laws
Laws concerning Environmental Impact Assessment, compensation and resettlement and environmental issue, etc.
2. Scoping
“scoping” means deciding alternatives to be analyzed, and grasping a range of significant and likely significant impacts, and considering study methods.
3. Initial environmental examination and study on mitigation measures (including study on alternatives)
4. Consultations with stakeholders (stakeholders meetings) at the appropriate study stage.

Tentative Schedule of the Study

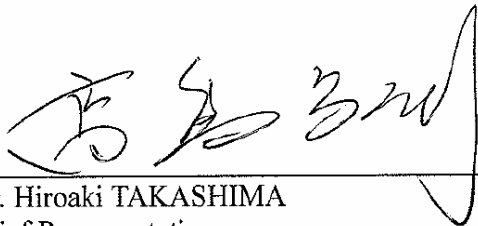
Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Work Schedule	Phase I														Phase II															
Reports	△ IC/R		△ PR/R(1)						△ IT/R				△ PR/R(2)						△ DF/R		△ F/R									

- IC/R : Inception Report
- IT/R : Interim Report
- PR/R : Progress Report
- DF/R : Draft Final Report
- F/R : Final Report

MINUTES OF MEETINGS
ON
THE STUDY
ON
IMPROVEMENT OF WATER ENVIRONMENT
IN
VIENTIANE CITY,
LAO PEOPLE'S DEMOCRATIC REPUBLIC

AGREED UPON BETWEEN
MINISTRY OF PUBLIC WORKS AND TRANSPORT
AND
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

VIENTIANE, 3rd November, 2008



Mr. Hiroaki TAKASHIMA
Chief Representative
Laos Office
Japan International Cooperation Agency



Mr. Sommad Pholsena
Minister
Ministry of Public Works and Transport
(MPWT)

1. COUNTERPART ORGANIZATION

Department of Housing and Urban Planning (DHUP), Ministry of Communication, Transport and Construction (MCTPC) requested the proposal of the Study in August, 2007. After that MCTPC was reorganized and changed its name to Ministry of Public Works and Transport (MPWT) in 12 October, 2007. MPWT assigned PTI (the former URI: Urban Research Institute) as the counterpart agency for the Study.

PTI shall nominate a counterpart team that work closely with the Japanese Study Team throughout the Study period. And related organization such as DHUP, the related departments of the Water Resources and Environment Administration (WREA), Department of Public Works and Transport of Vientiane city and Vientiane Urban Development Administration Authority (VUDAA) shall nominate member(s) of the counterpart team mentioned above. Lao side will provide a list of counterpart team personnel before commencement of the Study.

2. STUDY PERIOD

The duration of the Study will be two (2) years and six (6) months.

3. COLLECTING DATA AND INFORMATION

Both sides agreed that PTI will provide JICA Study Team with all available data and information related to the Study. PTI will also make best efforts to provide data and information of other organizations. JICA Study Team will utilize those data and information for the purpose of the Study.

Necessary information and data should be provided by Lao side before formulating a master plan for Water Environment Management in Vientiane City, such as quality and quantity of water discharge to That Luang Marsh and Mak Hiao River basin and those related to legal framework changes with respect to EIA.

Especially, "Vientiane New Town Project" will affect the contents of the Study in quality and quantity. Lao side shall provide JICA Study Team with basic design including target population, planned standard quality of effluent from residents, facilities etc as pre-condition for the Study.

4. STEERING COMMITTEE

Both sides agreed that PTI would set up a steering committee for the smooth implementation of the Study. It will consist of the representatives of relevant organizations under the chairpersonship of MPWT. Organizations as follows are assumed to join the committee at the present moment. The JICA Study Team and JICA representative will also attend the committee.

- (1) Ministry of Public Works and Transport (MPWT) (Chair)
- (2) Vientiane city
- (3) PTI
- (4) WREA
- (5) Department of Housing, and Urban Planning (DHUP)
- (6) Department of Public Works and Transport (DPWT), Vientiane city
- (7) Health Department, Vientiane city
- (8) Agriculture and Forestry Department, Vientiane city
- (9) Industry and Commerce Department, Vientiane city
- (10) Environment Office, Vientiane city
- (11) Vientiane Urban Development Administration Authority (VUDAA)
- (12) Vientiane New Town Project, Vientiane City
- (13) Other related organizations

5. Local sub contractor

The Japanese study team will contract local specialists to assist the Study. The Lao study director and Japanese Study Team Leader are responsible for preparing terms of the references (TOR) for recruiting the local specialists and their work plans. The finalization of contract of local sub-contractor(s) will be carried out under rules and regulations of JICA

6. Equipment for the study

JICA would provide an equipment and supplies for the Study, if necessary. The equipment will remain the property of JICA for the duration of the Study. Its ultimate ownership shall be decided by JICA in consultation with Lao side.

7. Counterpart fund

Lao side shall bear the allocation of the counterpart fund for the study, in accordance with the Agreement on Technical Cooperation between the Government of Japan and the Government of Laos signed on 12 December in 2003.

8. Dispatch of Japanese study team

JICA will dispatch, at its own expense, the Japanese study team to Laos. The Japanese study team will jointly work with Laos study team and pursue technology transfer to ensure the effective management of water environment in Vientiane City in the course of the Study.

9. Disclosure of the reports

MPWT and JICA agreed that the final reports specified in the S/W would be disclosed to all interested parties to facilitate the dissemination of the Study.

Minutes of Meeting
on
the First Steering Committee
of
The Study on Improvement of Water Environment in Vientiane City
agreed upon between
Public Works and Transport Institute, Ministry of Public Works and
Transport
and
Japan International Cooperation Agency

February 6, 2009
Vientiane, LAO PDR

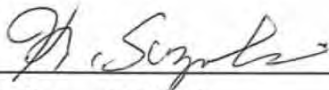


Mr. Kanehiro MORISHITA
Leader of the Study Team
Japan International Cooperation Agency



Mr. Keophilavanh APHAYLATH
Director General of Public Works and Transport
Institute
Ministry of Public Works and Transport

Witness



Mr. Kazuya SUZUKI
Director of Environmental Management Division 1
Global Environment Department
Japan International Cooperation Agency



Mr. Bounchanh SINTHAVONG
Vice Mayor of Vientiane City

I. General

The Government of Japan, in response to the official request of the Government of Lao People's Democratic Republic (hereinafter referred to as "the Government of Lao PDR"), decided to conduct the Study on Improvement of Water Environment in Vientiane City (hereinafter referred to as "the Study") and the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Preparatory Study Team to Lao PDR in March 2008.

Based on the above study results, Ministry of Public Works and Transport (hereinafter referred to as "MPWT") and JICA Laos Office signed on and exchanged agreement on the Scope of Work (hereinafter referred to as "S/W") and Minutes of Meetings (hereinafter referred to as "M/M") for the Study in November 2008.

JICA has prepared the Study according to the S/W and M/M, and dispatched the Study Team, headed by Mr. Kanehiro MORISHITA of CTI Engineering International Co., Ltd., to Lao PDR from January 20, 2009.

At the commencement of the Study, the Study Team explained the overall activities described in the Inception Report to Lao organizations concerned (hereinafter referred to as "Lao side"), and Lao side and the Study Team (hereinafter referred to as "Both sides") had a discussion on the Inception Report, which was chaired by Mr. Bounchanh SINTHAVONG, Vice Mayor of Vientiane City. Finally the Committee members agreed upon work components and work plan contained in the Inception Report. The list of attendance in the meeting is attached in Attachment.

II. Discussions and Suggestions

1. Agreement upon the Study Framework

The chairman mentioned that (1) boundary of the study area, (2) study approach and methodology, (3) planning strategy and (4) study period of 30 months, which were explained by the Study Team, could be agreed upon by the Lao side.

2. Comments from VUDAA

Vice president of VUDAA pointed out the followings: (1) information on drainage system as shown in 2.1.2 of the Inception Report is not fully covered over the VUDAA projects, (2) responsibility of planning should be included into present capacity of VUDAA as shown in 2.1.3 of the Inception Report, and (3) local authorities of districts and villages should be involved in the proposed pilot project. The Japanese side replied that (1) the drainage information mentioned would be collected in the course of the Phase 1 Study, (2) The planning would be included in the responsibility of VUDAA,

and (3) the local authorities should be involved in the future activities on the pilot project.

3. Comments from DOAF, Vientiane City

Since the Mak Hiao River basin is suitable for agriculture and inland fishery, water quality management is important for agricultural activities. Director of DOAF suggested that the newly surveyed data would be provided to the Study Team.

4. Comments from DOH, Vientiane City

Deputy Director of DOH mentioned that the sanitary village projects had been progressed and villages of 255 were already completed so far. He also promised providing the information on the project to the Study Team and further cooperation.

5. Comments from DOE, WREA

Deputy Director of DOE suggested that (1) drainage network consists of primary, secondary and tertiary canals so that such entire network should be examined in the Study, (2) DOE had much experience widely covered over the entire stakeholders, and (3) DOE strongly agreed upon the collaborative work with the Study Team and relevant agencies mentioned in the Inception Report. He also added that the comments on the report would be provided to the Study Team in a week.

6. Request from JICA HQ

Mission leader of JICA HQ requested for providing the counterpart list from relevant agencies, and Deputy Director of PTI promised it in a week.

III. Summary and Closing Remarks

The chairman summarized the discussion results. Finally he gave closing remarks to expect the further progress of the study and the meeting was closed.



ATTACHMENT

List of participants in the Steering Committee Meeting for Presentation of Inception Report on February 5, 2009 at the Meeting Room of Ministry of Public Works and Transport (MPWT)

Lao Side

Mr. Bounchan SINTHAVONG	Vice Mayor	Vientiane Capital City
Mr. Keophilavanh APHYLATH	Director General	Public Works and Transport Institute
Mr. Thenekham Thongbon	Deputy Director	Public Works and Transport Institute
Mr. Ketkeo SIHALATH	Vice President	VUDAA
Mr. Khamthavi Thaipachan	Director	Department of Housing and Urban Planning
Mr. Khampadith KHAMMOUNHEUANG	Deputy Director	Department of Environment, (WREA)
Mr. Oudong NHENGVANNAVONG	Deputy Director	Department of Public Works and Transport
Mr. Sengthong BIRAKOUNE	Deputy Director	Department of Health
Mr. Laisanivong AMARTHITHAJA	Director	Department of Agriculture and Forestry
Ms. Viengphone VIRAVONG	Deputy Director	Department of Industry and Commerce
Mr. Boutsady SIPHILOM	Deputy Director	Water Resources and Environment Office
Mr. Saythivi NHENGVANNAVONG	Chief of Secretariat	Vientiane New City Development Project
Ms. Ketmany BANDASACK	Deputy Director	Department of Education
Ms. Maniseng DOUANGNOULACK	Project Coordinator	Public Works and Transport Institute
Mr. Vongsack MIXAY	Project Coordinator	Public Works and Transport Institute
Mr. Thatsakone CHOULAMOUNTRY	Project Coordinator	Public Works and Transport Institute

Japanese Side

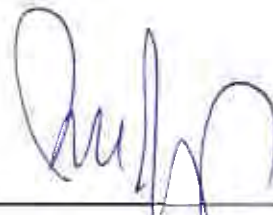
Mr. Kazuya SUZUKI	Director	Environmental Management Division 1, Global Environment Department, JICA
Ms. Hiroko KAMATA	Senior Advisor	JICA
Mr. Yasutoshi SAGAMI	Associate Expert	Environmental Management Division 1, JICA
Mr. Sota SEKINE	Assistant Resident Representative	JICA Laos Office
Mr. Kanehiro MORISHITA	Team Leader	JICA Study Team
Mr. Yasuhiko KATO	Environmental Education	JICA Study Team
Ms. Kyoko MISHIMA	Ecological Conservation/EIA	JICA Study Team
Mr. Hiroshi SHIMOKOCHI	Sanitation/Water Quality	JICA Study Team
Mr. Makoto KODAMA	Drainage Planning	JICA Study Team
Mr. Yunshan BAI	GIS	JICA Study Team

Minutes of Meeting
on
the Second Steering Committee
of
The Study on Improvement of Water Environment in Vientiane City
agreed upon between
Public Works and Transport Institute, Ministry of Public Works and
Transport
and
Japan International Cooperation Agency

September 9, 2009
Vientiane, LAO PDR



Mr. Kanehiro MORISHITA
Leader of the Study Team
Japan International Cooperation Agency



Mr. Thenekham THONGBON
Deputy Director of Public Works and Transport
Institute
Ministry of Public Works and Transport

I. General

The Government of Japan, in response to the official request of the Government of Lao People's Democratic Republic (hereinafter referred to as "the Government of Lao PDR"), decided to conduct the Study on Improvement of Water Environment in Vientiane City (hereinafter referred to as "the Study") and the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Preparatory Study Team to Lao PDR in March 2008.

Based on the above study results, Ministry of Public Works and Transport (hereinafter referred to as "MPWT") and JICA Laos Office signed on and exchanged agreement on the Scope of Work (hereinafter referred to as "S/W") and Minutes of Meetings (hereinafter referred to as "M/M") for the Study in November 2008.

The Japan International Cooperation Agency (hereinafter referred to as "JICA") has prepared the Study according to the Scope of Work (hereinafter referred to as "S/W") and Minutes of Meetings (hereinafter referred to as "M/M") exchanged in November 2008, and dispatched the Study Team, headed by Mr. Kanehiro MORISHITA of CTI Engineering International Co., Ltd., to Lao People's Democratic Republic (hereinafter referred to as "Lao PDR") from January 20, 2009.

At the end of first half of phase 1 in the Study, the Study Team explained the overall results in the Progress Report 1 to Lao organizations concerned (hereinafter referred to as "Lao side"), and Lao side and the Study Team (hereinafter referred to as "Both sides") had a discussion on this Report, which was chaired by Mr. Sithong THONGKEO, Vice Minister of Ministry of Public Works and Transport. Finally the Committee members agreed upon the work results and work plan for formulation of master plan contained in the Progress Report 1. The list of attendance in the meeting is attached in Attachment.

II. Discussions and Suggestions

1. Comments and Questions from Department of Housing and Urban Planning, MPWT

Acting Director of DHUP mentioned (1) Water Supply Law was already issued through the Cabinet Council, and formulation of the Wastewater Management Strategy was almost completed, (2) Installation of septic tank to individual houses was important to solve the sanitation improvement, and (3) Community-based sanitation (CBS) system should be developed in Vientiane since decentralized system might be suitable to our country. In addition, capacity building for survey and designing of CBS system should be required for the DHUP staff.

The study team replied to the above questions (2) and (3). (2) Installation of septic tank shall be basically made by building owner so that administrative guidance shall be strengthened for increase of

coverage of modern toilet system. (3) Regarding CBS system, the JICA team will cooperate with LIRE (Lao Institute for Renewable Energy), which is planning to install CBS in Vientiane and has much experiences in Indonesia, and will conduct environmental education in the same community where LIRE is planning the installation.

2. Questions and Comments from National University of Laos

Vice Dine of Faculty of Science, National University of Laos, asked why BOD value decreases in accordance with going downstream, and requested to share the experiences and data together between the university and the study team.

The study team answered that water quality purification occurred through SS settling by vegetation filter and increase of DO by photosynthesis of algae and natural aeration effects by shallow flow. The team agreed upon future continuous cooperation.

3. Questions from WWF

WWF representative mentioned that remaining marshes should be conserved to maintain their flood retention and water purification functions, but how secured their areas in future.

The team replied that urban planning study under JICA would start in the near future, and urban planning could be suitable tools for conservation of That Luang marsh as well as remaining marshes in the urban areas.

4. Comments from Department of Health, Vientiane City

Deputy Director of DOH emphasized that propagation of mosquitoes would be one of the problems after water environmental improvement, and DOH needed to work cooperatively with the team in phase II.

The team agreed upon the comments and promised to collect the information prevention of mosquitoes' propagation.

5. Comments from Department of Public Works and Transport, Vientiane City

Technical staff of DPWT made the following comments; (1) Recommendation on water quality standard as a target of the master plan was agreeable, but situation on wastewater in both countries, Laos and the Philippines, might be different. (2) There was no suitable treatment system for New City Development. (3) What kind of wastewater treatment should be done in the industrial area. (4) What kind of facilities the team considered for communal sanitation system.

The team replied as follows; (1) The standard which the team mentioned was set up by water usage, e.g. for fishery, or for agriculture. Fish species and agricultural products were similar in both countries so that the standard of the Philippines could be applied to Laos. (2) There is a large wastewater treatment pond constructed by EU in the New City Development area. Thus DPWT should consider

how utilize the EU pond for wastewater treatment. (3) “The Preparatory Survey on Industrial Zone Development in Laos” under JICA was being carried out. Outcomes in the survey could be used for industrial wastewater treatment facilities.

Project manager of BORDA explained their CBS (Community Based Sanitation) and DEWATS (Decentralized Wastewater Treatment System) with experiences in Indonesia.

