

Ministry of Public Works and Transport  
Lao Peoples Democratic Republic (Lao PDR)

**THE COMPREHENSIVE STUDY ON  
LOGISTICS SYSTEM IN  
LAO PEOPLE'S DEMOCRATIC REPUBLIC**

**FINAL REPORT**

**Summary**

**January, 2011**

**JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)**

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**INTERNATIONAL DEVELOPMENT CENTER OF JAPAN (IDCJ)  
NIPPON KOEI**

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## PREFACE

Lao PDR is located at the center of Greater Mekong Sub-region (GMS). This preferable location currently provides Lao PDR with strategic advantages to transform itself from a “land-locked” to a “land-linked” country, particularly due to globalization in trade and transport and regional economic integration. In this respect, Lao PDR faces a great opportunity to become a regional logistics hub in the GMS and ASEAN region. In cognizance of these situations, the Lao Government has embraced the transformation into a “land linked country” as a major policy essential to the country’s aspirations of graduating from a developing country.

However, there are still several constraints in logistics in Lao PDR; in particular the insufficient logistics system. The current logistics system in Lao PDR still falls below international standards in terms of efficiency, reliability and cost due to unsatisfactory performance by inadequate infrastructure and immature domestic logistics industry.

In this regards, the Japan International Cooperation Agency (JICA) decided to conduct the Comprehensive Study on Logistics System in Lao PDR. JICA selected and dispatched the Study Team between March 2009 and November 2010.

The Study Team held discussions with the concerned officials in the Government of Lao PDR and conducted field surveys in the study area. Upon returning to Japan, the Study Team conducted further studies and prepared this final report.

It is my hope that this report will contribute to development in the Lao PDR, and to the enhancement of a friendly relationship between our two countries. Finally, I wish to express my sincere appreciation to all the people for their generous cooperation with the Study Team.

January 2011

Kiyofumi KONISHI,  
Director General  
Economic Infrastructure Department  
Japan International Cooperation Agency



**Study Area Map**

The Comprehensive Study on Logistics System in Lao People's Democratic Republic

Final Report

Summary

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### List of Abbreviation

Abbreviations	Name
AFTA	ASEAN Free Trade Agreement
ASEAN	Association of Southeast Asian Nations
ASW	ASEAN Single Window
CBTA	Cross Border Transport Agreement
CCA	Common Control Area
CIQ	Custom, Immigration and Quarantine
CLMV	Cambodia, Lao PDR, Myanmar and Vietnam
CLP	Champasack Logistics Park
CLP-MC	Champasack Logistics Park Management Company
CY	Container Yard
DOT	Department of Transport
EIRR	Economic Internal Rate of Return
FIRR	Financial Internal Rate of Return
GMS	Great Mekong Sub region
JICA	Japan International Cooperation Agency
LIFFA	Lao International Fright Forwarders Association
MPWT	Ministry of Public Works and Transport
NLS	National Logistics Strategy
NR	National Road
NSW	National Single Window
OD	Origin and Destination
PPP	Public Private Partnership
SEZ	Special Economic Zone
SLP	Savannakhet Logistics Park
SLP-MC	Savannakhet Logistics Park Management Company
USD	United States Dollar
VIP	Vientiane Industrial Park
VLP	Vientiane Logistics Park
VLP-MC	Vientiane Logistics Park Management Company
VOC	Vehicle Operation Cost

# **Part 1: National Logistics Strategy**

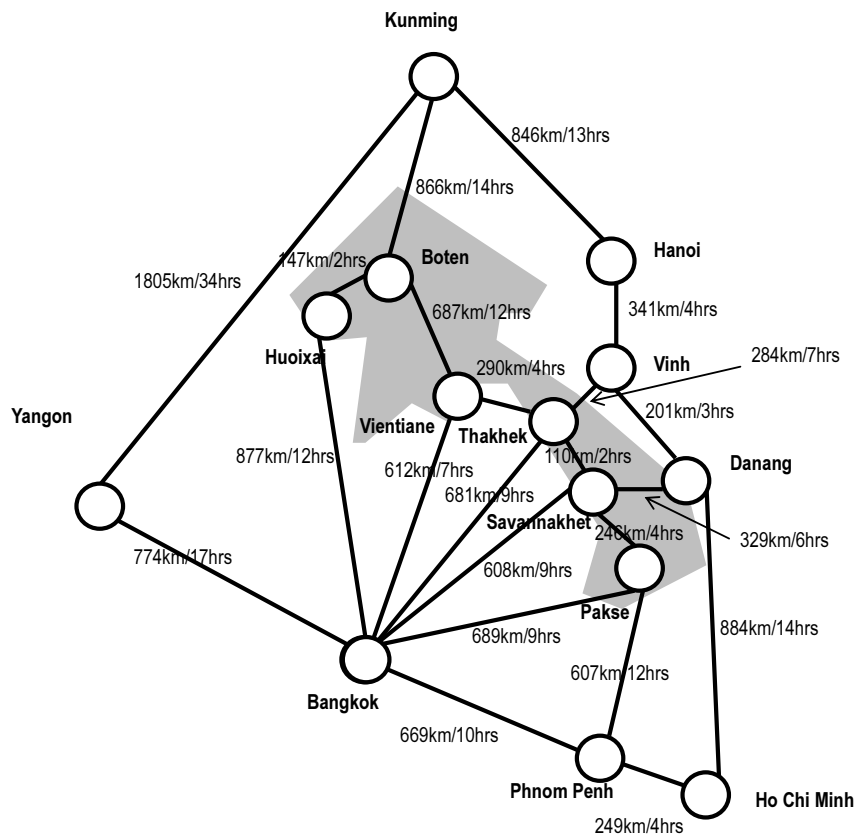
# 1. CURRENT LOGISTICS IN LAO PDR

## 1.1 Lao PDR in GMS

### (1) Geographical Location of Lao PDR in GMS

Lao PDR is geographically located in the center of GMS country and is performed as the center of transport network in GMS, too, so that major land transport routes pass through Lao PDR. International road has gradually developed in Lao PDR, and currently Lao PDR provides alternative international corridors: e.g., via Huoixai and via Vientiane between Bangkok and Kunming, and via Savannakhet and via Thakhek between Bangkok and Hanoi.

Meanwhile, Lao PDR has advanced in cross border agreements with CBTA and bi-lateral agreements against all surrounding (except for Myanmar), which contributes to the market integration in GMS from provision of seamless and efficient transport in GMS point of view.