6. Comments from Public Works and Transport Institute (PTI)

Deputy Director of PTI suggested; (1) The major issue of popular use of septic tank was how the house owners could willingly install the septic tank. Some budgetary support such as a subsidy might be necessary for this purpose. (2) Another issue was how the sites of priority projects could be secured. Land of canal was not owned by VUDAA, but drainage structures were maintained by VUDAA.

7. Comments from JICA Expert, MPWT

According to the experiences in Japan, it took a considerable time to appear the effects of improvement works in water environment. The proper measures should be taken in a sustainable manner with a long-range perspective.

8. Comments from VUDAA

In recent years, landscape and land use in Vientiane City had been changed drastically due to rapid urbanization. Severe flooding might be apprehensive about frequent occurrence in the outskirts of the City area. Thus additional new drainage canal system should be necessary to prevent such situation.

III. Summary and Closing Remarks

For and on behalf of the chairman, Deputy Director of PTI summarized the discussion results. Finally he gave closing remarks to expect the further progress of the study and the meeting was closed.

ATTACHMENT

List of participants in the Steering Committee Meeting for Presentation of Progress Report 1 on September 9, 2009 at the Meeting Room of Ministry of Public Works and Transport (MPWT)

Lao Side

Ministry of Public Works and Transport

Mr. Sithong THONGKEO	Vice Minister	
Mr. Thenekham THONGBON	Deputy Director	Public Works and Transport Institute
Mr. Khamthavi THAIPACHAN	Acting Director	Department of Housing and Urban Planning
Mr. Bounphanh	Deputy Director	Department of Water Way
Ms. Vanh VIRAPANT	Staff	Department of Housing and Urban Planning
Mr. Koyen MURAOKA	JICA Expert	MPWT
Mr. Vongsack MIXAY	Project Coordinator	Public Works and Transport Institute

Water Resources and Environment Administration (WREA)

Mr. SengKeo TASAKET	Technical staff	Department of Environment
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Vientiane City

Mr. Oudong NHENGVANNAVONG	Deputy Director	Department of Public Works and Transport
Mr. Somechayvang DETOUDOM	Technical Staff	Department of Public Works and Transport
Mr. Ketkeo SIHALATH	Vice President	VUDAA
Mr. Sonetavy PHIMMASAN	Deputy Head	Housing section, VUDAA
Mr. Dr. Khamtanh BOUNPHAYVANH	Deputy Director	Department of Public Health
Mr. Amphone	Deputy Director	Department of Agriculture and Forestry
Mr. Sompath SENEPHEMMACHAK	Technical Staff	Department of Agriculture and Forestry
Ms. Viengphone VIRAVONG	Deputy Director	Department of Industry and Commerce
Mr. Sounalath SOUKCHALEAR	Staff	Department of Industry and Commerce
Ms. Boutsady SIPHILOM	Deputy head	Water Resources and Environment Office
Mr. Sommith SANDCHONGHAK	Engineer	Water Resources and Environment Office
Mr. Sengaloon VONGPHOUTHONE	Head of Admin.	Department of Education
Mr. Saythivi NHENGVANNAVONG	Chief of Secretariat	Vientiane New City Development Project
Mr. Silavanh	Staff	Department of Science and Technology

National University of Laos

Ms. Dr. Somechan BOUNPHANMY	Vice Dean	Faculty of Science
-----------------------------	-----------	--------------------

NGO

Ms. Pauline GERRAD	Project Manager	WWF
Ms. Noica DESTALINA	Project Manager	BORDA
Mr. Sengdeuan	Project Assistant	LIRE

Japanese Side

Mr. Koichi TAKEI	Senior Representative	JICA Laos Office
Ms. Yoko HATTORI	Representative	JICA Laos Office
Mr. Kayasith	PO	JICA Laos Office
Mr. Kanehiro MORISHITA	Team Leader	JICA Study Team
Mr. Yasuhiko KATO	Environmental Education	JICA Study Team
Ms. Kyoko MISHIMA	Ecological Conservation/EIA	JICA Study Team
Mr. Hiroshi SHIMOKOCHI	Sanitation/Water Quality	JICA Study Team

The Study on Improvement of Water Environment in Vientiane City

ລາຍຊື່ຜູ້ເຂົ້າຮ່ວມ ກອງປະຊຸມລາຍງານຄວາມຄືບໜ້າຂອງໂຄງການສຶກສາບົບປຸງ ລະບົບລະບາຍນ້ຳ ມະຄອນຫຼວງວຽງຈັນ, ວັນທີ 9 ເດືອນ ກັນຍາ ປີ 2009

Progress Report Meeting, Sep 9/09/2009

No.	ຊື່ ແລະ ນາມສະກຸນ		ຕຳແໜ່ງ	ພາກສ່ວນ	ໂທລະສັບ	ເບີແຟກ		ອີເມວ	ລາຍເຊັນ
	Name and Surname	Position				Organization	Telephone		
1	Mme Viengkham VIRAVONG	Dept. Director.	Department of Industry & Commerce in VTE cap.		5504720	415377	viengkham.viravong@vte.gov.la	[Signature]	
2	Mr. Sornmalath	Official			5629215			[Signature]	
3	Ms. Kayasithi	PO	JICA		6414995	241104	jicala-inf@jica.go.jp	[Signature]	
4	Mr. Sornthany Phimsavane	Deputy of housing	YUDAA		8200669	212104	sica.go.jp	[Signature]	
5	Mr. Somnith Sornthany	Engineer	WREA		2101226	210123	sornthany@wrea.gov.la	[Signature]	
6	Mr. Khamsriany	Acting DG	DHUP		576353	412284	khamsriany@dhup.gov.la	[Signature]	
7	Mr. Sengket Tassaket	Technical	WIREA, DAE		2001722	021 21817	tsengket@wirea.gov.la	[Signature]	
8	Mr. Bounthany HACHAONH	Vice President	VUPAA		520213	212104		[Signature]	
9	Ms. Thenekhan	DDG	PTI		574533			[Signature]	
10	Dr. Khamsan	Deputy-director	Public Health of VTC		161853			[Signature]	
11	Mr. Kayen Mueo Ka	JICA Expert	MPWT		5509255	444893		[Signature]	
12	Ms. Somsa				551079	480003		[Signature]	
13	Ms. Saykhaui	ນັກສຶກສາ	ໂຄງການພັດທະນາລູກໂລ		2210999	264818		[Signature]	
14	Ms. Somsa	ວິຊາການ	ສະໜັບສະໜູນ		5414978			[Signature]	
15	Ms. Somsa	ວິຊາການ	W/P MWR. VO		810651	810689	sornthany@wpa.gov.la	[Signature]	
16	Ms. Somsa	ວິຊາການ	ສະໜັບສະໜູນ		2008767	487926	Somsan Khamsan@vte.gov.la	[Signature]	
17	Ms. Somsa	ວິຊາການ	W/P MWR. VO		5154390	353128	com	[Signature]	
18	Public General	Project Manager	WWF		020653405		public.general@wwf.org	[Signature]	
19	Noka Potalina	Proj Mgr	BOR-DA		0207425881		noka@borda.de	[Signature]	
20	Songdeuan	Project Assistant	Live		7896696		kie@live.org	[Signature]	

Minutes of Meeting
on
the Third Steering Committee and Workshop
of
The Study on Improvement of Water Environment in Vientiane City
agreed upon between
Public Works and Transport Institute, Ministry of Public Works and
Transport
and
Japan International Cooperation Agency

March 11, 2010
Vientiane, LAO PDR



Mr Kiengkham PHOUTCHANTHAVONGSA
Deputy Director of Public Works and
Transport Institute
Ministry of Public Works and Transport

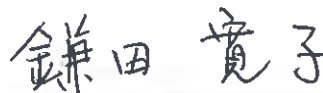


Mr. Kanehiro MORISHITA
Leader of the Study Team
Japan International Cooperation Agency

Witness



Mr. Bounchanh SINTHAVONG
Vice Mayor of Vientiane City



Ms. Hiroko KAMATA
Senior Advisor
Japan International Cooperation Agency

I. General

The Government of Japan, in response to the official request of the Government of Lao People's Democratic Republic (hereinafter referred to as "the Government of Lao PDR"), decided to conduct the Study on Improvement of Water Environment in Vientiane City (hereinafter referred to as "the Study") and the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Preparatory Study Team to Lao PDR in March 2008.

Based on the above study results, Ministry of Public Works and Transport (hereinafter referred to as "MPWT") and JICA Laos Office signed on and exchanged agreement on the Scope of Work (hereinafter referred to as "S/W") and Minutes of Meetings (hereinafter referred to as "M/M") for the Study in November 2008.

The Japan International Cooperation Agency (hereinafter referred to as "JICA") has prepared the Study according to the Scope of Work (hereinafter referred to as "S/W") and Minutes of Meetings (hereinafter referred to as "M/M") exchanged in November 2008, and dispatched the Study Team, headed by Mr. Kanehiro MORISHITA of CTI Engineering International Co., Ltd., to Lao People's Democratic Republic (hereinafter referred to as "Lao PDR") from January 20, 2009.

At the end of phase 1 in the Study, the Study Team explained the overall results in the Interim Report to Lao organizations concerned (hereinafter referred to as "Lao Side"), and Lao side and the Study Team (hereinafter referred to as "Both Sides") had a discussion on this Report, which was chaired by Mr. Bounchanh SINTHAVONG, Vice Mayor of Vientiane City. The list of attendance in the meeting is attached in Attachment.

II. Discussions

1. Interim Report

Interim Report and its explanation by the Study Team are accepted by the Lao Side. The Lao Side expects that the Master Plan in the Interim Report will be revised based on the comments proposed by the Lao Side as well as the results of in the Phase II study. In addition, Both Sides agreed that the future applicability of centralized wastewater treatment system to Vientiane City will be studied in more detail.

2. Community Based Sanitation (CBS)

CBS is feasible for the improvement of the water environment of the urban drainage systems in Vientiane City considering the natural and social conditions of the area, where major pollution load is domestic wastewater.



Handwritten signature and initials, possibly "Kanta", located in the bottom right corner of the page.

3. Selection of Pilot Project Sites

The Lao Side accepted the selection of two pilot project sites, namely (1) units 10, 11 and 12 and its vicinity, Thongkhankham village (Community Based Sanitation, Hong Thong drainage area) and (2) Khoualuang primary school, Khoualuang village (School Based Sanitation, Hong Pasak drainage area). The Lao Side expects the other types of communities such as market will be considered in a future study.

4. Data Share among Studies and Projects

The Both Sides agreed that as the each study and project has a limited scope of work and time frame, data share among the related studies and projects such as JICA's Master Plan Study for Vientiane City Planning, those of WWF and WSP, should be promoted in order to improve their results and effectiveness.

5. Groundwater Quality



The Lao Side questioned the quality of groundwater and its function for the improvement of water quality. The Study Team replied that that the importance of the groundwater for the improvement of water environment is fully recognized and it is considered to a certain extent in the Study but as it is out of the scope of work, groundwater is not described in detail in Interim Report.

6. Responsible Government Authority for CBS

The Both Sides agreed that the responsible government authority is indispensable for wide dissemination and smooth implementation, and that it should be clarified in the Phase II study.

III. Summary and Closing Remarks

The chairman summarized the discussion results. Finally he gave closing remarks to expect the further progress of the study and the meeting was closed.

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Kamta

ATTACHMENT

List of participants in the Steering Committee Meeting for Presentation of Interim Report on March 10, 2010 at the Meeting Room of Novotel.

Lao Side

Vientiane City

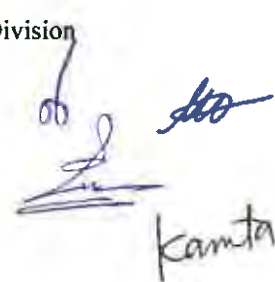
Mr. Bounchanh SINTHAVONG	Vice Mayor of Vientiane City
Mr. Keophilavanh APHAILATH	Deputy Director of DPWT
Mr. Oudone NGENGVANTHNAVONG	Deputy Director of DPWT
Mr. Chansamone	Mekong River Integrated Management Project
Mr. Nousone MEUNVISETH	Deputy Director of VUDAA
Mr. Somechayvang DETOUDOM	Technical Staff, Department of PWT
Mr. Sonetavy PHIMMASANTH	Deputy Head, Housing section of VUDAA
Dr. Khamtanh BOUNPHAYVANH	Deputy Director of Department of Public Health
Mr. Amphone SIONXAY	Director, Department of Agriculture and Forestry
Ms. Tovanh NOUPHAPTHAVONGSY	Department of Industry and Commerce
Mr. Phavanh SIHAVONG	Water Resources and Environment Office
Ms. Boutsady SIPHILOM	Deputy Head, Water Resources and Environment Office
Mr. Phouvisuck VONGPHOUTHONE	Department of Education
Mr. Saythivy NHENGVANNAVONG	Vientiane New City Development Project
Mr. Daophet ALOUN	Director of Science and Technology Office

Ministry of Public Works and Transport (MPWT)

Mr. Bounxom SOMSIHAKHOM	Science and Technical Council
Mr. Phouthasen	Deputy Director of Housing and Urban Planning Division
Ms. Vanh VIRAPANT	Department of Housing and Urban Planning

Public Works and Transport Institute, MPWT

Mr. Khiengkham PHUTHAVONGSA	Deputy Director Public Works and Transport Institute
Ms. Phonesavanth PHENGSIDA	Director of Administration Division
Ms. Saykham TAMMANOSOUTH	Director of Cooperation and Planning
Ms. Phongeun SOUVANHNAVONG	Director of Environment
Mr. Chanthala PHIMMACHACK	Deputy Director of Housing and Urban Planning Division
Mr. Chanthavangso OUDOMDETH	Director of Infrastructures and Transport Division
Ms. Maniseng DOUANGNOULACK	Coordinator of PTI (Project)
Mr Vongsack MIXAY	Coordinator of PTI (Project)



Handwritten signatures and the name 'kamta' in blue ink.

Water Resources and Environment Administration (WREA)

Mr. Loankham	Director of Division, Department of Environment
Mr. Vanhxay	Department of Environment
Mr. Phongsavath YINGYONG	Water Resources and Environment Institute

Japanese Side

Ms. Hiroko KAMATA	Senior Advisor, JICA Head Quarters
Mr. Yasutoshi SAGAMI	Associate Expert, JICA Head Quarters
Ms. Yoko HATTORI	Representative, JICA Laos Office
Mr. Kanehiro MORISHITA	Team Leader, JICA Study Team
Mr. Makoto YAJIMA	Co-Team Leader, JICA Study Team
Mr. Kazuhiro NAKAMURA	Hydrology, JICA Study Team
Mr. Hiroshi SHIMOKOCHI	Sanitation/Water Quality, JICA Study Team
Mr. Kazuyoshi FUJIMOTO	Administrative Coordinator, JICA Study Team

NGO/International Organization

Ms. Pauline GERRAD	Project Manager, WWF
Ms. Aurilie PIMMASONE	Project Coordinator, LIRE
Mr. Sengdeuan	Project Assistant, LIRE
Mr. Bounchan KHAMPHILAYVONG	Design Engineer, LIRE
Ms. Noka DESTALINA	Project Manager, BORDA
Ms. Kieu Ly Doan	Project Manager, BORDA
Mr. Viengsamay VONGKHAMSAO	Country Team Leader, WSP (World Bank)

JICA Study Team of Master Plan Study on City Planning

Mr. Yuichi HASHIMOTO	Water Engineering
Mr. Chanthasack	Head of Section of PTI
Ms. Chatsopa CLINPUN	Environmental Engineering



ATTACHMENT 2

PROGRAM OF STEERING COMMITTEE WORKSHOP FOR THE DRAFT MASTER PLAN ON WATER ENVIRONMENT MANAGEMENT IN VIENTIANE CITY

Date: Wednesday, 10 March 2010

Venue: Conference room of NOVOTEL Vientiane

Program

1. 13:15 – 13:30 Registration
2. 13:30 – 13:40 Explanation of the Steering Committee Workshop
Representative of PTI
3. 13:40 – 13:50 Opening by the Chairman of the Steering Committee
4. 13:50 – 14:30 Explanation about the Draft Master Plan for the Water
Environment Management in Vientiane City
Mr. Morishita, Team Leader, JICA Study Team
5. 14:30 – 15:00 Explanation about CBS and future plan of BORDA-LIRE
Ms. Noka Destalina, BORDA Liaison Officer, BORDA
6. 15:00 – 15:15 (Break)
7. 15:15 – 15:45 Improvement of Sanitation in Laos
Ms. Kamata, Senior Adviser, JICA
8. 15:45 – 16:30 Question and Answer and Free Discussion (Participants)
9. 16:30 – 16:40 Closing by the Chairman of the Steering Committee
10. 17:00 – Dinner at Novotel Hotel Restaurant

ບົດບັນທຶກກອງປະຊຸມ

ກ່ຽວກັບ

ກອງປະຊຸມປຶກສາຫາລື ຄັ້ງທີ 3 ຂອງຄະນະຊີ້ນຳ

ໂຄງການ ປັບປຸງລະບົບລະບາຍນ້ຳ ນະຄອນຫລວງວຽງຈັນ

ຕົກລົງກັນ ລະຫວ່າງ

ສະຖາບັນໂຍທາ ແລະຂົນສົ່ງ, ກະຊວງ ໂຍທາທິການ ແລະ ຂົນສົ່ງ

ແລະ

ອົງການ ໃຈກາ

11 ມີນາ, 2010

ນະຄອນຫລວງວຽງຈັນ, ສ ປ ປ ລາວ

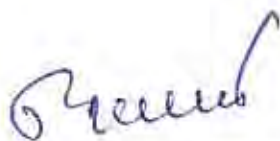


ທ່ານ ຊຽງຄຳ ພຸດຈັນທະວົງສາ
ຮອງຫົວໜ້າ ສະຖາບັນໂຍທາ ແລະຂົນສົ່ງ,
ກະຊວງໂຍທາທິການ ແລະ ຂົນສົ່ງ

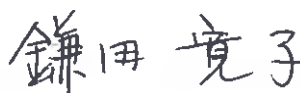


ທ່ານ Mr. Kanehiro MORISHITA
ຫົວໜ້າ ທີ່ມງານສຶກສາ
ອົງການໃຈກາ

ພະຍານ



ທ່ານ ບຸນຈັນ ສິນທະວົງ
ຮອງເຈົ້າຄອງນະຄອນຫລວງວຽງຈັນ



ທ່ານ ນາງ Hiroko KAMATA
ທີ່ປຶກສາ ອາວຸໂສ
ອົງການໃຈກາ

I. ພາກສະເໜີ

ເພື່ອຕອບສະໜອງຕາມການສະເໜີຢ່າງເປັນທາງ ຂອງລັດຖະບານແຫ່ງ ສາທາລະນະ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ (ເຊິ່ງຕໍ່ໄປນີ້ເອີ້ນວ່າ “ລັດຖະບານ ສປປ ລາວ”), ລັດຖະບັນຍັດຊຸມ ຕັດສິນໃຈໃນການດຳເນີນ ການສຶກສາ ບັບປຸງ ສິ່ງແວດລ້ອມນໍ້າ ຢູ່ນະຄອນຫລວງວຽງຈັນ (ເຊິ່ງຕໍ່ໄປນີ້ເອີ້ນວ່າ “ການສຶກສາ”) ແລະ ອົງການຮ່ວມມືລະຫວ່າງປະເທດ ຍີ່ປຸ່ນ (ເຊິ່ງຕໍ່ໄປນີ້ເອີ້ນວ່າ “ອົງການໃຈກາ”) ໄດ້ສົ່ງທີມງານສຶກສາມາກະກຽມຢູ່ ສ ປປ ລາວ ໃນເດືອນ 3 ປີ 2008

ຈາກຜົນຂອງການສຶກສາຂັ້ນເທິງ, ກະຊວງ ໂຍທາທິການ ແລະ ຂົນສົ່ງ (ເຊິ່ງຕໍ່ໄປນີ້ເອີ້ນວ່າ “ຍທຂ”) ແລະ ຫ້ອງການໃຈກາປະຈຳລາວ ໄດ້ລົງນາມ ແລະ ແລກປ່ຽນ ຂໍ້ຕົກລົງໃນຂອບເຂດຂອງການດຳເນີນງານ (ເຊິ່ງຕໍ່ ໄປນີ້ເອີ້ນວ່າ “S/W”) ແລະ ບົດບັນທຶກກອງປະຊຸມ ກ່ຽວກັບການສຶກສາ (ເຊິ່ງຕໍ່ໄປນີ້ເອີ້ນວ່າ “M/M”) ໃນເດືອນ 11 ປີ 2008.

ອົງການຮ່ວມມືລະຫວ່າງປະເທດ ຍີ່ປຸ່ນ (ເຊິ່ງຕໍ່ໄປນີ້ເອີ້ນວ່າ “ອົງການໃຈກາ”) ໄດ້ກະກຽມການສຶກສາ ໂດຍອີງຕາມ ຂອບເຂດການດຳເນີນງານ ແລະ ບົດບັນທຶກກອງປະຊຸມ ທີ່ໄດ້ແລກປ່ຽນກັນໃນ ເດືອນ 11 ປີ 2008, ແລະໄດ້ສົ່ງ ທີມງານສຶກສາ, ເຊິ່ງນຳໂດຍ ທ່ານ Kanehiro MORISHITA ຈາກ ບໍລິສັດ CTI Engineering International Co., Ltd. ມາປະຈຳຢູ່ ສປປ ລາວ ແຕ່ ວັນທີ 20 ເດືອນ 01 ປີ 2009.

ໃນຕອນທ້າຍໄລຍະທີ່ໜຶ່ງ ຂອງການສຶກສາ, ທີມງານສຶກສາໄດ້ອະທິບາຍ ຜົນການສຶກສາທັງໝົດ ໃນບົດລາຍງານໄລຍະກາງ ໃຫ້ພາກສ່ວນຕ່າງໆຂອງຝ່າຍລາວ ຕິດຄັດມາພ້ອມເອກະສານຊ້ອນທ້າຍ 1 (ເຊິ່ງຕໍ່ ໄປນີ້ເອີ້ນວ່າ “ຝ່າຍລາວ”), ຝ່າຍລາວ ແລະທີມງານສຶກສາ (ເຊິ່ງຕໍ່ໄປນີ້ເອີ້ນວ່າ “ທັງສອງຝ່າຍ”) ໄດ້ປຶກສາ ຫາລືກັນ ກ່ຽວກັບບົດລາຍງານ, ໂດຍການເປັນປະທານຂອງ ທ່ານ ບຸນຈັນ ສິນທະວົງ ຮອງເຈົ້າຄອງ ນະຄອນ ຫລວງວຽງຈັນ. ວາລະກອງປະຊຸມໄດ້ຕິດຄັດໃນເອກະສານຊ້ອນທ້າຍ 2.

II. ການປຶກສາຫາລື

1. ບົດລາຍງານໄລຍະກາງ

ຝ່າຍລາວໄດ້ເຫັນດີຮັບຮອງເອົາ ບົດລາຍງານໄລຍະກາງ ແລະການອະທິບາຍຂອງທີມງານສຶກສາ, ຝ່າຍລາວ ຄາດວ່າ ຮ່າງແຜນຊີ້ນຳລວມໃນບົດລາຍງານໄລຍະກາງຈະໄດ້ຮັບການບັບປຸງຕາມການປະກອບຄຳຄິດເຫັນ ຂອງຝ່າຍລາວລວມທັງຜົນໃນໄລຍະທີ່ 2 ຂອງການສຶກສາ. ນອກຈາກນີ້ທັງສອງຝ່າຍໄດ້ຕົກລົງເຫັນດີຕ້ອງໄດ້ ມີການສຶກສາລະອຽດຕື່ມອີກກ່ຽວກັບການນຳໃຊ້ລະບົບບຳບັດແບບລວມສູນ ຂອງນະຄອນຫລວງວຽງຈັນໃນອານາຄົດ.

2. ສຸຂະອານາໄມແບບຊຸມຊົນ

ຝ່າຍລາວຕົກລົງເຫັນດີກ່ຽວກັບຄວາມເປັນໄປໄດ້ໃນການນຳໃຊ້ສຸຂະອານາໄມແບບຊຸມຊົນ ສຳລັບການບັບປຸງສິ່ງແວດລ້ອມນໍ້າຂອງລະບົບລະບາຍນໍ້າຕົວເມືອງໃນນະຄອນຫລວງວຽງຈັນ ໂດຍພິຈາລະນາສະພາບທຳມະຊາດ ແລະ ສັງຄົມຂອງພື້ນທີ່, ເຊິ່ງເປັນບ່ອນທີ່ມີມົນລະພິດນໍ້າເປື້ອນຈາກຄົວເຮືອນ.

3. ການຄັດເລືອກ ສະຖານທີ່ໂຄງການຕົວແບບ

ຝ່າຍລາວຕົກລົງເຫັນດີຮັບຮອງເອົາ ການຄັດເລືອກ ໂຄງການທົດລອງ ຢູ່ 2 ບ່ອນ, (1) ໜ່ວຍ 10, 11 ແລະ 12 ແລະບໍລິເວນອ້ອມຂ້າງຂອງບ້ານທົ່ງຂັນຄຳ (ເປັນສຸຂະອານາໄມແບບຊຸມຊົນ, ຢູ່ໃນພື້ນທີ່ລະບາຍນໍ້າຂອງ ຮ່ອງທອງ). (2) ໂຮງຮຽນປະຖົມ ຂົວຫລວງ, ບ້ານ ຂົວຫລວງ (ເປັນສຸຂະອານາໄມແບບໂຮງຮຽນ, ຢູ່ໃນພື້ນທີ່ລະບາຍນໍ້າຂອງຮ່ອງປ່າສັກ). ຝ່າຍລາວຄາດວ່າ ໃນອານາຄົດຕ້ອງໄດ້ພິຈາລະນາສຶກສາກ່ຽວກັບ ສຸຂະອານາໄມ


Kamta

ຂັ້ນຊຸມຊົນແບບອື່ນໆອີກ ເຊັ່ນ ຕະຫລາດ ແລະທຳນັກສຶກສາຢູ່ ມະຫາວິທະຍາໄລແຫ່ງຊາດ, ນອກນັ້ນ ຝ່າຍລາວໄດ້ມີຄຳຖາມກ່ຽວກັບ ເຫດຜົນຂອງການຄັດເລືອກເອົາໂຮງຮຽນປະຖົມເປັນບ່ອນໜຶ່ງ ຂອງໂຄງການ ທົດລອງ. ທີມງານສຶກສາໄດ້ອະທິບາຍວ່າ ໂຮງຮຽນເປັນບ່ອນທີ່ເໝາະສົມສຳລັບຈຸດປະສົງໃນການສຶກສາຮຽນຮູ້ສິ່ງແວດລ້ອມ ການອະທິບາຍດັ່ງກ່າວໄດ້ຮັບການຍອມຮັບຈາກຝ່າຍລາວ.

4. ການແລກປ່ຽນຂໍ້ມູນລະຫວ່າງບັນດາການສຶກສາ ແລະບັນດາໂຄງການ

ທັງສອງຝ່າຍຕົກລົງເຫັນດີວ່າ ແຕ່ລະການສຶກສາ ແລະແຕ່ລະໂຄງການ ແມ່ນມີຂອບເຂດຈຳກັດໃນໜ້າວຽກ ແລະເວລາ, ດັ່ງນັ້ນຄວນຈະຕ້ອງໄດ້ມີການແລກປ່ຽນຂໍ້ມູນລະຫວ່າງບັນດາການສຶກສາ ແລະບັນດາໂຄງການທີ່ ກ່ຽວພັນກັນ, ເປັນຕົ້ນແມ່ນ ການສຶກສາແຜນຊີ້ນຳລວມ ສຳລັບການວາງແຜນຜັງເມືອງວຽງຈັນ, ໂຄງການຂອງ WWF ແລະໂຄງການຂອງWSP ເພື່ອເຮັດໃຫ້ການສຶກສາມີປະສິດຕິຜົນ ແລະປະສິຕິພາບ.

5. ຄຸນນະພາບນໍ້າໃຕ້ດິນ

ຝ່າຍລາວໄດ້ມີຄຳຖາມກ່ຽວກັບ ຄຸນນະພາບນໍ້າໃຕ້ດິນ ແລະຮູບແບບສຳລັບການປັບປຸງຄຸນນະພາບ.ທາງທີມງານສຶກສາໄດ້ໃຫ້ຄຳຕອບວ່າ ພວກເຮົາຮັບຮູ້ນຳກັນກ່ຽວກັບ ນໍ້າໃຕ້ດິນກໍ່ມີຄວາມສຳຄັນ ໃນການປັບປຸງຄຸນນະພາບນໍ້າ ແລະກໍ່ໄດ້ພິຈາລະນາຢູ່ໃນການສຶກສາ ແຕ່ວ່າບັນຫາດັ່ງກ່າວບໍ່ໄດ້ນອນຢູ່ໃນຂອບເຂດໜ້າວຽກ, ແລະບໍ່ໄດ້ອະທິບາຍລະອຽດໃນບົດລາຍງານໄລຍະກາງ.

6. ອົງການລັດຖະບານທີ່ຮັບຜິດຊອບກ່ຽວກັບ CBS

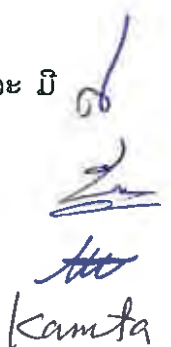
ທັງສອງຝ່າຍຕົກລົງເຫັນດີວ່າ ອົງການລັດຖະບານທີ່ຮັບຜິດຊອບກ່ຽວກັບ ສຸຂະອານາໄມແບບຊຸມຊົນແມ່ນມີ ຄວາມສຳຄັນສຳລັບການເຜີຍແຜ່ຢ່າງກວ້າງຂວາງ ແລະສະດວກໃນການຈັດຕັ້ງປະຕິບັດ, ດັ່ງນັ້ນຈຳເປັນຕ້ອງໄດ້ກຳນົດຢ່າງຈະແຈ້ງໃນໄລຍະທີ່ 2 ຂອງການສຶກສາ.

7. ຜົນການກວດກາຄຸນນະພາບນໍ້າທີ່ຄ້າຍຄືກັນ

ທັງສອງຝ່າຍຮັບຮູ້ວ່າ ຄວາມເຊື່ອຖືຂອງ ຂໍ້ມູນກວດກາຄຸນນະພາບນໍ້າຂອງການສຶກສາ ເຊິ່ງມີລັກສະນະຄ້າຍຄືກັນກັບຂໍ້ມູນຂອງໂຄງການອື່ນໆ ເຊັ່ນ WWF

III. ການກ່າວປິດກອງປະຊຸມ

ປະທານກອງປະຊຸມໄດ້ກ່າວປິດກອງປະຊຸມໃນຄັ້ງນີ້ ແລະຄາດວ່າການສຶກສາດັ່ງກ່າວຈະປະສົບຜົນສຳເລັດ ແລະ ມີຄວາມຄືບໜ້າໃນອານາຄົດ.



ເອກະສານຊ້ອນທ້າຍ 1

ລາຍຊື່ຜູ້ເຂົ້າຮ່ວມກອງປະຊຸມຄະນະຊີ້ນຳໂຄງການ ໃນການສະເໜີ ບົດລາຍງານໄລຍະການ ຄັ້ງວັນທີ 10 ມີນາ, 2010 ທີ່ຫ້ອງປະຊຸມຂອງໂຮງແຮມ ໂນໂວແທວ.