Source: JICA Study Team

Figure 1.1 Distance and Travel Time between Major Cities in GMS

Table 1.1 Routes connecting Big Cities in GMS via Lao PDR

Section	Shortest Route Route and Distance	Alternative Route Route and Distance
Bangkok -Hanoi	NR-12 Route (Bangkok-Thakhek-Vinh-Hanoi) 1,306 Km	NR-9 Route (Bangkok-Savannakhet-Vinh-Hanoi) 1,479 Km
Bangkok -Kunming	NR-3 Route (Bangkok-Huoixai-Boten-Kunming) 1,890 Km	NR-13 Route (Bangkok-Vientiane-Boten-Kunming) 2,165 Km

Source: JICA Study Team

## (2) Population, GDP and Trade across GMS

Table 1.2 presents summary data for the GMS. Almost 310 million people inhabit the region. Populations range from under 6 million people in Lao PDR to over 90 million in Yunnan/Guanxi region of the People's Republic of China (PRC). Likewise the economies range widely in size, with Lao PDR's GDP value at USD 3.4 billion while Thailand's GDP is around 60 times as large, at over USD 206.3 billion. Gross National Income (GNI)/GDP per capita ranges from USD 500 or under in Cambodia, Lao PDR, and Myanmar, to over USD 3,000 in Thailand.

Countries and regions in the GMS also vary in terms of population density and land area. Land area ranges from under 180 million km<sup>2</sup> in the case of Cambodia to over 650 million km<sup>2</sup> for Myanmar. Population density ranges from 25 people per km<sup>2</sup> in Lao PDR to over 270 people per km<sup>2</sup> in Vietnam.

**Table 1.2 Socio-economic Condition in GMS in 2007**

Country	Population (million)	GDP (billion USD)	GNI per capita (USD)	Land area (mil km <sup>2</sup> )	Population density (per km <sup>2</sup> )	Rural Pop (% total)
Cambodia	14.2	7.3	490	176.5	80.4	79.7
Lao PDR	5.8	3.4	500	230.8	25.0	79.0
Myanmar	48.4	N/A	281	657.6	73.6	68.7
Thailand	63.4	206.3	3,050	510.9	124.2	67.4
Vietnam	84.1	61	700	310.1	271.3	73.1
Yunnan/Guanxi	92.3	75.4	702	630.8	150.4	N/A
Total/Average	308.2	-	1,105	2,516.6	122.5	-

Source: ADB (2008) Key Indicators 2008

Among the GMS countries, Thailand has a significant role in economic activities in the GMS. Thailand occupies largest portion in GDP and GNI per Capita which are 206 million USD and 3,050 USD, respectively. These are about 4 times larger than Yunnan of China which has second largest economy in the GMS. Through the world financial crisis, which occupies in 2008, may adversely affect the export industry in Thailand, it is still an export leader among the GMS.

## 1.2 Current Freight Movements

### (1) Freight Movement in GMS

Table 1.3 shows trade volumes among GMS countries in 2007. According to the table, it is established that there isn't any trade relationship in which export and import volumes are balanced, with the exception of Thailand and China. Lao PDR has much more imports than exports compared to other GMS countries. The largest trade volume was for exports from Thailand to China and imports to Thailand from China, which accounted for USD 14,834 million and USD 11,979 million, respectively.

Meanwhile, Table 1.4 and 1.5 show trade value of transit cargo through Laos and trade volume of transit cargo through Laos, respectively. Comparing total trade in GMS (in table 1.3) with these tables, transit cargo to/from China and Viet Nam via Laos is still in very marginal level. As there

isn't any trade pair in which transport volume in/ from via Laos is not balanced, most of return trips of transport fails to be empty return haulage. For example, import volume of Laos from Thailand is 1091 thousand tons however, export volume from Laos to Thailand is only 477 thousand tons. Transport cargo from Thailand to Viet Nam via Lao PDR is 185 thousand tons, while transit cargo from Viet Nam to Thailand via Laos is only 15 thousand tons.

**Table 1.3 Trade Volumes among GMS Countries**

Unit: Million USD

	Thailand	Vietnam	Cambodia	Lao	China
Thailand		3,803	1,356	1,312	14,834
Vietnam	1,034		991	104	3,357
Cambodia	45	184		0	46
Lao	432	189	1		77
China	11,979	11,906	881	177	

Note: Export value from each country is adopted as trade value to avoid effect of differences in import tax.

Source: Direction of Trade, IMF, 2007

**Table 1.4 Trade Volumes through Lao PDR among GMS Countries**

Unit: Million USD

	Thailand	Vietnam	Cambodia	Lao	China
Thailand		185		1,091	1
Vietnam	15			81	
Cambodia	0				
Lao	477	99			15
China	3			118	

Source: C2000 Database, Ministry of Finance, Lao PDR, Oct. 2007 – Sep.2008

**Table 1.5 Transit Cargo Volume through Lao PDR**

Unit: 1000ton/year

	Thailand	Viet Nam	Cambodia	Lao PDR	China
Thailand		83.9		1,527.6	2.2
Viet Nam	33.5			163.4	
Cambodia					
Lao PDR	691.6	250.5			15.6
China	3.1			131.6	

Source : C2000 database (Oct.2007 to Sept. 2008), Ministry of Finance, Lao PDR

## (2) Salient Characteristics of Logistics in Lao PDR

Lao PDR has 1.92 billion tons in weight basis or 1.5 billion USD of import in money value basis. Looking into the import volume by cross border point, the Friendship Bridge in Vientiane Capital is the busiest cross border point where 53% of all imports are handled, followed by Khammuane (17%), Savannakhet (13%), Champasak (9%) and Borikhamxay (4%) in terms of money value. Lao PDR imports most consumable goods and industrial materials from/through Thailand. This is supported by the statistics, which show 80% of imports are made in Thailand. Major importing goods to Lao PDR include petroleum (38%), industrial materials (31%), and manufactured goods (21%): commodity-wise, there isn't any significant difference across cross border points.



Source: Prepared by JICA Study Team based on C2000 data

**Figure 1.2 Commodity-wise Import by Cross Border Point (Tonnage) in 2007/08**

On the other hand, Lao PDR has 1.4 billion tons in weight basis or 0.9 billion USD of export in money value basis. Looking into the export volume by cross border point, Savannakhet is the largest export point with 53% of total export, followed by Vientiane Capital (36%) in 2007/08. The major commodities exported from Lao PDR are minerals (copper), which accounts for 71% of total export volume in money value basis.

Most of transit cargo via Lao PDR is the cargo between Thailand and Viet Nam. The volume of transit cargo through Lao PDR reached 122 million tons through two major cross border points: Savannakhet (71%) and Borikhamxay (16%) in 2007/08. The major commodities transited through Lao PDR are vegetable and plant products (35%), manufactured goods (22%) and sugar (16%).

Regarding domestic distribution, Lao PDR does not have any single national logistics center: instead, it has decentralized commercial zones centering Vientiane due to relationship and influence of regional cities in Thailand such as Udon Thani and Ubon Ratchathani. The goods come from those Thai cities to Vientiane, Savannakhet and Pakse, and are then distributed to the rest of country. This is mainly due to long and narrow shape country stretching in north-south directions, weak economic relation among northern, central and southern regions of Lao PDR, and strong economic influence of Thai rural cities like Udon Thani and Ubon Ratchathani.