ຝ່າຍລາວ

ນະຄອນຫລວງວຽງຈັນ

- ທ່ານ ບຸນຈັນ ສິນທະວົງ
- ທ່ານ ແກ້ວພິລາວັນ ອາໄພລາດ
- ທ່ານ ອຸດອນ ແຍງວັນນະວົງ
- ທ່ານ ຈັນສະໝອນ
- ທ່ານ ຫນູຊອນ
- ທ່ານ ສົມໃຈຫວັງ ເດດອຸດົມ
- ທ່ານ ສອນທະວີ ພິມມະສານ
- ທ່ານ ດຣ. ຄຳຕັນ ບົວໄພວັນ
- ທ່ານ ອຳພອນ
- ທ່ານ ໂຕວັນ ນຸພາບທະວົງສີ
- ທ່ານ ໄພວັນ ສິນທະວົງ
- ທ່ານ ບຸດສະດີ ສີທິລິງ
- ທ່ານ ພູວິສັກ ວົງພູທອນ
- ທ່ານ ສາຍທະວີ ແຍງວັນນະວົງ
- ທ່ານ ດາວເພັດ ອາລຸນ

- ຮອງເຈົ້າຄອງ ນະຄອນຫລວງວຽງຈັນ (ປະທານກອງປະຊຸມ)
- ຫົວໜ້າ ພະແນກ ໂຍທາທິການ ແລະ ຂົນສົ່ງ
- ຮອງຫົວໜ້າ ພະແນກ ໂຍທາທິການ ແລະ ຂົນສົ່ງ
- ໂຄງການ ປ້ອງກັນຕະຝັ່ງເຈື່ອນ
- ຮອງ ຫົວໜ້າ ຫ້ອງການອົງການ ອພບ
- ຜູ້ປະສານງານ ໂຄງການ ພະແນກ ຍທຂ
- ຜູ້ປະສານງານ ໂຄງການ ຫ້ອງການ ອພບ
- ຄະນະ ພະແນກ ສາທາລະນະສຸກ
- ຮອງຫົວໜ້າ ພະແນກ ກະສິກຳ ແລະ ປ່າໄມ
- ພະແນກ ອຸດສະຫະກຳ ແລະ ການຄ້າ
- ຫ້ອງການຊັບພະຍາກອນນໍ້າ ແລະ ສິ່ງແວດລ້ອມ
- ຮອງຫົວໜ້າຫ້ອງການຊັບພະຍາກອນນໍ້າ ແລະ ສິ່ງແວດລ້ອມ
- ພະແນກສຶກສາ
- ຫົວໜ້າກອງເລຂາໂຄງການ ສວນອຸດສາຫະກຳ
- ຫົວໜ້າຫ້ອງການ ວິທະຍາສາດ ເຕັກໂນໂລຊີ

ກະຊວງໂຍທາທິການ ແລະ ຂົນສົ່ງ

- ທ່ານ ບຸນຊົມ ສົມສີຫາຄົມ
- ທ່ານ ພຸດທະເສນ ອັກຄະວົງ
- ທ່ານ ນາງ ວັນ ວິລະພັນ

- ສະພາວິທະຍາສາດ
- ຮອງຫົວໜ້າກົມເຄຫາ ແລະ ຜັງເມືອງ
- ຜູ້ປະສານ ໂຄງການ ກົມເຄຫາ ແລະ ຜັງເມືອງ

ສະຖາບັນໂຍທາ ແລະ ຂົນສົ່ງ

- ທ່ານ ຊຽງຄຳ ພຸດຈັນທະວົງສາ
- ທ່ານ ນ. ພອນສະຫວັນ ແພງສິດາ
- ທ່ານ ນ. ສາຍຄຳ ທຳມະໂນສຸດ
- ທ່ານ ນ. ໂພເງິນ ສຸວັນນະວົງ
- ທ່ານ ຈັນທະລາ ພິມມະຈັກ
- ທ່ານ ຈັນທະວົງໂສ ອຸດົມເດດ
- ທ່ານ ນ. ມະນີແສງ ດັວງນຸລັກ
- ທ່ານ ວົງສັກ ມີໄຊ

- ຮອງ ຫົວໜ້າສະຖາບັນ
- ຫົວໜ້າພະແນກ ຈັດຕັ້ງ-ບໍລິຫານ
- ຫົວໜ້າພະແນກ ແຜນການ ແລະການຮ່ວມມື
- ຫົວໜ້າພະແນກ ສິ່ງແວດລ້ອມ
- ຮອງຫົວໜ້າພະແນກເຄຫາ ແລະ ຜັງເມືອງ
- ຫົວໜ້າພະແນກ ໂຄງລ່າງ ແລະ ຂົນສົ່ງ
- ຫົວໜ້າ ຜູ້ປະສານງານ ໂຄງການ
- ຜູ້ປະສານງານ ໂຄງການ



Kamta

ອົງການຊັບພະຍາກອນນໍ້າ ແລະ ສິ່ງແວດລ້ອມ

ທ່ານ ໂລນຄໍາ

ກົມສິ່ງແວດລ້ອມ

ທ່ານ ວັນໄຊ

ກົມສິ່ງແວດລ້ອມ

ທ່ານ ພິງສະຫວັນ ຍິ່ງຍອດ

ສະຖາບັນຄົ້ນຄ້ວາຊັບພະຍາກອນນໍ້າ ແລະ ສິ່ງແວດລ້ອມ

ຝ່າຍຍີ່ປຸ່ນ

ທ່ານນາງ Hiroko KAMATA

ທີ່ປຶກສາອາວຸໂສ, ຫ້ອງການໃຈກາ ສໍານັກງານໃຫຍ່ປະເທດຍີ່ປຸ່ນ

ທ່ານ Yasuroshi Sagami

ຊ່ວຍຊານ, ຫ້ອງການໃຈກາ ສໍານັກງານໃຫຍ່ ປະເທດຍີ່ປຸ່ນ

ທ່ານນາງ Yoko HATORI

ຕາງໜ້າຈາກ ຫ້ອງການ ໃຈກາປະຈໍາລາວ

ທ່ານ Kanehiro MORISHITA

ຫົວໜ້າທີມງານສຶກສາ

ທ່ານ Makoto YAJIMA

ຮອງຫົວໜ້າທີມງານສຶກສາ

ທ່ານ Hitoshi SHIMOKOCHI

ຊ່ວຍຊານສຸຂະອານາໄມຄຸນນະພາບນໍ້າ ທີມງານສຶກສາ

ທ່ານ Kazuhiro NAKAMURA

ຊ່ວຍຊານດ້ານອຸທິກວິທະຍາ ທີມງານສຶກສາ

ທ່ານ Kazuyoshi FUJIMOTO

ຜູ້ປະສານງານ ທີມງານສຶກສາ

ພາກສ່ວນ NGO ແລະອົງການຈັດຕັ້ງສາກົນ

ທ່ານນາງ Pauline GERRAD

ຫົວໜ້າໂຄງການ, WWF

ທ່ານນາງ Aurilie PIMMASONE

ຫົວໜ້າຜູ້ປະສານງານ, LIRE

ທ່ານ ແສງເດືອນ

ຜູ້ຊ່ວຍຫົວໜ້າໂຄງການ, LIRE

ທ່ານ ບຸນຈັນ ຄໍາພິລາວົງ

ວິສະວະກອນອອກແບບ, LIRE

ທ່ານນາງ Noka DESTALINA

ຫົວໜ້າໂຄງການ, BORDA

ທ່ານນາງ Kieu Ly Doan

ຫົວໜ້າໂຄງການ, BORDA

ທ່ານ ວຽງສະໄໝ ວົງຄໍາຊາວ

Country Team Leader, WSP (World Bank)

ທີມງານສຶກສາ ໂຄງການ ສຶກສາແຜນຊີ້ນໍາລວມໃນການວາງແຜນຜັງເມືອງ

ທ່ານ Yuichi HASHIMOTO

ວິສະວະກອນນໍ້າປະປາ

ທ່ານນາງ Chatsopa CLINPUN

ວິສະວະກອນສິ່ງແວດລ້ອມ

ທ່ານ ຈັນທະສັກ ບົດຕາພານິດ

ຫົວໜ້າຜູ້ປະສານງານ ຈາກ ສຍຂ

Handwritten signatures and initials in blue ink. One signature is clearly legible as 'Kamata'.

ເອກະສານຊ້ອນທ້າຍ 2

ວາລະກອງປະຊຸມປຶກສາຫາລືຄະນະກຳມະການຊີ້ນຳ ຮ່າງແຜນຊີ້ນຳລວມ ການຄຸ້ມຄອງສິ່ງແວດລ້ອມນ້ຳ
ນະຄອນຫຼວງວຽງຈັນ ຈັດຂຶ້ນໃນວັນ ພຸດ, ວັນທີ 10 ມີນາ 2010, ທີ່ ຫ້ອງປະຊຸມ ໂຮງແຮມ ໂນໂວເທວ.

ລ/ດ	ເວລາ	ລາຍການ	ຜູ້ສະເໜີ
1	13.15 - 13.30	ລົງທະບຽນ	
2	13.30 - 13.40	ສະເໜີຈຸດປະສົງ	ທ່ານທິວໜ້າ ສຍຂ
3	13.40 - 13.50	ທ່ານປະທານກອງປະຊຸມກ່າວເປີດເປັນທາງການ	ທ່ານປະທານກອງປະຊຸມ
4	13.50 - 14.30	ລາຍງານ ກ່ຽວກັບ ຮ່າງແຜນຊີ້ນຳລວມ ໃນການຄຸ້ມ ຄອງສິ່ງແວດລ້ອມນ້ຳ ຢູ່ນະຄອນຫຼວງວຽງຈັນ	Mr. Kanehiro MORISHITA ຫົວໜ້າທີມງານສຶກສາ
5	14.30 - 15.00	ສະເໜີກ່ຽວກັບ ວຽກງານການປັບປຸງ ສຸຂະອະນາໄມ ຂັ້ນບ້ານ (CBS) ແລະ ແຜນພັດທະນາໃນອະນາຄົດ ຂອງ (BORDA & LIRE)	Ms. Noka Destalina, (BORDA & LIRE)
6	15.00 - 15.15	ພັກຜ່ອນ ດື່ມນ້ຳຊາ ກາເຟ (15 ນາທີ)	
7	15.15 - 15.45	ການປັບປຸງ ດ້ານ ສຸຂະອະນາໄມ ຢູ່ໃນລາວ	Ms. Hiroko KAMATA ຊ່ຽວຊານຈາກ JICA ໂຕກຽວ
8	15.45 - 16.30	ສົນທະນາ ແລະ ປະກອບຄໍາຄິດຄໍາເຫັນ	ທີມງານສຶກສາໂຄງການ
9	16.30 - 16.40	ສະຫລຸບບົດກອງປະຊຸມສໍາມະນາ	ທ່ານປະທານກອງປະຊຸມ
10	17.00 -	ເຊີນຮັບປະທານ ອາຫານຄໍ່າ ທີ່ ຮ້ານ ອາຫານ ຂອງ ໂຮງແຮມ (ໂນໂວເທວ)	

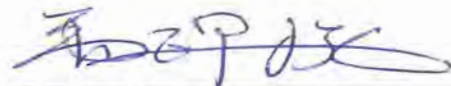
Handwritten signature and name: *Kamata*

Minutes of Meeting
on
The Fourth Steering Committee
of
The Study on Improvement of Water Environment in Vientiane City
agreed upon between
Public Works and Transport Institute, Ministry of Public Works and
Transport
and
Japan International Cooperation Agency

December 14, 2010
Vientiane, LAO PDR



Dr. Koung SOUKALOUN
Acting Director of Public Works and
Transport Institute
Ministry of Public Works and Transport



Mr. Kanehiro MORISHITA
Leader of the Study Team
Japan International Cooperation Agency

Witness



Mr. Bounchanh SINTHAVONG
Vice Mayor of Vientiane City

I. General

The Government of Japan, in response to the official request of the Government of Lao People's Democratic Republic (hereinafter referred to as "the Government of Lao PDR"), decided to conduct the Study on Improvement of Water Environment in Vientiane City (hereinafter referred to as "the Study") and the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the preparatory study team to Lao PDR in March 2008.

Based on the above study results, Ministry of Public Works and Transport (hereinafter referred to as "MPWT") and JICA Laos Office signed on and exchanged agreement on the Scope of Work (hereinafter referred to as "S/W") and Minutes of Meetings (hereinafter referred to as "M/M") for the Study in November 2008.

The Japan International Cooperation Agency (hereinafter referred to as "JICA") has prepared the Study according to the S/W and M/M exchanged in November 2008, and dispatched the Study Team for commencement of the Study, headed by Mr. Kanehiro MORISHITA of CTI Engineering International Co., Ltd., to Lao People's Democratic Republic (hereinafter referred to as "Lao PDR") from January 20, 2009.

In the middle of phase 2 in the Study, the Study Team explained the study progress for the period of June to December 2010 to Lao organizations listed in the Attachment 1 (hereinafter referred to as "Lao Side"), and Lao Side and the Study Team (hereinafter referred to as "Both Sides") had a discussion on this Report, which was chaired by Mr. Bounchanh SINTHAVONG, Vice Mayor of Vientiane City. The agenda of the meeting is attached herewith as the Attachment 2.

II. Discussions

(1) Progress Report (2)

The Progress Report (2) contains the study results conducted for the period of June to December 2010, and the Study Team presented the major topics of the report. Based on the presentation, the following members gave their comments and the team replied to them.

1. Mr. Keophilavanh APHAYLATH, 2. Mr. Daophet ALOUN, 3. Dr. Somphone DETOUDOM,
4. Ms. Vilaykham PHOSALATH, 5. Mr. Viensamay VONGKHAMSAO, 6. Mr. Chantha,
7. Dr. Ketkeo SIHALATH, 8. Dr. Santisouk SIMMALAVONG, 9. Dr. Phonepaseuth,
10. Mr. Sengkeo TASAKETH, 11. Mr. Vongsack MIXAY

Major comments and reply to them are summarized below.

(2) Improvement of legal regulatory system for household sanitation

Improvement of regulation/guidance system for sanitation in individual house level is very important. 60 to 70 % of entire households install soak pit for their toilet instead of septic tank. They directly discharge human waste into soil. Thus establishing regulatory/guiding system is required to upgrade the sanitation in household level.

In parallel with enforcement of legal system, improvement of people's awareness is also important. For this purpose, agencies responsible in education, public health and public works shall cooperate together.

The team replied that the legal and institutional expert should propose such system in the succeeding stage, January to March 2011.

(3) Necessity of survey/study in detail

The study on proposed on-site wastewater treatment plants shall be studied deeper, for instance mapping of suitable locations, necessary cost, implementation plan and so on.

The team replied those work results will be presented in the next stage.

(4) Community Based Sanitation (CBS)

The Lao Side agreed that CBS was feasible for the improvement of the water environment of the urban drainage systems in Vientiane City considering the natural and social conditions of the area, where major pollution load was domestic wastewater. Management of CBS in the communities, however, becomes much more important.

The team relied that the team asked LIRE to monitor the working situation in the community and school where CBS and SBS were installed.

(5) Utilizing natural/artificial wetlands

Remaining ponds and marshes shall be conserved to enhance their functions of flood attenuation and wastewater purification. Furthermore comparative study between wetland and conventional wastewater treatment plant shall be made. In Thailand, artificial wetlands are functioning well for wastewater treatment.

The team replied that the team would examine those functions and advantage/disadvantage in the next stage.

(6) Others

- Urban wastewater strategy shall refer to the Master Plan and shall be revised.
- Domestic wastewater from households and small factories shall be treated in manner of on-site treatment.
- Rapid assessment conducted by WSP and the results of pre-feasibility study should be combined.
- Zoning by suitable type of wastewater treatment shall be made clear in the urban areas.
- Study results shall be open to the stakeholders.

- Organizational responsibilities should be made clear for governmental regulatory approaches.

III. Discussion Summary and Closing Remarks

The chairman finally accepted the Progress Report (2) in principle, summarized the following discussion results:

- (1) Locations and functions of wastewater treatment plants (WPTs) should be cleared in the next stage.
- (2) The team should continuously study artificial wetlands with natural purification functions, which are already applied in the neighboring counties, in order to save the budget.
- (3) The team should propose legal frame work, regulation and guidelines including management mechanism for improvement water environment and sanitation efficiently.
- (4) The team should make clear the effects of wastewater discharging from different toilet type, such as soak pit and septic tank.
- (5) The team should study deeper midterm and long-term strategies, in particular about proposed wastewater treatment methodologies/mechanisms.

In addition, he suggested focusing on data collection from the district and community levels if the team needs. Finally he gave closing remarks expressing appreciation for the study efforts and expectation for the further progress of the study. The meeting was closed.



ATTACHMENT 1

List of participants in the Steering Committee Meeting for Presentation of Progress Report (2) on December 14, 2010 at the Meeting Room of International Cooperation Training Center

Lao Side

Vientiane City

Mr. Bounchanh SINTHAVONG	Vice Mayor of Vientiane City
Mr. Keophilavanh APHAILATH	Deputy Director of DPWT
Mr. Oudone NGENGVANTHNAVONG	Deputy Director of DPWT
Dr. Ketkeo SIHALATH	Vice President of VUDAA
Dr. Inlavanh KEOBOUNPHANH	Director of Department of Public Health
Mr. Chantha	Deputy Director, Department of Agriculture and Forestry
Mr. Tovanh NOUPHAPTHAVONGSY	Department of Industry and Commerce
Ms. Boutsady SIPHILOM	Deputy Head, Water Resources and Environment Office
Ms. Kethmany BUNDASACK	Deputy Director, Department of Education
Mr. Daophet ALOUN	Director of Science and Technology Office
Mr. Thavone	Deputy Director, Division of Foreign Affair, Vientiane Capital
Dr. Phonepaseuth	Representative, Department of Public Health

Ministry of Public Works and Transport (MPWT)

Dr. Somphone DETOUDOM	Vice President of Science and Technical Council
Ms. Vilaykham PHOSALATH	Deputy Director, Department of Housing and Urban Planning
Dr. Santisouk SIMMALAVONG	Deputy Director of Cabinet, MPWT
Mr. Bouaphanh THEDDAVANH	Deputy Director, Department of Water Ways

Public Works and Transport Institute, MPWT

Dr. Khoung SOUKALOUN	Acting Director of Public Works and Transport Institute
Mr. Chanthala PHIMMACHACK	Deputy Director of Housing and Urban Planning Division
Mr. Nengmua MUASAYCHOU	Deputy Director of Urban Engineering Division
Mr. Phouthala SOUKSAKHONE	Deputy Director of Cooperation and Planning
Mr. Viengnam DOUANGPHACHANH	Deputy Director of Infrastructure and Transport Division
Mr. Chanthasack BOUTAPHANITH	Project Coordinator of Urban Development Master Plan (JICA)
Ms. Maniseng DOUANGNOULACK	Coordinator of PTI (Project)
Mr. Vongsack MIXAY	Coordinator of PTI (Project)
Ms. Manivone VONGXAY	Secretary of Project

Water Resources and Environment Administration (WREA)