### 1.3 Logistics Market and Business

Logistics market in Lao PDR is still very limited due to limited size of economic activities and population, such that Logistics is not yet a major industry in Lao PDR. The major market is the international market including transit, import and export, and domestic market. The international market is much larger than the domestic market. Lao PDR has approximately 60 logistics companies with many owner-drivers. A small number of relatively large scale logistics companies (but it is quite small compared to the foreign logistics companies) engage in the international and

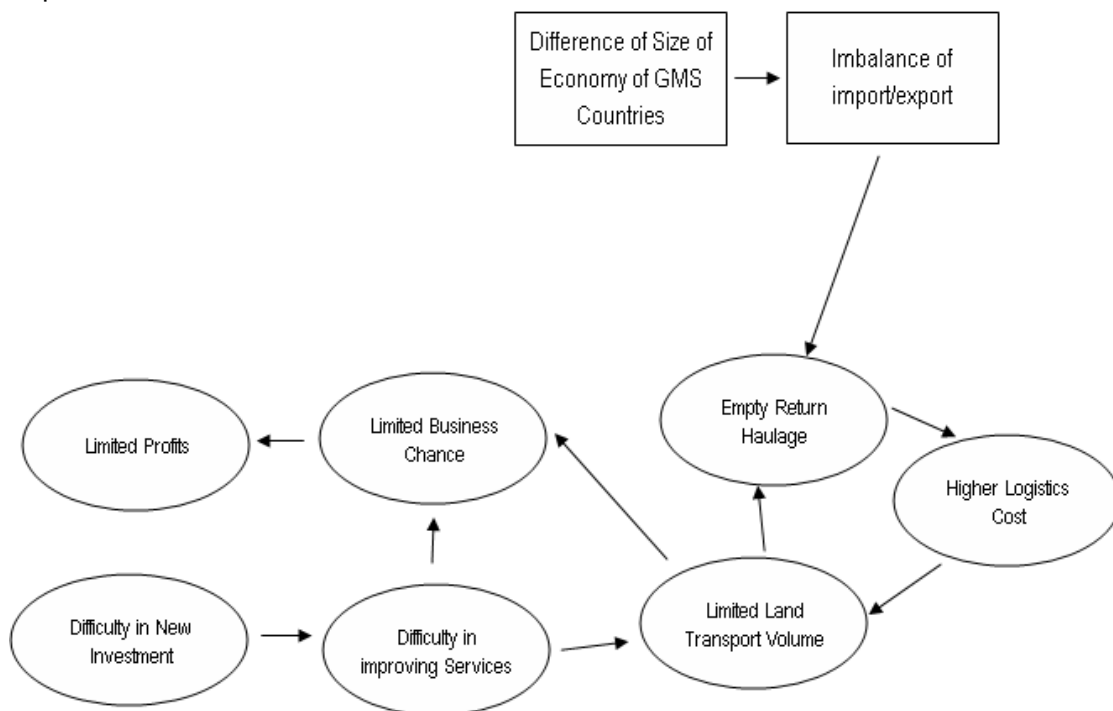
domestic markets, while the other smaller logistics companies and the owner-drivers engage in the domestic market. These logistics companies in Lao PDR, whether large or small, tend to be limited investment that result in difficulties in re-investment in trucks and facilities.

### 1.4 Current Problems on Logistics

From the perspective of future market integration, economic cooperation and support to industrial development of Lao PDR, it can be said that logistics is one of the bottlenecks of Lao PDR, in particular the high costs and lower efficiency of logistics. The major problems encountered are:

- Empty Return Haulage
- Higher logistics costs
- Limited transport volume
- Limited business opportunities in small market
- Difficulty in re-investing due to financial limitations of logistics companies

The problems are inter-related to each other and form a “vicious cycle” of difficulties in logistics. The economic disparity among the GMS countries leads to a high incidence of empty return haulage, which in turn leads to higher logistics costs. It is one of the constraints to increase in land transport volume and will be a constraint to respond increased demand of land transport in GMS. On the other hand, limited land transport volume may negatively influence business profits for private companies. This weak logistics business in Lao PDR will generate a risk of leakage of development benefits from Lao PDR.



Source: JICA Study Team

Figure 1.3 Vicious Cycle of Difficulties in Logistics in Lao PDR

## **2. FUTURE PERSPECTIVES**

### **2.1 Future Perspectives on Socio-economic Development**

Lao PDR has experienced steady economic growth in the 21<sup>st</sup> century and has engendered favourable conditions to foster future socio-economic development, urbanization, industrial development, agricultural development and mineral resource development. Figure 2.1 summarizes the development framework and possible utilization of potential resources in the future: the major facets of development are as follows:

- Population will increase continuously. Urban areas will be recipients of immigrants from rural areas, resulting in an accelerated increase in urban populations, in particular Vientiane, Savannakhet and Pakse.
- Agricultural products will be more diversified in mountainous areas in Lao PDR. In particular, production of commercial crops like coffee, vegetables, fruits and herbs will increase.
- Mineral resources will be increasingly exploited in response to increase in investment.
- Industrialization will progress based on industrial parks in Vientiane, Savannakhet, Pakse and possibly Luangnamtha.

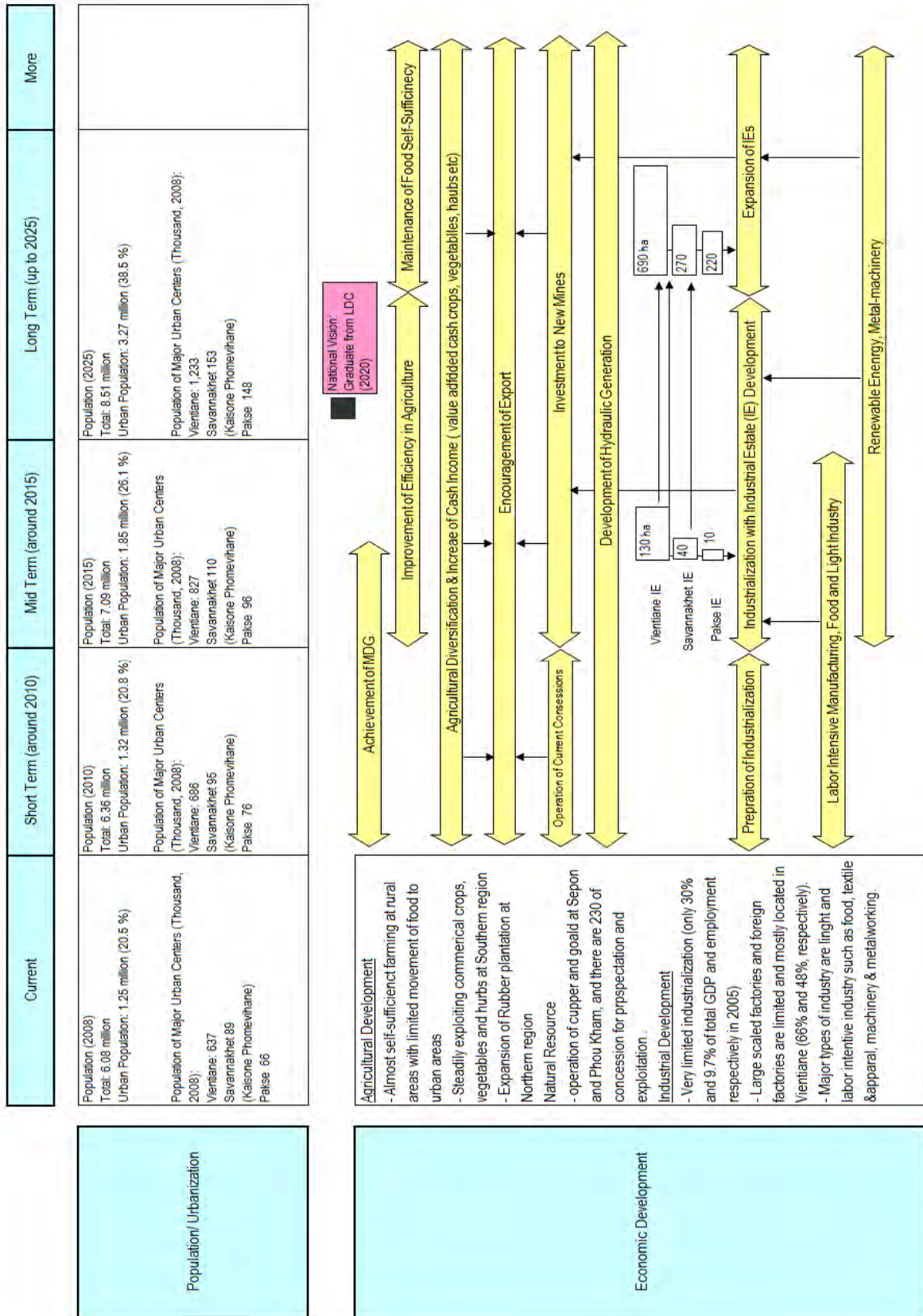
### **2.2 Future Perspectives on Logistics**

Market integration of GMS and ASEAN regions continues in steady progress in a bid to create free movement of people, goods and money by implementing AFTA, CBTA and ASW, etc. This trend will continue with the following milestones:

- Trade volume in GMS will gradually increase in accordance with maturity of regional economic cooperation and integration based on the advancement of division of labor and share of market in GMS.
- Tax exemption of AFTA will be completed in 2015 and continuous efforts will be made to advance more market and economic integration.
- Development of National Single Window (NSW) will be largely in progress and ASEAN Single Window (ASW) will be completed in 2025.
- CBTA will be completely implemented in the near future and more deregulation especially deregulation on cross border trucks will occur.

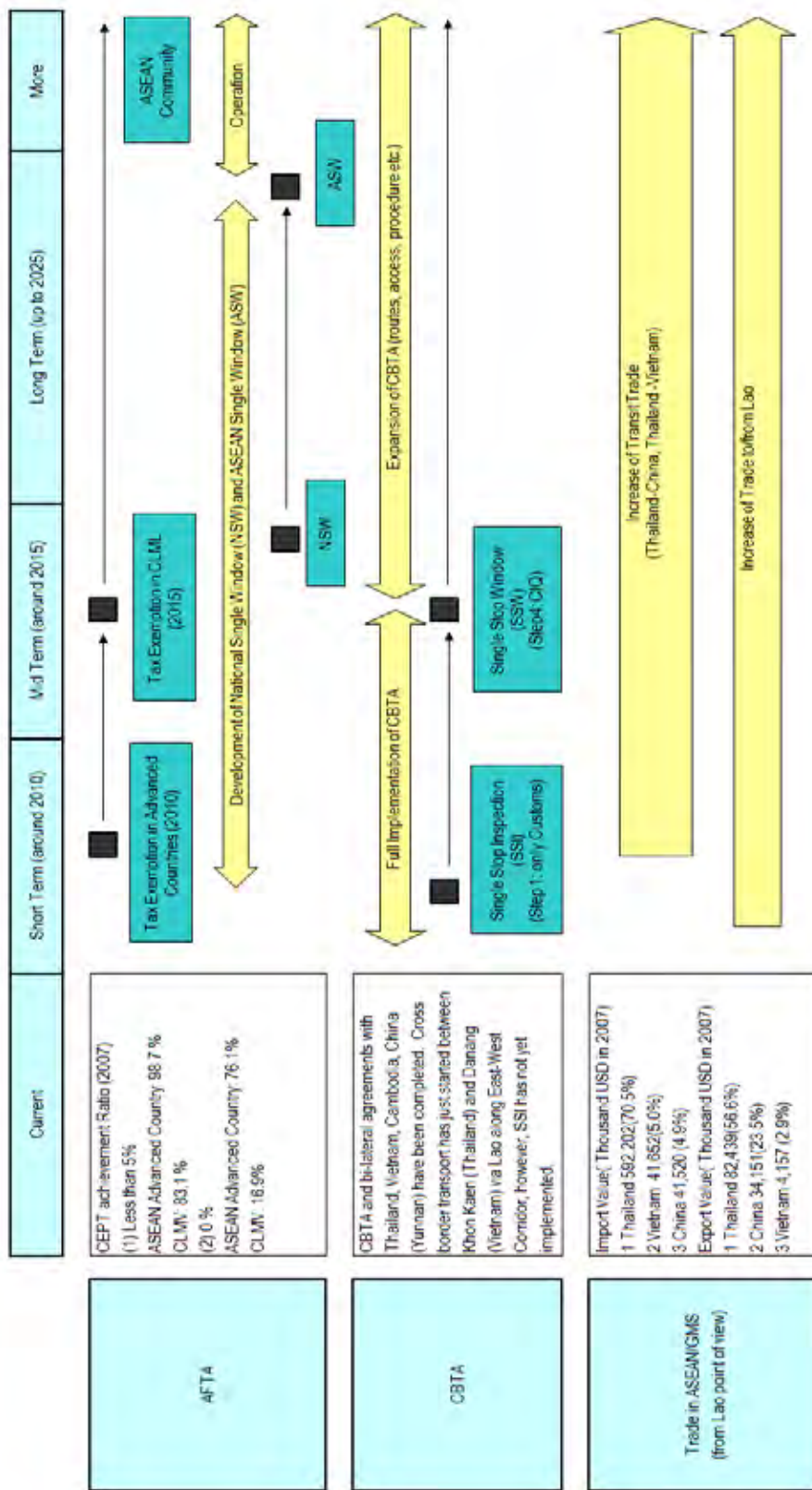
As regards Lao PDR, cargo flow with Thailand will continually increase and cargo flow through land transport with China and Viet Nam will in the short term follow suit; in particular, in northern Lao due to further CBTA facilitation and road improvements.