Mr. Sengkeo TASAKETH Department of Environment

Japanese Side

Ms. Yoko HATTORI Representative, JICA Laos Office

Mr. Kazumitsu MURAOKA JICA Expert, MPWT

Mr. Kaiyasith SADETTAN Program Officer, JICA Laos Office

Mr. Kanehiro MORISHITA Team Leader, JICA Study Team

Mr. Yasuhiko KATO Environmental Education, JICA Study Team

Ms. Kyoko MISHIMA Ecological Conservation/Environmental and Social Consideration,
JICA Study Team

Mr. Yunshan BAI GIS, JICA Study Team

Mr. Hiroshi SHIMOKOCHI Sanitation/Water Quality, JICA Study Team

NGO/International Organization

Mr. Saleumphon KHAMPHUI Director, LIRE

Mr. Thongsanti BOUNVONGSALY Managing Director, LIRE

Mr. Bounchan KHAMPHILAYVONG Design Engineer, LIRE

Mr. Viengsamay VONGKHAMSAO Country Team Leader, WSP (World Bank)

ATTACHMENT 2

**PROGRAM OF STEERING COMMITTEE MEETING FOR THE PROGRESS REPORT 2
OF
THE STUDY ON IMPROVEMENT OF WATER ENVIRONMENT IN VIENTIANE CITY**

Date: Tuesday 14 December, 2010

Venue: Meeting Room at International Cooperation Training Center (Km 5)

PROGRAM

Time	Description	Responsible Person
8.15 - 8.30	Registration	
8.30 - 8.40	Explanation of the steering Committee Meeting	Representative of PTI
8.40 - 9.00	Opening by the chairman of Steering Committee	Mr. Bounchan SINTHAVONG Vice Major of Vientiane Capital Chairman of the Meeting
9.00 - 10.15	Explanation about the Progress Report of The Study on Improvement of Water Environment in Vientiane City	Mr. Kanehiro MORISHITA Team Leader, JICA Study Team
10.15 - 10.25	Coffee Break	
10.25 - 11.30	Discussion	
11.30 - 12.00	Closing and Conclusion by the Chairman of the Steering Committee	Mr. Bounchan SINTHAVONG Vice Major of Vientiane Capital Chairman of the Meeting
12.00	Lunch	Training center

ບົດບັນທຶກກອງປະຊຸມ

ກ່ຽວກັບ

ກອງປະຊຸມປຶກສາຫາລື ຄັ້ງທີ 4 ຂອງຄະນະຊີ້ນຳ

ໂຄງການ ສຶກສາ ການປັບປຸງສິ່ງແວດລ້ອມນ້ຳ ນະຄອນຫລວງວຽງຈັນ

ຕົກລົງກັນ ລະຫວ່າງ

ສະຖາບັນໂຍທາ ແລະຂົນສົ່ງ, ກະຊວງ ໂຍທາທິການ ແລະ ຂົນສົ່ງ

ແລະ

ອົງການ ໃຈກາ

14 ທັນວາ, 2010

ນະຄອນຫລວງວຽງຈັນ, ສ ປ ປ ລາວ



ທ່ານ ດຣ. ກຸງ ສຸກອາລຸນ

ຮັກສາການຫົວໜ້າ ສະຖາບັນໂຍທາ ແລະຂົນສົ່ງ,
ກະຊວງໂຍທາທິການ ແລະ ຂົນສົ່ງ



ທ່ານ Mr. Kanehiro MORISHITA

ຫົວໜ້າ ທົ່ວໆານສຶກສາ
ອົງການໃຈກາ

ພະຍານ



ທ່ານ ບຸນຈັນ ສິນທະວົງ

ຮອງເຈົ້າຄອງນະຄອນຫລວງວຽງຈັນ

I. ພາກສະເໜີ

ເພື່ອຕອບສະໜອງຕາມການສະເໜີຢ່າງເປັນທາງ ຂອງລັດຖະບານແຫ່ງ ສາທາລະນະ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ (ເຊິ່ງຕໍ່ໄປນີ້ເອີ້ນວ່າ "ລັດຖະບານ ສປປ ລາວ"), ລັດຖະບານປະເທດຍີ່ປຸ່ນ ຕັດສິນໃຈໃນການ ດຳເນີນ ການສຶກສາ ບັບປຸງ ສິ່ງແວດລ້ອມນ້ຳ ຢູ່ນະຄອນຫລວງວຽງຈັນ (ເຊິ່ງເອີ້ນວ່າ "ການສຶກສາ") ແລະ ອົງການ ຮ່ວມມືລະຫວ່າງປະເທດ ຍີ່ປຸ່ນ (ເຊິ່ງເອີ້ນວ່າ "ອົງການໃຈກາ") ໄດ້ສົ່ງທີມງານສຶກສາມາກະກຽມຢູ່ ສປປ ລາວ ໃນເດືອນ 3 ປີ 2008

ຈາກຜົນຂອງການສຶກສາຂັ້ນເທິງ, ກະຊວງ ໂຍທາທິການ ແລະຂົນສົ່ງ (ເຊິ່ງຕໍ່ໄປນີ້ເອີ້ນວ່າ "ຍທຂ") ແລະ ຫ້ອງການໃຈກາປະຈຳລາວ ໄດ້ລົງນາມ ແລະ ແລກປ່ຽນ ຂໍ້ຕົກລົງໃນຂອບເຂດຂອງການດຳເນີນງານ (ເຊິ່ງ ເອີ້ນ ວ່າ "S/W") ແລະ ບົດບັນທຶກກອງປະຊຸມ ກ່ຽວກັບການສຶກສາ (ເຊິ່ງເອີ້ນວ່າ "M/M") ໃນເດືອນ 11 ປີ 2008.

ອົງການຮ່ວມມືລະຫວ່າງປະເທດ ຍີ່ປຸ່ນ (ເຊິ່ງເອີ້ນວ່າ "ອົງການໃຈກາ") ໄດ້ກະກຽມການສຶກສາ ໂດຍອີງ ຕາມ ຂອບເຂດການດຳເນີນງານ ແລະ ບົດບັນທຶກກອງປະຊຸມ ທີ່ໄດ້ແລກປ່ຽນກັນໃນ ເດືອນ 11 ປີ 2008, ແລະ ໄດ້ສົ່ງ ທີມງານສຶກສາ, ເຊິ່ງນຳໂດຍ ທ່ານ Kanehiro MORISHITA ຈາກ ບໍລິສັດ CTI Engineering International Co., Ltd. ມາປະຈຳຢູ່ ສປປ ລາວ ແຕ່ ວັນທີ 20 ເດືອນ 01 ປີ 2009.

ໃນຊ່ວງກາງຂອງໄລຍະທີ່2 ຂອງການສຶກສາ, ທີມງານສຶກສາໄດ້ອະທິບາຍ ຄວາມຄືບໜ້າຂອງການ ສຶກສາໃນຊ່ວງເວລາແຕ່ເດືອນມິຖຸນາ ຫາເດືອນທັນວາປີ 2010 ໃຫ້ພາກສ່ວນຕ່າງໆຂອງຝ່າຍລາວ ຕິດຄັດມາ ພ້ອມເອກະສານຊ້ອນທ້າຍ 1 (ເຊິ່ງເອີ້ນວ່າ "ຝ່າຍລາວ"), ຝ່າຍລາວ ແລະທີມງານສຶກສາ (ເຊິ່ງເອີ້ນວ່າ "ທັງສອງ ຝ່າຍ") ໄດ້ປຶກສາ ຫາລືກັນກ່ຽວກັບບົດລາຍງານ, ໂດຍການເປັນປະທານຂອງ ທ່ານ ບຸນຈັນ ສິນທະວົງ ຮອງເຈົ້າ ຄອງນະຄອນຫລວງວຽງຈັນ. ວາລະກອງປະຊຸມໄດ້ຕິດຄັດໃນເອກະສານຊ້ອນທ້າຍ 2.

II. ການປຶກສາຫາລື

(1) ບົດລາຍງານຄວາມຄືບໜ້າ (2)

ບົດລາຍງານຄວາມຄືບໜ້າ (2) ປະກອບດ້ວຍຜົນການປະຕິບັດວຽກງານໃນຊ່ວງເວລາແຕ່ເດືອນມິຖຸນາ ຫາເດືອນທັນວາປີ 2010, ແລະທີມງານສຶກສາໄດ້ສະເໜີທິວຂໍ້ສຳຄັນຂອງການສຶກສາ. ໂດຍອີງໃສ່ບົດສະເໜີ, ສະມາຊິກຜູ້ເຂົ້າຮ່ວມປະຊຸມດັ່ງລາຍຊື່ດັ່ງນີ້ໄດ້ປະກອບຄຳເຫັນຕໍ່ບົດສະເໜີ ແລະທີມງານສຶກສາກໍ່ໄດ້ຊີ້ແຈງບາງ ຄຳເຫັນ.

1. ທ່ານ. ແກ້ວພິລາວັນ ອາໄພລາດ, 2. ທ່ານ. ດາວເພັດ ອາລຸນ, 3. ທ່ານ ດຣ. ສົມພອນ ເດັດອຸດົມ,
4. ທ່ານນາງ. ວິໄລຄຳ ໂພສາລາດ, 5. ທ່ານ ວຽງສະໄຫມ ວົງຄຳຊາວ, 6. ທ່ານ. ຈັນທາ,
7. ທ່ານ ດຣ. ເກດແກ້ວ ສີຫາລາດ, 8. ທ່ານ ດຣ. ສັນຕິສຸກ ສິນມາລາວົງ, 9 ທ່ານ ດຣ. ພອນປະເສີດ,
10. ທ່ານ. ແສງແກ້ວ ທະສະເກດ, 11. ທ່ານ ວົງສັກ ມີໄຊ

ຄຳເຫັນທີ່ສຳຄັນ ແລະ ການຕອບຄຳຖາມໄດ້ສັງລວມດັ່ງລຸ່ມນີ້.

(2) ການບັບປຸງລະບົບການຄຸ້ມຄອງດູແລຕາມກົດຫມາຍ ສຳລັບສຸຂະອານາໄມຄົວເຮືອນ

ການປັບປຸງລະບົບ ກົດລະບຽບ/ຄູ່ມື ສໍາລັບສຸກຂະອານາໄມໃນຂັ້ນຄົວເຮືອນ ແມ່ນມີຄວາມສໍາຄັນຫລາຍ. 60-70% ຂອງຄົວເຮືອນທັງໝົດ ແມ່ນຕິດຕັ້ງຊຸມວິດຊີມ ແທນທີ່ຈະເປັນຊຸມວິດກັນຕອງ (septic tank). ສິ່ງເສດເຫຼືອຂອງຄົນແມ່ນໄດ້ປ່ອຍໂດຍກົງລົງສູ່ຊັ້ນໃຕ້ດິນ. ດັ່ງນັ້ນ ຈິ່ງຮຽກຮ້ອງໃຫ້ມີການສ້າງລະບົບກົດລະບຽບ/ຄູ່ມື ສໍາລັບປັບປຸງສຸກຂະອານາໄມໃນຂັ້ນຄົວເຮືອນ.

ຄຽງຄູ່ກັບການບໍາລັບໃຊ້ຂອງລະບົບກົດໝາຍ, ການປັບປຸງການຮັບຮູ້ຂອງປະຊາຊົນກໍມີຄວາມສໍາຄັນ. ສໍາລັບຈຸດປະສົງດັ່ງກ່າວ, ຫນ່ວຍງານທີ່ຮັບຜິດຊອບໂດຍສະເພາະແມ່ນຂະແໜງສຶກສາ, ສາທາລະນະສຸກ, ໂຍທາທິການ ຄວນມີການປະສານສົມທົບກັນ.

ທາງທີມງານໄດ້ຕອບຄໍາເຫັນຄື ຊ່ຽວຊານທາງດ້ານ ກົດໝາຍ ແລະ ໂຄງສ້າງການຈັດຕັ້ງ ຈະໄດ້ສະເໜີລະບົບດັ່ງກ່າວເຂົ້າໃນການສຶກສາຂັ້ນຕໍ່ໄປ, ເດືອນ ມັງກອນ ຫາ ມີນາ 2011.

(3) ຄວາມຈໍາເປັນຂອງການສໍາຫລວດ/ສຶກສາ ລະອຽດ

ການສຶກສາກ່ຽວກັບການສະເໜີອ່າງບໍາບັດນໍ້າເບື້ອນກັບທີ່ ຄວນຈະຕ້ອງໄດ້ສຶກສາໃຫ້ລຶກຂຶ້ງ, ຕົວຢ່າງ ແຜນທີ່ສໍາລັບຈຸດທີ່ຕັ້ງທີ່ເໝາະສົມ, ງົບປະມານທີ່ຈໍາເປັນ, ແຜນການຈັດຕັ້ງປະຕິບັດ ແລະອື່ນໆ.

ທາງທີມງານໄດ້ຕອບຄໍາເຫັນດັ່ງກ່າວວ່າ, ຜົນຂອງການສຶກສາດັ່ງກ່າວຈະໄດ້ສະເໜີໃນຂັ້ນຕໍ່ໄປ.

(4) ສຸກຂະອານາໄມແບບຊຸມຊົມ (CBS)

ຝ່າຍລາວເຫັນດີວ່າ ສຸກຂະອານາໄມແບບຊຸມຊົນແມ່ນມີຄວາມເປັນໄປໄດ້ສໍາລັບການປັບປຸງສິ່ງແວດລ້ອມນໍ້າຂອງລະບົບລະບາຍນໍ້າຕົວເມືອງ ໃນນະຄອນຫລວງວຽງຈັນ ໂດຍຈະຕ້ອງໄດ້ຄໍານຶງເຖິງສະພາບທໍາມະຊາດ ແລະສັງຄົມຂອງພື້ນທີ່, ແຫລ່ງມົນລະພິດຕົ້ນຕໍແມ່ນມາຈາກນໍ້າເບື້ອນໃນຄົວເຮືອນ. ແຕ່ວ່າ ການຄຸ້ມຄອງ CBS ໃນຊຸມຊົນ, ກາຍເປັນສິ່ງທີ່ມີຄວາມສໍາຄັນຫລາຍ.

ທີມງານສຶກສາໄດ້ຕອບຄໍາເຫັນວ່າ ຈະໃຫ້ສູນຄົ້ນຄວ້າພະລັງງານທົດແທນ ຕິດຕາມກວດກາ ສະພາບການເຮັດວຽກໃນຊຸມຊົມ ແລະໂຮງຮຽນບ່ອນທີ່ມີການກໍ່ສ້າງ CBS ແລະ SBS.

(5) ການນໍາໃຊ້ ດິນທາມ ທໍາມະຊາດ/ຫນອງສ້າງຂຶ້ນໃຫມ່

ບຶງ ແລະ ຫນອງທີ່ຍັງມີຢູ່ຈະຕ້ອງໄດ້ຮັກສາໄວ້ ເພື່ອຂະຫຍາຍຮູບແບບຂອງການຫລຸດຜ່ອນນໍ້າຖ້ວມ ແລະ ກັນຕອງນໍ້າເບື້ອນ. ອີກດ້ານໜຶ່ງ, ຈະຕ້ອງໄດ້ສຶກສາປຽບທຽບລະຫວ່າງ ການບໍາບັດນໍ້າເບື້ອນດ້ວຍ ດິນທາມ/ຫນອງທໍາມະຊາດ ແລະ ການບໍາບັດນໍ້າເບື້ອນແບບທົ່ວໄປ. ເຊັ່ນຢູ່ປະເທດໄທ, ການບໍາບັດນໍ້າເບື້ອນໂດຍນໍາໃຊ້ ຫນອງນໍ້າທີ່ສ້າງຂຶ້ນແມ່ນໄດ້ຮັບຜົນດີ.

ທີມງານສຶກສາໄດ້ຕອບວ່າ ທີມງານສຶກສາຈະອະທິບາຍຮູບແບບດັ່ງກ່າວ ແລະຈຸດດີ/ຈຸດອ່ອນໃນຂັ້ນຕໍ່ໄປ.

(6) ອື່ນໆ

- ຍຸດທະສານດນໍ້າເບື້ອນໃນຕົວເມືອງຈະໄດ້ປັບປຸງໂດຍອີງຕາມແຜນຊີ້ນໍາລວມ.
- ນໍ້າເບື້ອນຈາກຄົວເຮືອນ ແລະໂຮງງານຂະຫນາດນ້ອຍຄວນຈະໄດ້ຮັບການບໍາບັດໃນລັກສະນະບໍາບັດກັບທີ່.
- ການປະເມີນຜົນແບບໄວໂດຍອີງການນໍາແລະສຸຂະອານາໄມ ແລະ ຜົນຂອງການສຶກສາຄວາມເປັນໄປໄດ້ເບື້ອງຕົ້ນຄວນຈະນໍາມາລວມກັນ.
- ການກໍານົດເຂດ ໂດຍອີງໃສ່ປະເພດທີ່ເໝາະສົມຂອງການບໍາບັດນໍ້າເບື້ອນ ຄວນຈະກໍານົດຈະແຈ້ງໃນເຂດຕົວເມືອງ.
- ຜົນຂອງການສຶກສາຄວນຈະເປີດກວ້າງໃນຄູ່ຮ່ວມງານອື່ນໆ

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- ຫນ່ວຍງານຮັບຜິດຊອບຄວນຈະຖືກກຳນົດໃຫ້ຈະແຈ້ງ ຂອງວິທີການຄຸ້ມຄອງຂອງລັດ.