Source: JICA Study Team

Figure 2.1 Assumptions of Future Socio-Economic Situation in Lao PDR



Source: JICA Study Team

Figure 2.2 Assumptions of Future Situation regarding Logistics in Lao PDR

### 2.3 Socio-economic Framework

Referring to the latest 5 year plan of Lao Government, analyses and forecasts by IMF, World Bank and ADB, the socio-economic framework was set up as shown in Table 2.1. This framework provides important information to consider future logistics volume and change of logistics services.

**Table 2.1 Socio-Economic Framework**

	Current	2015	2025
Population (million persons)	6.0 (2005)	6.7	7.9
Urban Population Ratio (%)	27% (2005)	35%	40%
GDP (billion Kip)	43,125 (2008)	69,236	139,409

Note: economic growth rates are 1.6 %/year, 3.3%/year and 3.6%/year during 2009-2010, 2011-2020, 2021-2025, respectively

Source: JICA Study Team

### 2.4 Demand Forecast

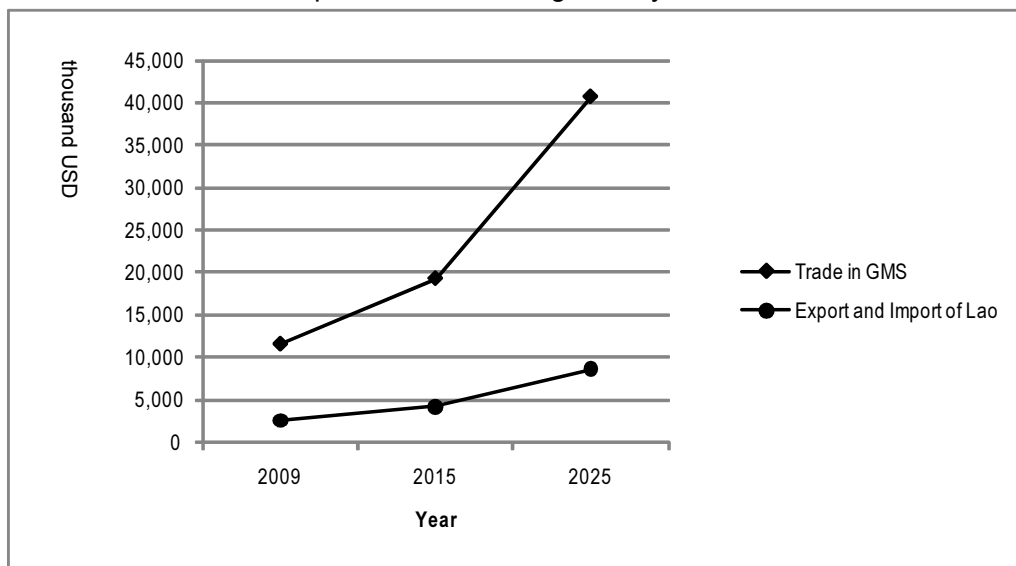
The volume of trade within GMS is projected to rapidly increase by 8.9% p.a. (2009-2015) and 7.7% p.a. (2015-2025) in monetary terms and reach 40 billion USD by 2025, based on the analysis of relationship between economic activities and logistics volume.

Export and import volume from/to Lao is projected to increase at a slightly slower pace relative to the trade in GMS. The volume is forecasted to triple by 2025.

Freight volume will increase by approximately 3 times during the period between 2009/2025.

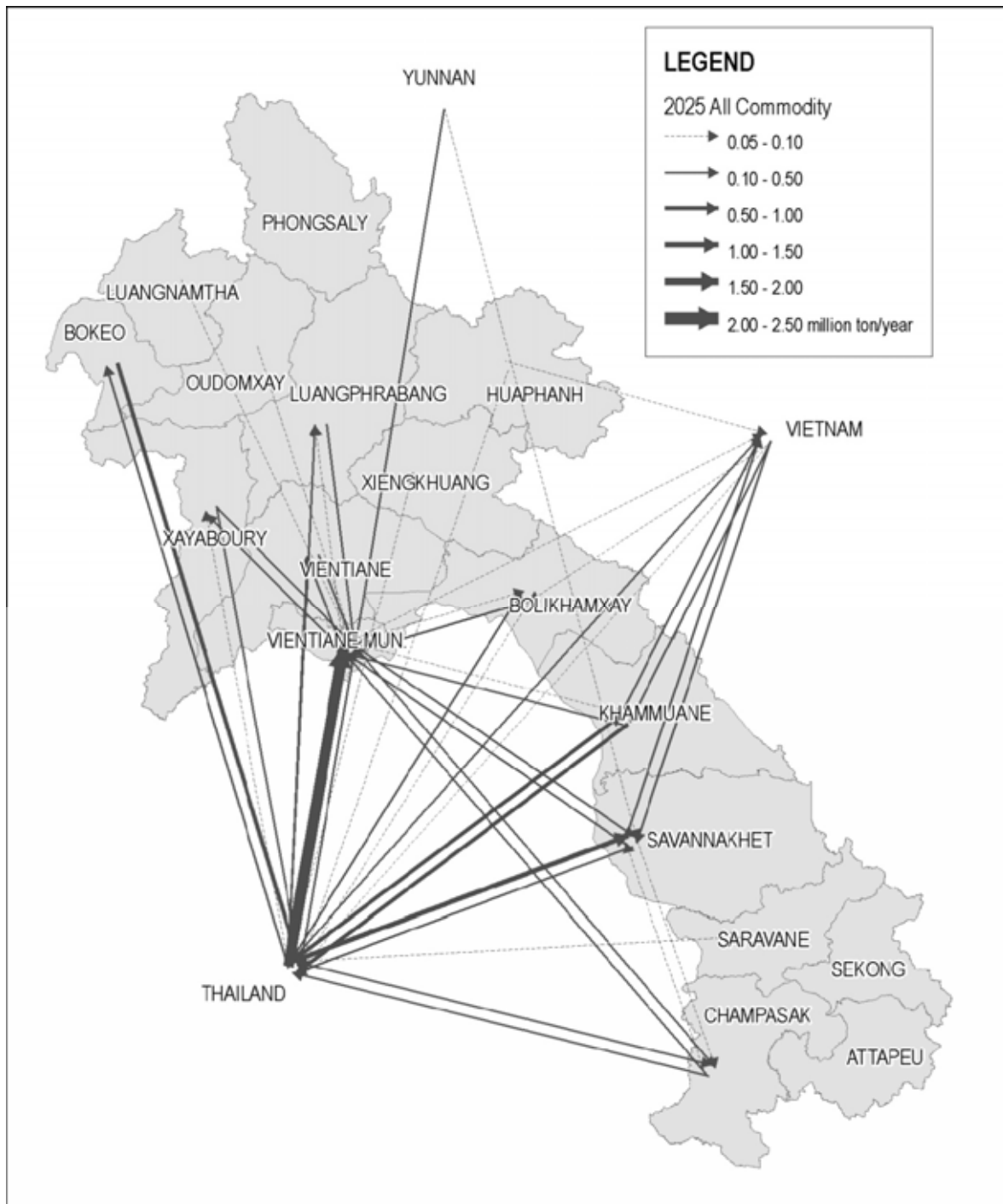
The largest freight volume is observed for imports between Thailand and Vientiane (3 million tons/year), followed by those between Thailand and Savannakhet, and then between Thailand and Pakse.

Internal distribution volume is expected to increase gradually.



Source: JICA Study Team

**Figure 2.3 Future Freight Volume in GMS and Lao PDR**



Source: JICA Study Team

Figure 2.4 Future OD

### 3. NATIONAL LOGISTICS STRATEGY

#### 3.1 Development Goal

Current logistics in Lao PDR have changed drastically due to completion of major routes along Indochina economic corridors, globalization in trade and transport, regional economic cooperation and integration in GMS / ASEAN region, as well as realization of development potential of Lao PDR. Those external and internal favorable changes should set off Lao PDR's shift "from land-locked to land-linked country". Ensnared in these favorable circumstances, Lao's logistics can pursue the status of being the region's logistics hub in terms of cargo flow and logistics services, which can show the way to realize the national policy of transformation "from land-locked to land-linked country". Logistics is one of the promising economic sectors in Lao PDR and expects to act as a support business to other economic activities such as manufacturing, agriculture and commerce by improving accessibility to market and production network in GMS with lower cost, and dealing with increased volume of land transport cargo.

Based on understandings above, the following vision is proposed to emphasize logistics development under business chance of market integration of GMS as well as contribution to logistics improvement for further market integration in GMS:

**Lao PDR to be Regional Logistics Service Hub in GMS**

It is of great importance to pay special attention to realize certain visible benefits from the increased volume of freight volume in GMS, in particular land transport volume passing through Lao PDR in delineating logistics development strategy.

#### 3.2 Development Strategy

##### (1) Overall

Logistics in Lao PDR is currently in the "vicious cycle" as indicated in the previous figure 1.3. The logistics strategy principally should tackle to enable extrication from the "vicious cycle" in logistics in Lao PDR. For this purpose, the following considerations should be taken into account:

- Logistics volume, in particular transit transport volume, shall be increased in accordance with increase in trade in GMS. The problem of empty return haulage resulting from imbalanced transport volumes can be mitigated by integrating some logistics flow.
- The logistics market in Lao PDR is relating limited in terms of potential market size even the market size will be gradually expand; hence, logistics business in Lao PDR should target not only logistics in Lao PDR but also logistics in GMS. Lao PDR should take leading role in activating a more open market in logistics in GMS by opening own logistics market in advance to all other GMS countries.
- Lao PDR needs to have more logistic service providers to be a logistics hub in the GMS. More competitive market with more participants will be a key policy to exploit business opportunities and to improve service and, business and management capacity. Lao PDR

possesses advantages inherent in its geographic location in the GMS and the cross border agreements with GMS countries as well as lower labor and land costs. By utilizing these advantages, it is essential for Lao PDR to stimulate logistics industry to be located in Lao PDR including foreign and domestic companies.

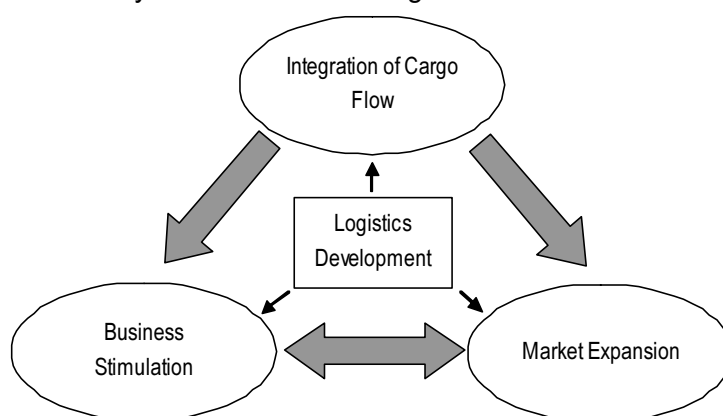
Development of logistics in Lao PDR aims at effectively generating business opportunities in logistics targeting the GMS market by inducing more land transport cargo via Lao PDR and by stimulating logistics business in Lao PDR. In this regard, the following public interventions should be strategically taken into account to transform the “vicious cycle” into a “preferable positive cycle”; thus fostering accomplishment of the development vision.

- Cargo flow should be strategically combined/ integrated into certain routes, such as routes between Thailand and China, and Thai and Vietnam, to increase logistics volume, to mitigate the problem of empty return haulage and to reduce logistics cost by utilizing advantages of Lao PDR.
- Logistics market should be expanded to target not only domestic market (import, export and transit via Lao PDR) but also GMS market.
- Promoting logistics business targeting Lao and GMS to serve as logistics service hub.

Accordingly, the following are identified as strategies:

- |                                       |
|---------------------------------------|
| Strategy 1: Integration of Cargo Flow |
| Strategy 2: Business Stimulation      |
| Strategy 3: Market Expansion          |