III. ສັງລວມການປົກສາຫາລື ແລະ ການກ່າວປົດ

ສຸດທ້າຍ ປະທານກອງປະຊຸມເັນດີໂດຍພື້ນຖານຮັບຮອງເອົາ ບົດລາຍງານຄວາມຄືບໜ້າ (2), ແລະ ສາມາດສັງລວມຜົນການປົກສາຫາລືດັ່ງນີ້:

- (1) ສະເໜີໃຫ້ຄົ້ນຄວ້າເບິ່ງຄືນ ທີ່ຕັ້ງ ແລະ ຮູບແບບຂອງອ່າງບຳບັດນ້ຳເປື້ອນ.
- (2) ສືບຕໍ່ສຶກສາຄົ້ນຄວ້າລະອຽດ ໂດຍນຳໃຊ້ຮູບແບບການກັນຕອງແບບທຳມະຊາດ, ທີ່ໄດ້ນຳໃຊ້ຢູ່ປະເທດໄກ່ຄຽງ, ເພື່ອຫຼຸດຜ່ອນຕົ້ນທຶນໃນການບຳບັດນ້ຳເປື້ອນ.
- (3) ທີມງານສຶກສາຄວນສືບຕໍ່ຄົ້ນຄວ້າ ແລະ ສະເໜີລະບຽບການຄຸ້ມຄອງ, ລະບົບກິນໄກຄຸ້ມຄອງເພື່ອເຮັດໃຫ້ແຜນຊີ້ນຳລວມສາມາດຈັດຕັ້ງປະຕິບັດ ພາຍຫລັງມີການຮັບຮອງ.
- (4) ກ່ຽວກັບນ້ຳເປື້ອນໃນຄົວເຮືອນ ແລະ ໂຮງງານ ເຊິ່ງອາດຈະມີຜົນກະທົບຕໍ່ຄຸນນະພາບນ້ຳ ໂດຍສະເພາະແມ່ນຊຸມວິດຊຶມ.
- (5) ສຶກສາລະອຽດກ່ຽວກັບແຜນຍຸດທະສາດໄລຍະກາງ ແລະ ໄລຍະຍາວ ໂດຍສະເພາະແມ່ນວິທີການ/ກິນໄກການບຳບັດນ້ຳເປື້ອນ ເພື່ອຮັບປະກັນການບຳບັດນ້ຳເປື້ອນໃນຕົວເມືອງ ແລະ ເປັນບ່ອນອື່ງໃຫ້ແກ່ການລົງທຶນ.

ພ້ອມກັນນັ້ນ, ຍັງໄດ້ແນະນຳໃຫ້ທີມງານເອົາໃຈໃສ່ໃນການເກັບຂໍ້ມູນນຳຂະແໜງການກ່ຽວຂ້ອງໃນຂັ້ນເມືອງ ແລະ ຂັ້ນບ້ານ ເພື່ອໃຫ້ມີປະສິດຕິຜົນສູງ. ສຸດທ້າຍກອງປະຊຸມໄດ້ຊົມເຊີຍຕໍ່ທີມງານສຶກສາ ແລະ ຂອບໃຈອົງການໃຈກາທີ່ໄດ້ຊ່ອຍເຫລືອໂຄງການດັ່ງກ່າວເຊິ່ງເປັນໂຄງການທີ່ດີໃນການປົກປັກຮັກສາສິ່ງແວດລ້ອມ. ແລະ ກ່າວປົດກອງປະຊຸມ.

6

ເອກະສານຊ້ອນທ້າຍ 1

ລາຍຊື່ຜູ້ເຂົ້າຮ່ວມກອງປະຊຸມຄະນະຊີ້ນຳໂຄງການ ໃນການສະເໜີ ບົດລາຍງານຄວາມຄືບໜ້າ(2) ຄັ້ງວັນທີ 14 ທັນວາ, 2010 ທີ່ຫ້ອງປະຊຸມ ສູນຝຶກອົບຮົມຮ່ວມມືສາກົນ ຫ້ອງ 5.

ຝ່າຍລາວ

ນະຄອນຫລວງວຽງຈັນ

- ທ່ານ ບຸນຈັນ ສິນທະວົງ
- ທ່ານ ແກ້ວພິລາວັນ ອາໄພລາດ
- ທ່ານ ອຸດອນ ແຍງວັນນະວົງ
- ທ່ານ ດຣ. ເກດແກ້ວ ສີຫາລາດ
- ທ່ານ ດຣ. ອິນລາວັນ ແກ້ວບຸນພັນ
- ທ່ານ ຈັນທາ
- ທ່ານ ໂຕວັນ ນຸພາບທະວົງສີ
- ທ່ານ ນາງ ບຸດສະດີ ສີທິວົງ
- ທ່ານ ນາງ ເກດມະນີ ບັນດາສັກ
- ທ່ານ ດາວເພັດ ອາລຸນ
- ທ່ານ ຖາວອນ
- ທ່ານ ດຣ. ພອນປະເສີດ

- ຮອງເຈົ້າຄອງ ນະຄອນຫລວງວຽງຈັນ (ປະທານກອງປະຊຸມ)
- ຫົວໜ້າ ພະແນກ ໂຍທາທິການ ແລະ ຂົນສົ່ງ
- ຮອງຫົວໜ້າ ພະແນກ ໂຍທາທິການ ແລະ ຂົນສົ່ງ
- ຮອງ ປະທານ ອພບ
- ຫົວໜ້າ ພະແນກ ສາທາລະນະສຸກ
- ຮອງຫົວໜ້າ ພະແນກ ກະສິກຳ-ປ່າໄມ້
- ພະແນກ ອຸດສະຫະກຳ ແລະ ການຄ້າ
- ຮອງຫົວໜ້າ ຫ້ອງການຊັບພະຍາກອນນໍ້າ ແລະ ສິ່ງແວດລ້ອມ
- ຫົວໜ້າພະແນກ ສຶກສາທິການ
- ຫົວໜ້າຫ້ອງການ ວິທະຍາສາດ ແລະ ເຕັກໂນໂລຊີ
- ຮອງຫົວໜ້າ ພະແນກພົວພັນຕ່າງປະເທດ ນະຄອນຫລວງວຽງຈັນ
- ພະແນກສາທາລະນະສຸກ

ກະຊວງໂຍທາທິການ ແລະ ຂົນສົ່ງ

- ທ່ານ ດຣ ສົມພອນ ເດດອຸດົມ
- ທ່ານນາງ ວິໄລຄຳ ໄພສາລາດ
- ທ່ານ ດຣ. ສັນຕິສຸກ ສິມມະລາວົງ
- ທ່ານ ບົວພັນ ເທດດາວັນ

- ຮອງປະທານສະພາວິທະຍາສາດ ແລະເຕັກນິກ
- ຮອງຫົວໜ້າກົມ ເຄຫາ ແລະວາງແຜນຜັງເມືອງ
- ຮອງຫົວໜ້າຫ້ອງການກະຊວງ ຍທຂ
- ຮອງຫົວໜ້າກົມທາງນໍ້າ

ສະຖາບັນໂຍທາ ແລະ ຂົນສົ່ງ, ກະຊວງ ຍທຂ

- ທ່ານ ດຣ. ກຸງ ສຸກອາລຸນ
- ທ່ານ. ຈັນທະລາ ພິມມະຈັກ
- ທ່ານ. ເນັ່ງມິວ ມິວໄຊຈູ່
- ທ່ານ. ພຸດທະລາ ສຸກສາຄອນ
- ທ່ານ. ວຽງນາມ ດວງພະຈັນ
- ທ່ານ. ຈັກທະສັກ ບຸດຕາພານິດ
- ທ່ານນາງ ມະນີແສງ ດ້ວງນຸລັກ
- ທ່ານ. ວົງສັກ ມີໄຊ
- ທ່ານນາງ ມະນີວອນ ວົງໄຊ

- ຮັກສາການ ຫົວໜ້າ ສະຖາບັນ ໂຍທາ ແລະຂົນສົ່ງ
- ຮອງຫົວໜ້າ ພະແນກເຄຫະສະຖານ ແລະ ຜັງເມືອງ
- ຮອງຫົວໜ້າ ພະແນກວິສະວະກຳຕົວເມືອງ
- ຮອງຫົວໜ້າ ພະແນກແຜນການ ແລະ ການຮ່ວມມື
- ຮອງຫົວໜ້າ ພະແນກໂຄງລ່າງ ແລະ ຂົນສົ່ງ
- ຜູ້ປະສານງານໂຄງການວາງແຜນຜັງຊີ້ນຳລວມນະຄອນຫລວງ
- ຜູ້ປະສານງານໂຄງການ
- ຜູ້ປະສານງານໂຄງການ
- ເລຂາ ໂຄງການ

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ອົງການຊັບພະຍາກອນນໍ້າ ແລະສິ່ງແວດລ້ອມ

ທ່ານ ແສງແກ້ວ ທາສະເກດ

ກົມສິ່ງແວດລ້ອມ

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NGO/ອົງການສາກົນ

ທ່ານ ຊະເຫລີມຜົນ ວົງສາຄໍາຜຸຍ

ອໍານວຍການ, LIRE

ທ່ານ ທົງສັນຕິ ບຸນທົງວົງສາລີ

ຮອງອໍານວຍການຝ່າຍບໍລິຫານ, LIRE

ທ່ານ ບຸນຈັນ ຄໍາພິລາວົງ

ວິສະວະກອນອອກແບບ, LIRE

ທ່ານ ວຽງສະໄຫມ ວົງຄໍາຊາວ

ຫົວໜ້າທີມ, ອົງການນໍ້າ ແລະ ສຸກຂະພິບານ (ທະນາຄານໂລກ)

ເອກະສານຊ້ອນທ້າຍ 2

ວາລະກອງປະຊຸມ ຄະນະກຳມະການຊີ້ນຳ ຂອງໂຄງການ ສຶກສາການປັບປຸງສິ່ງແວດລ້ອມນ້ຳ
ນະຄອນຫຼວງວຽງຈັນ ກຽວກັບບົດລາຍງານຄວາມຄືບໜ້າ (2)

ວັນທີ: ວັນ ອັງຄານທີ່ 14 ທັນວາ 2010

ສະຖານທີ່: ທີ່ຫ້ອງປະຊຸມ ສູນຝຶກອົບຮົມຮ່ວມມືສາກົນ ຫ້ອງ 5

ເວລາ	ລາຍການ	ຜູ້ສະເໜີ
08.15 - 08.30	ລົງທະບຽນ	
08.30 - 08.40	ສະເໜີຈຸດປະສົງກອງປະຊຸມ	ທ່ານຫົວໜ້າ ສະຖາບັນໂຍທາ ແລະຂົນສົ່ງ
08.40 - 09.00	ປະທານກອງຊຸມ ກ່າວເປີດ	ທ່ານ ບຸນຈັນ ສິນລະວົງ ຮອງເຈົ້າຄອງ ນະຄອນຫລວງວຽງຈັນ ປະທານກອງ ປະຊຸມ
09.00 - 10.15	ອະທິບາຍ ກຽວກັບຄວາມຄືບໜ້າຂອງ ການສຶກສາ ການປັບປຸງສິ່ງແວດລ້ອມນ້ຳ ຢູ່ນະຄອນຫຼວງວຽງຈັນ	Mr. Kanehiro MORISHITA ຫົວໜ້າທີມງານສຶກສາ
10.15 - 10.25	ພັກຜ່ອນ ຕື່ມນ້ຳຊາ ກາເຟ (15 ນາທີ)	
10.25 - 11.30	ສົນທະນາ ແລະ ປະກອບຄໍາຄິດຄໍາເຫັນ	ທີມງານສຶກສາໂຄງການ
11.30 - 12.00	ສະຫລຸບກ່າວປິດກອງປະຊຸມ	ທ່ານປະທານກອງປະຊຸມ
12.00	ເຊີນຮັບປະທານ ອາຫານທຸ່ງ	

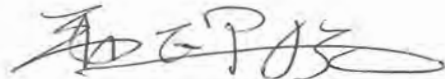
3

Minutes of Meeting
on
The Fifth Steering Committee
of
The Study on Improvement of Water Environment in Vientiane City
agreed upon between
Public Works and Transport Institute, Ministry of Public Works and
Transport
and
Japan International Cooperation Agency

March 11, 2011
Vientiane, LAO PDR



Ms. Vilaykham PHOSALATH
Acting Director of Public Works and
Transport Institute
Ministry of Public Works and Transport



Mr. Kanehiro MORISHITA
Leader of the Study Team
Japan International Cooperation Agency

Witness



Mr. Bounchanh SINTHAVONG
Vice Minister of Ministry of Public Works and Transport

I. General

The Government of Japan, in response to the official request of the Government of Lao People's Democratic Republic (hereinafter referred to as "the Government of Lao PDR"), decided to conduct the Study on Improvement of Water Environment in Vientiane City (hereinafter referred to as "the Study") and the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the preparatory study team to Lao PDR in March 2008.

Based on the above study results, Ministry of Public Works and Transport (hereinafter referred to as "MPWT") and JICA Laos Office signed on and exchanged agreement on the Scope of Work (hereinafter referred to as "S/W") and Minutes of Meetings (hereinafter referred to as "M/M") for the Study in November 2008.

JICA has prepared the Study according to the S/W and M/M exchanged in November 2008, and dispatched the Study Team for commencement of the Study, headed by Mr. Kanehiro MORISHITA of CTI Engineering International Co., Ltd., to Lao PDR from January 20, 2009.

Near the end of phase 2 in the Study, the Study Team explained all results of the Study to Lao organizations listed in the Attachment 1 (hereinafter referred to as "Lao Side"), and Lao Side and the Study Team (hereinafter referred to as "Both Sides") had a discussion on the Draft Final Report, which was chaired by Mr. Bounchanh SINTHAVONG, Vice Minister of the Ministry of Public Works and Transport. The agenda of the meeting is attached herewith as the Attachment 2.

II. Discussions

(1) Draft Final Report

The Draft Final Report contains all the study results, and the Study Team presented the major topics of the report. Based on the presentation, the following members gave their comments and the Study Team replied to them.

1. Mr. Khamathavy THAIPHACHAN, 2. Dr. Bounleum SISOULATH, 3. Mr. Bouaphan THEDDAVANH, 4. Mr. Daophet ALOUN, 5. Ms. Saykham THAMMANOSOUTH, 6. Mr. Oudone NGENGVANTHNAVONG, 7. Mr. Yeythao

Major comments and replies to them are summarized below.

(2) The approach of in-stream treatment facilities proposed in the Master Plan and the odor emitted by them

The Study Team replied: The in-stream treatment facilities are one of the major structural

measures in collaboration with simple wastewater treatment plants with local interceptors. The in-stream treatment facilities shall be constructed in the open space along the bank of Nong Chanh Marsh, to treat wastewater discharging from outfall of Hong Thong. As the facilities are all covered with concrete lids and utilize the aerobic treatment mechanism of contact media with aeration, it is not expected that offensive odor will be emitted from the facilities.

- (3) Water quality improvement in dry season by pumping the river water of the Mekong to the drainage canals in order to dilute the pollution concentration

The Study Team replied: Pumping the river water is very costly as it requires electric power for operating pumps and it is very difficult to pump up the river water in dry season when the water level is low, so this idea cannot be recommended.

- (4) Responsible agency for wastewater management

The Study Team replied: The Study Team drafted the guideline for wastewater management in the drainage canals and regulation of desludging/hauling companies of septage. Responsible agencies and their activities are clarified and stipulated there. It is scheduled that such draft guideline and draft regulation will be discussed with the stakeholders during the next study period in coming June.

- (5) Combined or separated sewer system

The Study Team replied: In terms of separated sewer system, its construction cost is huge. Lifting stations shall be constructed at necessary points, and their operation and maintenance may have troubles. Thus so far separated sewer system could not be recommended for Vientiane City.

- (6) Centralized or decentralized treatment plant

The Study Team replied: Although centralized treatment plant can effectively purify the collected wastewater and improve the water environment of lower reaches of the plant, but it does not contribute to the improvement of the water environment in the upper reaches.

- (7) CBS/SBS construction in Vientiane City

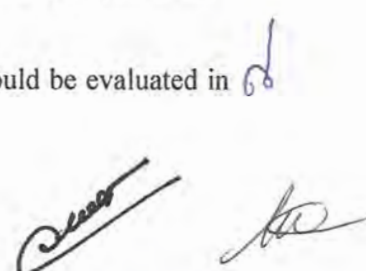
The Study Team replied: It has been clarified that CBS construction is not necessarily recommendable for congested areas, where water quality is deteriorated among others in Vientiane City, according to the results of the pre-feasibility study such as 1) more than 95% of houses have already installed a soak pit or a septic tank, and 2) it is not easy to find enough space for the construction of treatment facility there. On the other hand, it is relatively easy for SBS to find suitable location for the facility construction in the school yards.