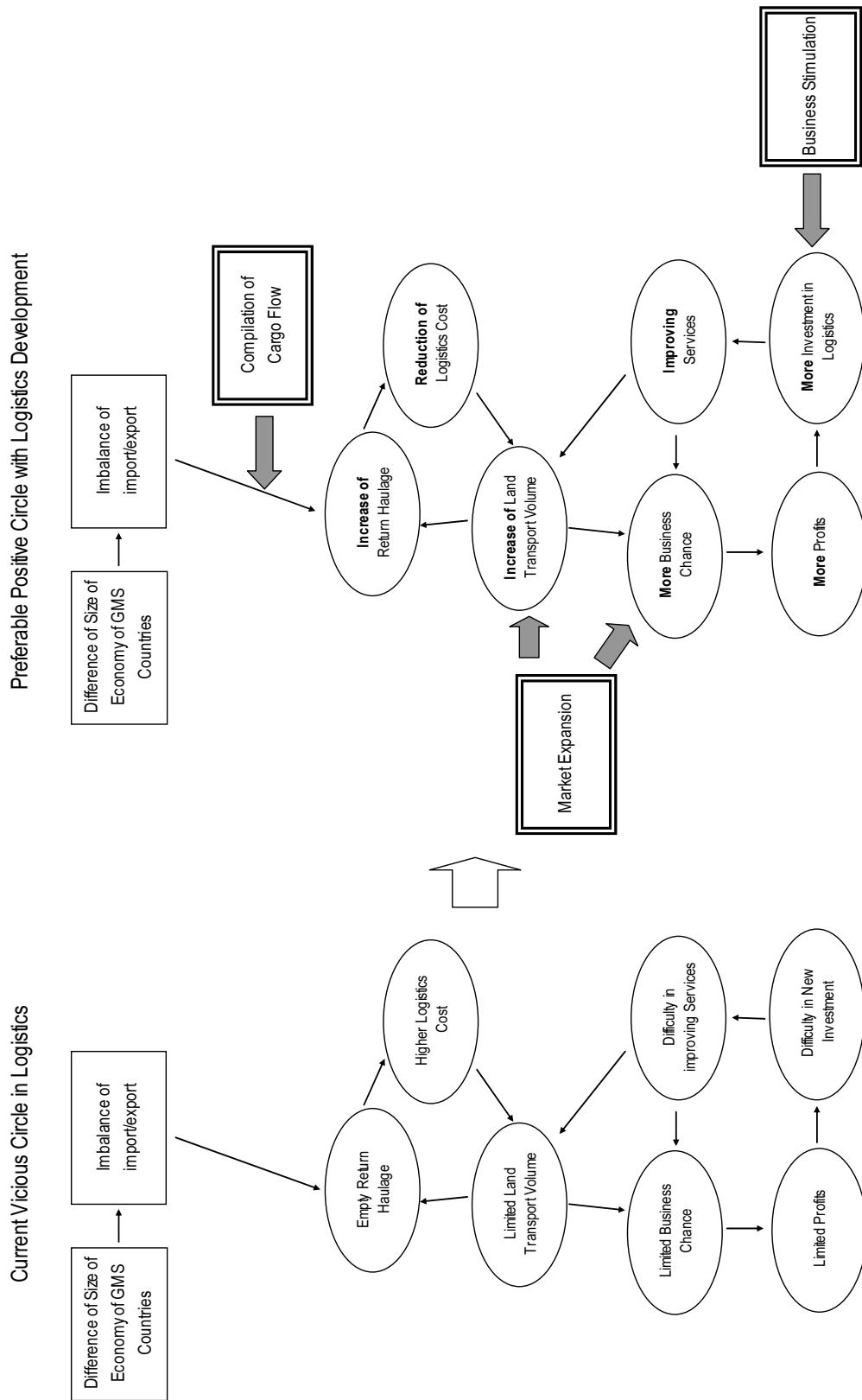
Integration of cargo flow shall mitigate the problem of empty return haulage. It influences the reduction in logistics costs. Cargo volume shall increase based on the reduced logistics costs. It is expected that it will generate “scale of merit” on international land transport route via Lao PDR. It may also generate more business opportunities and competition in logistics market by strategically expanding market accessibility with stimulation of logistics businesses.



Source: JICA Study Team

Figure 3.1 Development Strategy

The anticipated process of transformation from a “vicious cycle” to the “preferable positive cycle” by adopting public intervention measures stated in the strategies above is illustrated in Figure 3.2.



Source: JICA Study Team

Figure 3.2 Shift from Vicious Cycle to Positive Cycle by Development Strategies

### 3.3 Development Target

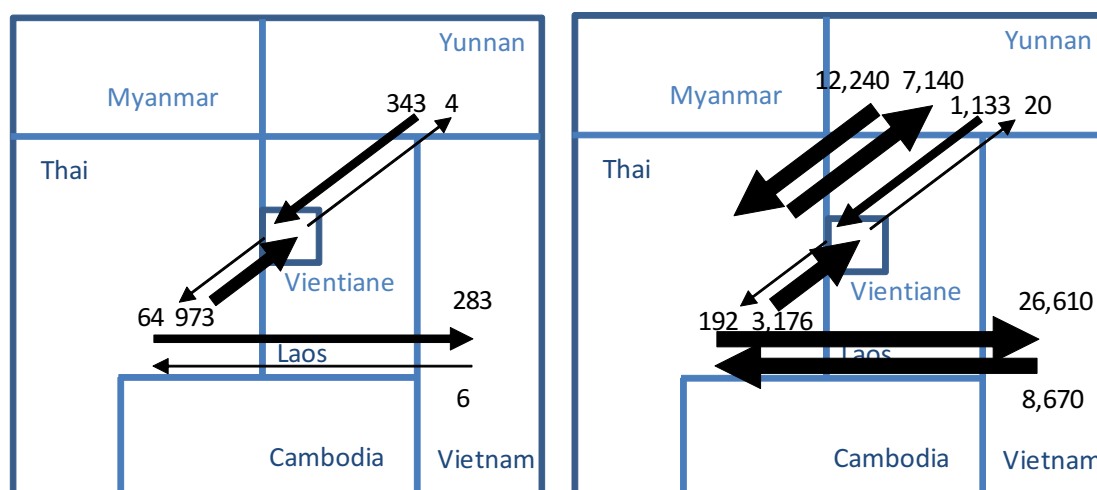
As proposed above, development of the logistics in Lao PDR can be achieved by establishment of the following three key strategies: (i) Integration of Cargo Flow, (ii) Business Stimulation, and (iii) Market Expansion. The outcomes of implementation of these strategies, from a national perspective, include increase in return haulage, reduction in logistics costs, and increase in transport volume. The following discussion proposes numerical development targets for the first three outputs; increase in return haulage, reduction in logistics costs, and increase in transport volume.

#### (1) Increase in Transport Volume

Transit cargo between Thailand and China and between Thailand and Vietnam are estimated to increase drastically as a result of realization of industrial development potential of the said countries and a shift of the transport route from sea to land transport due to expansion of division of labor and internal procurement in GMS.

Taking an example of the manufactured goods, the transit volume between Thailand and Yunnan will increase to 714 thousand tons per year (from Thailand to Yunnan) and 1,224 thousand tons per year (from Yunnan to Thailand) by the year of 2025. Also, the transit cargo between Thailand and Vietnam will increase to 2,661 thousand tons per year (from Thailand to Vietnam) and 867 thousand tons per year (from Vietnam to Thailand) by the same target year.

These figures could be used as one of the numerical development targets. When the actual transit volumes between the said countries lag behind the estimated volumes, actual actions under the strategy like development of logistics infrastructure and facilitation of the trade procedures should be taken to fulfill gaps between actual freight volume and numerical target showing in Figure 3.3.