- (8) Conservation of Marshes and Ponds

The Study Team replied: Conservation of marshes and ponds such as Nong Chanh, Nong Ping, Nong Bo as well as That Luang, shall also be the responsibility of Vientiane City. Zoning, land use plan and other measures should be set up as well as be enforced firmly by Vientiane City government.

- (9) Others

- Pilot project in Thongkhankham Village and Khoualuang Primary School should be evaluated in order to examine the possibility of CBS and SBS extension.



- Considering the community participation in water environment improvement, a readable guideline shall officially be developed for communities to understand water environment.

III. Discussion Summary and Closing Remarks

The chairman finally accepted the Draft Final Report in principle, summarized the following discussion results:

- (1) More detailed study should be conducted for an in-stream wastewater treatment plant which is planned to be installed at Nong Chanh Marsh in order to avoid emitting offensive odor;
- (2) Administrative regulation/guideline should be formulated for conserving remaining ponds and marshes as well as Mak Hiao River with the purpose of protecting urban floods;
- (3) Recommendations should be made on systems and approaches of treatment facilities in order to ensure the future development;
- (4) The pilot project implemented at Thongkhankham Village and Khoualuang Primary School should be evaluated and used for the basis of recommendation to expand the CBS/SBS construction area; and
- (5) Guideline/regulation or tools should be devised for strengthening BOD monitoring and inspection with involving residents.

Finally he gave closing remarks expressing appreciation for the study efforts and expectation for the further progress of the study. The meeting was closed.

Handwritten signature and initials in blue ink, located at the bottom right of the page.

ATTACHMENT 1

List of participants in the Steering Committee Meeting for Draft Final Report on March 11, 2011 at the Meeting Room of International Cooperation Training Center

Lao Side

Ministry of Public Works and Transport (MPWT)

Mr. Bounchanh SINTHAVONG	Vice Minister
Dr. Bounleum SISOULATH	President, Council of Science and Technology
Mr. Khamathavy THAIPHACHAN	Director, DHUP
Mr. Nalongxay MEVAPADITH	Vice Head of Secretariat
Mr. Bouaphanh THEDDANH	Deputy Director, Department of Water Ways
Mr. Kazumitsu MURAOKA	JICA Expert

Public Works and Transport Institute (PTI), MPWT

Ms. Vilaykham PHOSALATH	Acting Director General
Mr. Bounlanh KANKHAMVONGSA	Director, Urban Engineering Division
Mr. Yeythao	Director, Housing and Urban Planning Division
Ms. Saykham THAMMANOSOUTH	Director, Cooperation and Planning
Ms. Bannaseng SIPHOXAY	Project Coordinator, Urban Development Master Plan Project
Ms. Maniseng DOUANGNOULACK	Project Coordinator, Improvement of Water Environment Project
Mr. Vongsack MIXAY	Project Coordinator, Improvement of Water Environment Project

Water Resources and Environment Administration (WREA)

Mr. Phavanh SIHAVONG	Unit Chief, DOE
Mr. Sengkeo TASAKETH	Pollution Control Division, DOE
Mr. Singthong PHUNTAMALA	Pollution Control Division, DOE
Mr. Phongsavath YINGYONG	DOE
Mr. Thongtip CHAMDARASANE	Deputy Chief Division, Department of Water Resources

Vientiane City

Mr. Oudone NGENGVANTHNAVONG	Deputy Director, DPWT
Mr. Nousone MEUNVISETH	Deputy Director, VUDAA
Ms. Kethmany BUNDASACK	Deputy Director, Department of Education
Mr. Daophet ALOUN	Director, Department of Science and Technology
Mr. Bounthavi SINLATHSAVONG	Unit Chief, Division of Foreign Affairs
Mr. Pany VONGPADITH	Unit Chief, Department of Public Health
Mr. Sithiphone BOUPHAVANH	Vientiane City Office

Japanese Side

Mr. Masahiko TAKIZAWA

Senior Representative, JICA Laos Office

Ms. Yoko HATTORI

Representative, JICA Laos Office

Mr. Kanehiro MORISHITA

Team Leader, JICA Study Team

Mr. Makoto YAJIMA

Co-team Leader, JICA Study Team

Mr. Tsuyoshi ITO

Water Environment Management Planning, JICA Study Team

Mr. Hiroshi SHIMOKOCHI

Sanitation/Water Quality, JICA Study Team

NGO/International Organization

Ms. Aurelie PHIMMASONE

Programme Coordinator, LIRE

Mr. Bounchan KHAMPHILAYVONG

Design Engineer, LIRE

Mr. Sengdeun THAMMAVONG

Facilitator, LIRE



ATTACHMENT 2

PROGRAM OF STEERING COMMITTEE MEETING FOR THE DRAFT FINAL REPORT OF THE STUDY ON IMPROVEMENT OF WATER ENVIRONMENT IN VIENTIANE CITY

Date: Friday, March 11, 2011

Venue: Meeting Room at International Cooperation Training Center (Km 5)

PROGRAM

Time	Description	Responsible Person
8:15 - 8:30	Registration	
8:30 - 8:40	Explanation of the Steering Committee Meeting	Ms. Vilaykham PHOSALATH Acting Director of PTI
8:40 - 8:50	Opening by the Chairman of the Steering Committee	Mr. Bounchan SINTHAVONG Vice Minister of MPWT Chairman of the Meeting
8:50 - 9:00	Opening by the JICA representative	Mr. Yoshiharu YONEYAMA Senior Representative JICA Laos Office
9:00 - 10:15	Explanation about the Draft Final Report of the Study on Improvement of Water Environment in Vientiane City	Mr. Kanehiro MORISHITA Team Leader, JICA Study Team
10:15 - 10:30	Coffee Break	
10:30 - 11:30	Discussion	
11:30 - 12:00	Closing and Conclusion by the Chairman of the Steering Committee	Mr. Bounchan SINTHAVONG Vice Minister of MPWT Chairman of the Meeting
12:00	Lunch	Training center



ບົດບັນທຶກກອງປະຊຸມ

ກ່ຽວກັບ

ກອງປະຊຸມປຶກສາຫາລື ຄັ້ງທີ 5 ຂອງຄະນະຊີ້ນຳ

ໂຄງການ ສຶກສາ ການປັບປຸງສິ່ງແວດລ້ອມນ້ຳ ນະຄອນຫລວງວຽງຈັນ

ຕົກລົງກັນ ລະຫວ່າງ

ສະຖາບັນໂຍທາ ແລະຂົນສົ່ງ, ກະຊວງ ໂຍທາທິການ ແລະ ຂົນສົ່ງ

ແລະ

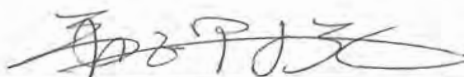
ອົງການ ໃຈກາ

11 ມີນາ, 2011

ນະຄອນຫລວງວຽງຈັນ, ສ ປ ປ ລາວ



ທ່ານ ນາງ ວິໄລຄຳ ໂພສາລາດ
ຮັກສາການຫົວຫນ້າ ສະຖາບັນໂຍທາ ແລະຂົນສົ່ງ,
ກະຊວງໂຍທາທິການ ແລະ ຂົນສົ່ງ



ທ່ານ Mr. Kanehiro MORISHITA
ຫົວຫນ້າ ທີມງານສຶກສາ
ອົງການໃຈກາ

ພະຍານ



ທ່ານ ບຸນຈັນ ສິນທະວົງ
ລັດຖະມົນຕີຊ່ວຍວ່າການ ກະຊວງໂຍທາທິການ ແລະ ຂົນສົ່ງ

I. ພາກສະເໜີ

ເພື່ອຕອບສະໜອງຕາມການສະເໜີຢ່າງເປັນທາງ ຂອງລັດຖະບານແຫ່ງ ສາທາລະນະ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ (ເຊິ່ງຕໍ່ໄປນີ້ເອີ້ນວ່າ "ລັດຖະບານ ສປປ ລາວ"), ລັດຖະບານປະເທດຍີ່ປຸ່ນ ຕັດສິນໃຈໃນການດຳເນີນ ການສຶກສາ ບັບປຸງ ສິ່ງແວດລ້ອມນໍ້າ ຢູ່ນະຄອນຫລວງວຽງຈັນ (ເຊິ່ງເອີ້ນວ່າ "ການສຶກສາ") ແລະ ອົງການ ຮ່ວມມືລະຫວ່າງປະເທດ ຍີ່ປຸ່ນ (ເຊິ່ງເອີ້ນວ່າ "ອົງການໃຈກາ") ໄດ້ສົ່ງທຶມງານສຶກສາມາກະກຽມຢູ່ ສ ປປ ລາວ ໃນເດືອນ 3 ປີ 2008

ຈາກຜົນຂອງການສຶກສາຂັ້ນເທິງ, ກະຊວງ ໂຍທາທິການ ແລະຂົນສົ່ງ (ເຊິ່ງຕໍ່ໄປນີ້ເອີ້ນວ່າ "ຍທຂ") ແລະ ຫ້ອງການໃຈກາປະຈຳລາວ ໄດ້ລົງນາມ ແລະ ແລກປ່ຽນ ຂໍ້ຕົກລົງໃນຂອບເຂດຂອງການດຳເນີນງານ (ເຊິ່ງ ເອີ້ນວ່າ "S/W") ແລະ ບົດບັນທຶກກອງປະຊຸມ ກ່ຽວກັບການສຶກສາ (ເຊິ່ງເອີ້ນວ່າ "M/M") ໃນເດືອນ 11 ປີ 2008.

ອົງການຮ່ວມມືລະຫວ່າງປະເທດ ຍີ່ປຸ່ນ (ເຊິ່ງເອີ້ນວ່າ "ອົງການໃຈກາ") ໄດ້ກະກຽມການສຶກສາ ໂດຍອີງຕາມ ຂອບເຂດການດຳເນີນງານ ແລະ ບົດບັນທຶກກອງປະຊຸມ ທີ່ໄດ້ແລກປ່ຽນກັນໃນ ເດືອນ 11 ປີ 2008, ແລະໄດ້ສົ່ງ ທຶມງານສຶກສາ, ເຊິ່ງນຳໂດຍ ທ່ານ Kanehiro MORISHITA ຈາກ ບໍລິສັດ CTI Engineering International Co., Ltd. ມາປະຈຳຢູ່ ສປປ ລາວ ແຕ່ ວັນທີ 20 ເດືອນ 01 ປີ 2009.

ໃກ້ຈະຮອດຕອນທ້າຍຂອງໄລຍະທີ່2 ຂອງການສຶກສາ, ທຶມງານສຶກສາໄດ້ອະທິບາຍ ຜົນການສຶກສາ ທັງຫມົດ ໃຫ້ພາກສ່ວນຕ່າງໆຂອງຝ່າຍລາວ ຕິດຄັດມາພ້ອມເອກະສານຊ້ອນທ້າຍ 1 (ເຊິ່ງເອີ້ນວ່າ "ຝ່າຍລາວ"), ຝ່າຍລາວ ແລະທຶມງານສຶກສາ (ເຊິ່ງເອີ້ນວ່າ "ທັງສອງຝ່າຍ") ໄດ້ປຶກສາ ຫາລືກັນກ່ຽວກັບບົດລາຍງານ, ໂດຍການເປັນປະທານຂອງ ທ່ານ ບຸນຈັນ ສິນທະວົງ ຮອງເຈົ້າຄອງນະຄອນຫລວງວຽງຈັນ. ວາລະກອງ ປະຊຸມໄດ້ຕິດຄັດໃນເອກະສານຊ້ອນທ້າຍ 2.

II. ການປຶກສາຫາລື

(1) ຮ່າງບົດລາຍງານສຸດທ້າຍ

ຮ່າງບົດລາຍງານສຸດທ້າຍ ປະກອບດ້ວຍຜົນການສຶກສາທັງຫມົດ ແລະທຶມງານສຶກສາໄດ້ສະເໜີຫົວຂໍ້ ສຳຄັນຂອງການສຶກສາ. ໂດຍອີງໃສ່ບົດສະເໜີ, ສະມາຊິກຜູ້ເຂົ້າຮ່ວມປະຊຸມດັ່ງລາຍຊື່ລຸ່ມນີ້ໄດ້ປະກອບຄຳເຫັນ ຕໍ່ບົດສະເໜີ ແລະທຶມງານສຶກສາກໍ່ໄດ້ຊີ້ແຈງບາງຄຳເຫັນ.

1. ທ່ານ. ຄຳທະວີ ໄທພະຈັນ, 2. ທ່ານ ດຣ. ບຸນເຫລືອມ ສີສຸລາດ, 3. ທ່ານ ບົວພັນ ທິດດາຫວັນ,
4. ທ່ານ ດາວເພັດ ອາລຸນ, 5. ທ່ານນາງ ສາຍຄຳ ທຳມະໂນສຸດ 6. ທ່ານ ອຸດອນ ແຍງວັນນະວົງ,
7. ທ່ານ ເຢທ້າວ

ຄຳເຫັນທີ່ສຳຄັນ ແລະ ການຕອບຄຳຖາມໄດ້ສັງລວມດັ່ງລຸ່ມນີ້.

(2) ວິທີການຂອງອ່າງບຳບັດນໍ້າເປື້ອນໃນຮ່ອງ ທີ່ສະເໜີຢູ່ໃນແຜນຊີ້ນຳລວມ ແລະ ບັນຫາເລື່ອງກິນເຫມັນຂອງ ນໍ້າເປື້ອນໃນອ່າງ.

ທຶມງານສຶກສາໄດ້ຕອບຄຳຖາມວ່າ: ອ່າງບຳບັດນໍ້າເປື້ອນໃນຮ່ອງ ແມ່ນມາດຕະການສິ່ງບຸກສ້າງອັນໜຶ່ງທີ່

ສໍາຄັນໃນການຮ່ວມເຂົ້າກັບອ່າງບໍາບັດນໍ້າເປື້ອນແບບທໍາມະດາ ແລະທໍ່ລວບລວມນໍ້າເປື້ອນ. ອ່າງບໍາບັດນໍ້າເປື້ອນໃນຮ່ອງຄວນຈະກໍ່ສ້າງຢູ່ບ່ອນເປີດຕາມຜັງຂອງໜອງຈັນ ເພື່ອບໍາບັດນໍ້າເປື້ອນທີ່ປ່ອຍຈາກທ້າຍນໍ້າຂອງຮ່ອງທອງ. ອ່າງດັ່ງກ່າວທັງໝົດເປັນລະບົບປິດ ປົກຫຸມດ້ວຍເບຕົງ ແລະ ນໍາໃຊ້ ກົນໄກການບໍາບັດແບບ aerobic, ເຊິ່ງມີການເຮັດວຽກໂດຍ contact media ກັບ aeration, ວິທີການບໍາບັດດັ່ງກ່າວຈະບໍ່ມີກິ່ນເຫມັນອອກມາຈາກອ່າງບໍາບັດ.

(3) ການປັບປຸງຄຸນນະພາບນໍ້າໃນລະດູແລ້ງ ໂດຍການປ້ານໍ້າຈາກແມ່ນໍ້າຂອງເຂົ້າມາໃນຮ່ອງເພື່ອຫຼຸດຄວາມເຂັ້ມຂຸ້ນຂອງມົນລະພິດ

ທີມງານສຶກສາໄດ້ຕອບວ່າ: ການດູດນໍ້າຈາກແມ່ນໍ້າແມ່ນມີຕົ້ນທຶນສູງຫລາຍ ເພາະຕ້ອງໃຊ້ພະລັງງານໄຟຟ້າສໍາລັບຈັກນໍ້າ ແລະ ຍັງມີຄວາມຫຍຸ້ງຍາກໃນການປ້ານໍ້າໃນລະດູແລ້ງ ເພາະລະດັບນໍ້າຕໍ່າຫລາຍ. ດັ່ງນັ້ນແນວຄວາມຄິດດັ່ງກ່າວແມ່ນບໍ່ເຫັນດີແນະນໍາ.

(4) ໜ່ວຍງານຮັບຜິດຊອບໃນການຄຸ້ມຄອງນໍ້າເປື້ອນ

ທີມງານສຶກສາໄດ້ຕອບວ່າ: ທີມງານສຶກສາໄດ້ຮ່າງຄູ່ມືແນະນໍາ ສໍາລັບການຄຸ້ມຄອງນໍ້າເປື້ອນໃນຮ່ອງລະບາຍນໍ້າ ແລະ ກົດລະບຽບຂອງບໍລິສັດ ອານາໄມ/ຂົນສົ່ງ ສິ່ງເສດເຫຼືອຈາກຊຸມວິດ. ເຊິ່ງໄດ້ກໍານົດ ແລະ ອະທິບາຍ ໜ່ວຍງານຮັບຜິດຊອບ ພ້ອມທັງບັນດາໜ້າວຽກຕ່າງໆ. ແລະມີແຜນທີ່ຈະເປີດກອງຊຸມປຶກສາລືນໍ້າ ບັນດາຄູ່ຮ່ວມງານ ກ່ຽວກັບຮ່າງຄູ່ມືແນະນໍາແລະກົດລະບຽບ ໃນລະຫວ່າງການສຶກສາ ເດືອນ ມິຖຸນາ.

(5) ລະບົບຮ່ອງລະບາຍນໍ້າລວມ ຫລື ແຍກ

ທີມງານສຶກສາໄດ້ຕອບວ່າ: ກ່ຽວກັບລະບົບຮ່ອງລະບາຍນໍ້າແບບແຍກ, ມູນຄ່າກໍ່ສ້າງແມ່ນສູງຫລາຍ, ຈໍາເປັນຕ້ອງໄດ້ສ້າງ ສະຖານີສູບນໍ້າຢູ່ບ່ອນທີ່ຈໍາເປັນ, ແລະ ການນໍາໃຊ້ ແລະ ການບໍາລຸງຮັກສາອາດມີຄວາມຫຍຸ້ງຍາກ. ດັ່ງນັ້ນ ບໍ່ເຫັນດີແນະນໍາ ໃຫ້ໃຊ້ລະບົບຮ່ອງລະບາຍນໍ້າແບບແຍກ ສໍາລັບນະຄອນຫລວງວຽງຈັນ.

(6) ອ່າງບໍາບັດແບບລວມສູນ ຫລື ແບບກະຈາຍ

ທີມງານສຶກສາໄດ້ຕອບວ່າ: ເຖິງແມ່ນວ່າອ່າງບໍາບັດນໍ້າເປື້ອນແບບລວມສູນ ສາມາດເຮັດໃຫ້ນໍ້າເປື້ອນສະອາດໄດ້ຢ່າງມີປະສິດຕິຜົນ ແລະ ປັບປຸງສິ່ງແວດລ້ອມນໍ້າຢູ່ຈຸດທ້າຍນໍ້າຂອງອ່າງບໍາບັດ, ແຕ່ວ່າບໍ່ໄດ້ຊ່ອຍປັບປຸງສິ່ງແວດລ້ອມນໍ້າຢູ່ຕົ້ນນໍ້າໄດ້.

(7) ການກໍ່ສ້າງCBS/SBSຢູ່ນະຄອນຫລວງວຽງຈັນ

ທີມງານສຶກສາໄດ້ຕອບວ່າ: ເຫັນໄດ້ຢ່າງຈະແຈ້ງແລ້ວວ່າ ການກໍ່ສ້າງ CBS ແມ່ນບໍ່ມີຄວາມຈໍາເປັນຫລາຍ, ແນະນໍາໃຫ້ກໍ່ສ້າງສະເພາະເຂດທີ່ມີຄວາມຫນ້າແຫນ້ນເທົ່ານັ້ນ, ບ່ອນທີ່ຄຸນນະພາບນໍ້າເຊື່ອມໂຊມກວ່າບ່ອນອື່ນໃນນະຄອນຫລວງວຽງຈັນ, ຕາມຜົນຂອງການສຶກສາຄວາມເປັນໄປໄດ້ເບື້ອງຕົ້ນສະແດງໃຫ້ເຫັນວ່າ 1) ຫລາຍກວ່າ 95% ຂອງຄົວເຮືອນໄດ້ມີວິດຊີ້ມ (soak pit) ຫລື ຊຸມວິດ (septic tank) ແລ້ວ, ແລະ 2) ບໍ່ສາມາດຫາພື້ນທີ່ພຽງພໍໄດ້ງ່າຍສໍາລັບການກໍ່ສ້າງອ່າງບໍາບັດ. ກົງກັນຂ້າມ, ການກໍ່ສ້າງ SBS ແມ່ນມີຄວາມສະດວກ ເພາະພາຍໃນໂຮງຮຽນມີພື້ນທີ່ຫວ່າງ ແລະ ທີ່ຕັ້ງເໝາະສົມສໍາລັບ ການກໍ່ສ້າງຢູ່ເດີນໂຮງຮຽນ.

(8) ການປົກປັກຮັກສາບຶງ ແລະ ຫນອງ

ທີມງານສຶກສາໄດ້ຕອບວ່າ: ການຮັກສາຫນອງບຶງເຊັ່ນ ຫນອງຈັນ, ຫນອງບຶງ, ຫນອງບໍ່ ພ້ອມທັງບຶງທາດ ຫລວງ, ນະຄອນຫລວງຄວນເປັນຜູ້ຮັບຜິດຊອບ. ການແບ່ງເຂດ, ແຜນນໍາໃຊ້ທີ່ດິນ ແລະ ມາດຕະການອື່ນໆ ຄວນຈະກຳນົດໄວ້ ພ້ອມທັງການບໍາຄັບໃຊ້ກົດຫມາຍຢ່າງເຂັ້ມງວດໂດຍນະຄອນຫລວງວຽງຈັນ.

(9) ອື່ນໆ

ໂຄງການຕົວຢ່າງຢູ່ບ້ານທົ່ງຂັນຄຳ ແລະ ໂຮງຮຽນປະຖົມຂົວຫລວງຄວນຈະມີການປະເມີນຜົນ ເພື່ອກວດກາ ຄວາມເປັນໄປໄດ້ຂອງການຂະຫຍາຍ CBS ແລະ SBS.

III. ສັງລວມການປຶກສາຫາລື ແລະ ການກ່າວປິດ

ສຸດທ້າຍ ປະທານກອງປະຊຸມເທັນດີໂດຍພື້ນຖານຮັບຮອງເອົາ ຮ່າງບົດລາຍງານສຸດທ້າຍ, ແລະສາມາດສັງລວມຜົນການປຶກສາຫາລືດັ່ງນີ້:

- (1) ຄວນມີການສຶກສາລະອຽດຕື່ມສໍາລັບການກໍ່ສ້າງອ່າງບໍາບັດນໍ້າເປື້ອນໃນຮ່ອງ ທີ່ວາງແຜນຈະສ້າງຢູ່ຫນອງຈັນ ເພື່ອຫລີກເວັ້ນບັນຫາກິ່ນເຫມັນ.
- (2) ຄວນຈະກຳນົດ ກົດລະບຽບ/ຄູ່ມືສໍາລັບການປົກປັກຮັກສາບຶງ ຫນອງທີ່ຍັງເຫລືອຢູ່ ລວມທັງຫ້ວຍຫມາກຮຽວ ເພື່ອຈຸດປະສົງປ້ອງກັນນໍ້າຖ້ວມໃນຕົວເມືອງ.
- (3) ຄວນຈະມີຄຳແນະນໍາ ກ່ຽວກັບ ລະບົບຮັກສາສ້ອມແປງ ແລະ ວິທີການນໍາໃຊ້ຂອງອ່າງບໍາບັດ ເພື່ອຈັດຕັ້ງຜັນຂະຫຍາຍໃນເຂດຊຸມຊົນອື່ນໆຕໍ່ໄປ.
- (4) ໂຄງການຕົວຢ່າງທີ່ໄດ້ຈັດຕັ້ງຢູ່ບ້ານທົ່ງຂັນຄຳ ແລະ ໂຮງຮຽນຂົວຫລວງ ຄວນຈະມີການປະເມີນຜົນ ແລະ ນໍາໃຊ້ເປັນຄຳແນະນໍາພື້ນຖານ ເພື່ອຂະຫຍາຍພື້ນທີ່ກໍ່ສ້າງ CBS/SBS; ແລະ
- (5) ຄວນຈະສ້າງ ຄູ່ມືແນະນໍາ/ກົດລະບຽບ ຫລື ເຄື່ອງມື ສໍາລັບການສ້າງຄວາມເຂັ້ມແຂງ ການກວດກາ ແລະ ຕິດຕາມ ຄ່າ BOD ໂດຍການມີສ່ວນຮ່ວມຂອງປະຊາຊົນ.

ສຸດທ້າຍກອງປະຊຸມໄດ້ຊົມເຊີຍຕໍ່ທີມງານສຶກສາສໍາລັບຄວາມພະຍາຍາມໃນການສຶກສາ ແລະຫວັງວ່າຈະມີຄວາມຄືບໜ້າຂອງການສຶກສາໃນໄລຍະຕໍ່ໄປ ແລະກ່າວປິດກອງປະຊຸມ.

ເອກະສານຊ້ອນທ້າຍ 1

ລາຍຊື່ຜູ້ເຂົ້າຮ່ວມກອງປະຊຸມຄະນະຊີ້ນຳໂຄງການ ໃນການສະເໜີ ຮ່າງບົດລາຍງານສຸດ ຄັ້ງວັນທີ 9 ມີນາ, 2011 ທີ່ຫ້ອງປະຊຸມ ສູນຝຶກອົບຮົມຮ່ວມມືສາກົນ ຫ້ອງ 5.

ຝ່າຍລາວ

ກະຊວງໂຍທາທິການ ແລະ ຂົນສົ່ງ

ທ່ານ ບຸນຈັນ ສິນທະວົງ	ລັດຖະມົນຕີຊ່ວຍວ່າການກະຊວງໂຍທາທິການ ແລະ ຂົນສົ່ງ
ທ່ານ ດຣ. ບຸນເຫລື້ອມ ສີສຸລາດ	ປະທານ ສະພາວິທະຍາສາດ ແລະ ເຕັກໂນໂລຢີ
ທ່ານ ຄຳທະວີ ໄທພະຈັນ	ຫົວໜ້າ ກົມ ເຄຫາ ແລະ ຜັງເມືອງ
ທ່ານ ນະລົງໄຊ ມິວາປະດິດ	ຮອງພະແນກສັງລວມ
ທ່ານ ບົວຜັນ ເທດດາວັນ	ຮອງຫົວໜ້າກົມໂຍທາທິການທາງນ້ຳ
ທ່ານ Kazumitsu MURAOKA	ຊ່ວຍຊານ JICA

ສະຖາບັນໂຍທາ ແລະ ຂົນສົ່ງ, ກະຊວງ ຍທຂ

ທ່ານນາງ ວິໄລຄຳ ໂພສາລາດ	ຮັກສາການ ຫົວໜ້າ ສະຖາບັນໂຍທາ ແລະ ຂົນສົ່ງ
ທ່ານ ບຸນລ້ຽນ ການຄຳວົງສາ	ຫົວໜ້າພະແນກວິສະວະກຳຕົວເມືອງ
ທ່ານ ເຍັທ່າວ	ຫົວໜ້າພະແນກເຄຫາສະຖານ ແລະ ຜັງເມືອງ
ທ່ານນາງ ສາຍຄຳ ທຳມະໂນສຸດ	ຫົວໜ້າພະແນກແຜນການ ແລະ ການຮ່ວມມື
ທ່ານນາງ ບັນນະແສງ ສີໂພໄຊ	ຜູ້ປະສານງານ ໂຄງການ ສ້າງແຜນຊີ້ນຳລວມການພັດທະນາຕົວເມືອງ
ທ່ານນາງ ມະນີແສງ ດົວງນຸລັກ	ຜູ້ປະສານງານ ໂຄງການສຶກສາ ການປັບປຸງ ສິ່ງແວດລ້ອມນ້ຳ
ທ່ານວົງສັກ ມີໄຊ	ຜູ້ປະສານງານ ໂຄງການສຶກສາ ການປັບປຸງ ສິ່ງແວດລ້ອມນ້ຳ

ອົງການຊັບພະຍາກອນນ້ຳ ແລະ ສິ່ງແວດລ້ອມ

ທ່ານ ພາວັນ ສີທາວົງ	ຫົວໜ້າຂະແໜງ, ກົມສິ່ງແວດລ້ອມ
ທ່ານ ແສງແກ້ວ ທາສະເກດ	ພະແນກຄວບຄຸມມົນລະພິດ, ກົມສິ່ງແວດລ້ອມ
ທ່ານ ສິງທອງ ພຸດທະມາລາ	ພະແນກຄວບຄຸມມົນລະພິດ, ກົມສິ່ງແວດລ້ອມ
ທ່ານ ພິງສະຫວັນ ຍິ່ງຍິງ	ສະຖາບັນຄົ້ນຄວ້າຊັບພະຍາກອນນ້ຳ ແລະ ສິ່ງແວດລ້ອມ
ທ່ານ ທອງທິບ ຈັນດາລາສານ	ຮອງຫົວໜ້າພະແນກ ກົມຊັບພະຍາກອນນ້ຳ

ນະຄອນຫລວງວຽງຈັນ

ທ່ານ ອຸດອນ ແຍງວັນນະວົງ	ຮອງຫົວໜ້າ ພະແນກ ໂຍທາທິການ ແລະ ຂົນສົ່ງ
ທ່ານ ຫນູຊອນ ຫມິນວິເສດ	ຮອງ ປະທານ ອພບ
ທ່ານ ນາງ ເກດມະນີ ບັນດາສັກ	ຮອງຫົວໜ້າພະແນກ ສຶກສາທິການ
ທ່ານ ດາວເພັດ ອາລຸນ	ຫົວໜ້າພະແນກ ວິທະຍາສາດ ແລະ ເຕັກໂນໂລຊີ
ທ່ານ ບຸນທະວີ ສິນລາດຊະວົງ	ຫົວໜ້າຂະແໜງ ພະແນກພົວພັນຕ່າງປະເທດ
ທ່ານ ປານີ ວົງປະດິດ	ຫົວໜ້າຂະແໜງ, ພະແນກສາທາລະນະສຸກ
ທ່ານ ສິດທິພອນ ບຸບພາວັນ	ຫ້ອງວ່າການນະຄອນຫລວງ

ຝ່າຍຍີ່ປຸ່ນ

Mr. Masahiko TAKIZAWA

Senior Representative, JICA Laos Office

Ms. Yoko HATTORI

Representative, JICA Laos Office

Mr. Kanehiro MORISHITA

Team Leader, JICA Study Team

Mr. Makoto YAJIMA

Co-team Leader, JICA Study Team

Mr. Tsuyoshi ITO

Water Environment Management Planning, JICA Study Team

Mr. Hiroshi SHIMOKOCHI

Sanitation/Water Quality, JICA Study Team

NGO/ອົງການສາກົນ

Ms. Aurelie PHIMAMASONE

ຜູ້ປະສານງານແຜນງານ LIRE

ທ່ານ ບຸນຈັນ ຄຳພິລາວົງ

ວິສະວະກອນອອກແບບ, LIRE

ທ່ານ ແສງເດືອນ ທຳມະວົງ

ວິຊາການ LIRE

ເອກະສານຊ້ອນທ້າຍ 2

ວາລະກອງປະຊຸມ ຄະນະກຳມະການຊີ້ນຳ ຂອງໂຄງການ ສຶກສາການປັບປຸງສິ່ງແວດລ້ອມນ້ຳ
ນະຄອນຫຼວງວຽງຈັນ ກ່ຽວກັບຮ່າງບົດລາຍງານສຸດທ້າຍ

ວັນທີ: ວັນ ສຸກທີ່ 11 ມີນາ 2010

ສະຖານທີ່: ທີ່ຫ້ອງປະຊຸມ ສູນຝຶກອົບຮົມຮ່ວມມືສາກົນ ຫ້ອງ 5

ເວລາ	ລາຍການ	ຜູ້ສະເໜີ
08.15 - 08.30	ລົງທະບຽນ	
08.30 - 08.40	ສະເໜີຈຸດປະສົງກອງປະຊຸມ	ທ່ານນາງ ວິໄລຄຳ ໂພສາລາດ ຮັກສາການຫົວໜ້າ ສະຖາບັນໂຍທາ ແລະຂົນສົ່ງ
08.40 - 08.50	ປະທານກອງຊຸມ ກ່າວເປີດ	ທ່ານ ບຸນຈັນ ສິນລະວົງ ລັດຖະມົນຕີຊ່ວຍວ່າການ ກະຊວງໂຍທາທິການ ແລະ ຂົນສົ່ງ
08.50 - 09.00	ຕ່າງໜ້າອົງການໃຈກາ ປະກອບຄຳເຫັນ	ທ່ານ Yoshihar YONEYAMA Senior Representative JICA Laos office
09.00 - 10.15	ອະທິບາຍ ຮ່າງບົດລາຍງານສຸດທ້າຍ ກ່ຽວກັບ ການສຶກສາການປັບປຸງສິ່ງແວດລ້ອມນ້ຳ ຢູ່ ນະຄອນຫຼວງວຽງຈັນ	Mr. Kanehiro MORISHITA ຫົວໜ້າທີມງານສຶກສາ
10.15 - 10.30	ພັກຜ່ອນ ຕື່ມນ້ຳຊາ ກາເຟ (15 ນາທີ)	
10.30 - 11.30	ສົນທະນາ ແລະ ປະກອບຄຳຄິດຄຳເຫັນ	ທີມງານສຶກສາໂຄງການ
11.30 - 12.00	ສະຫລຸບກ່າວປິດກອງປະຊຸມ	ທ່ານປະທານກອງປະຊຸມ
12.00	ເຊີນຮັບປະທານ ອາຫານທ່ຽງ	