Source: JICA Study Team

Figure 3.3 Trade Volume in GMS (Manufactured Goods, 000 tons/ year) in 2009 and 2025



## (2) Increase in Return Haulage

When the potential of trade demand in the GMS is realized and the regional logistics hub is established in Lao PDR, the volume of empty return haulages is expected to be significantly reduced. Assuming that half of trucks transporting transit cargo from Thailand to Yunnan have return cargo, the percentage of the return haulage from Yunnan to Thailand is expected to increase up to 30% by the year of 2025. Likewise, if half of the trucks transporting transit cargo from Vietnam to Thailand have return haulages, then the percentage of the return haulage from Thailand to Vietnam would increase to 16% by 2025. As Table 3.1 illustrates, the same trend could possibly be observed for the export/import/domestic cargo in Lao PDR. For instance, the trucks carrying import cargo from Yunnan to Vientiane Capital could carry return haulages from Vientiane to Northern Laos. The percentage figures of return haulage mentioned could also be used as numerical development targets to monitor the progress of the logistics strategy in Lao PDR.

**Table 3.1 Numerical Development Targets (Return Haulage of Manufactured Goods)**

Items	Present % of Return Haulage of Manufactured Goods	2025 % of Return Haulage of Manufactured Goods
Transit Cargo:		
From Thailand to China via Lao PDR	Minimal	50%
From China to Thailand via Lao PDR	Minimal	30%
From Thailand to Vietnam via Lao PDR	Minimal	16%
From Vietnam to Thailand via Lao PDR	Minimal	50%

Source: JICA Study Team

## (3) Reduction in Transport Costs

Assuming that the trade volumes amongst the GMS countries increase and the return haulages increase (and the transport costs for return haulages fall to 70% of the transport costs for one-way cargo) as estimated, the transport cost in/through Lao PDR is estimated to fall by 10% from 1.9 USD/km to 1.7 USD/km. In general, the transport costs can be reduced not solely by the increase in the return haulage but also by several factors, including scale merits of the trade business and introduction of the competitive logistics market. Having said that, one-way cargo in Lao PDR is considered as the major determinant of the transport costs and a 10% reduction in the transport costs is set as the numerical target for development of the logistics strategy.

**Table 3.2 Numerical Target**

Items	Present	2025
Unit Transport Cost	1.9 USD/km	1.7 USD/km (approx. 10% fall)

Source: JICA Study Team

## 3.4 Strategy 1: Integration of Cargo Flow

### (1) Overall

This strategy aims at integrating land transport cargo flow into certain major transport routes in order to mitigate to and from imbalance of transport volume. It can be achieved to strategically integrate cargo flow along NR-13N in north-south direction and along NR-9 in east-west direction

in GMS. Target cargo is not only limited to the transit cargo but also import/export cargo and domestic distribution cargo to foster more balance in to and from volumes of cargo as well as generating merits of scale.

However, there are competitive international routes for each routes: NR-3 for NR-13N and NR-12 for NR-9 in Lao PDR. The time-distances and road conditions of NR-13N and NR-9 are relatively disadvantageous comparing to the competitive routes, so that NR-13N and NR-9 should be improved to realize more shorten travel time with competitive road conditions at least. At the same time based on it, it is essential for Lao PDR to put certain privileges to the transporters so as to manipulate them into selecting NR-13N and NR-9 routes as their routes to transport international transit cargo. For this purpose, logistics hub and link system should be effectively realized to gather more to and from cargo into hubs with improving links to allow passage of larger trucks. Transport efficiency should be improved with promoting more transport volume per trip. and Value added aims at putting more value on the NR-13N and NR-9 with distributive processing industries along them which can utilize advantages of Lao PDR regarding lower labor cost and lower land cost.

Accordingly, this strategy consists of the following three actions:

- Development of Logistics Hub
- Improvement of Major Logistics Routes
- Improvement of Transport Efficiency
- Provision of value added at logistics hubs

## **(2) Actions**

Actual actions to be taken under the strategy of “integration of cargo flow“ are as follow:  
(the number in ( ) after the program name indicates program number)

### 1) Development of Logistics Hub

- International Logistics Parks Development Project (P111)
- Regional Logistics Parks Development Project (P112)
- Specific Logistics Hubs Development Project (P113)

### 2) Improvement of Major Logistics Routes

- International Transport Routes Improvement Project (P121)
- Regional Transport Improvement Project (P122)

### 3) Improvement of Transport Efficiency

- Truck Enlargement Program (P131)
- Consolidation Promotion Program (P132)
- Inter-modality Improvement Project (P133)

### 4) Provision of Value Added to the logistics hubs

- Attraction of Distributive processing (P141)

---

### 3.5 Development Strategy 2: Business Stimulation

#### (1) Overall

The strategy is to foster logistics service providers in Lao PDR to maximize benefits from activated logistics volume via Lao PDR through activating local businesses and increasing employment. The strategy aims at stimulating logistics businesses in Lao PDR to deal with increased volume of land transport as well as to be capable to serve expanded logistics market in GMS. It is important to make logistics business more competitive with both local and foreign business. In the short term, Laos Government should encourage local logistics business with attracting foreign investment in logistics sector based on privileges given to the logistics business stationed in (registered in) Lao with the promising logistics market of import/export transport with Thailand and transit transport between Thailand and Viet Nam. The increased freight volume along NR-13N and NR-9 under the strategy 1 as well as liberalized market under the strategy 3 will greatly back-up to participate in the logistics market in Lao PDR in mid term. Then, utilizing advantage of location and competitive production costs in Lao PDR. Lao PDR shall be a center of regional logistics service in GMS, which will be big business opportunities in logistics to be participated. It results in increasing foreign logistics business participating in Lao PDR.

To realize the scenario above, the Lao Government should take at least the following actions:

- Participation of the foreign logistics businesses in the logistics market in Lao PDR should be promoted in order to improve quality of services provided as well as improve performance and capacity of local providers through partnerships or other cooperation frameworks.
- The improvement of competitiveness of local providers in terms of service level, business management and administration is an important issue from the perspective of domestic industry development policy.

The strategy should have the following 3 actions to be practiced:

- Attraction of Foreign Logistics Business
- Strengthening of Domestic Logistics Business
- Strengthening of Logistics Administration

#### (2) Actions

Actual actions to be taken under the strategy of “business stimulation“ are as follow:

- 1) Attraction of Foreign Logistics Business
  - Foreign Investment and Partnership Promotion Program (P211)
  - Logistics Business Deregulation Program (P212)
- 2) Strengthening of Domestic Logistics Business
  - Leading Company Cultivation Program (P221)
  - New Business Incubation Program (P222)
  - Business Matching and Information Service Program (P223)
  - Guarantee Association Development Program (P224)
  - Cargo Liability Development Program (P225)
  - Capacity Development Program (P226)

- 3) Strengthening of Logistics Administration
  - Program on Establishment of Office responsible for Logistics (P241)
  - LIFFA Strengthening Program (P242)

### **3.6 Development Strategy 3: Market Expansion**

#### **(1) Overall**

This strategy aims at expanding logistics market to be served by logistics business in Lao PDR. The logistics businesses in Lao PDR mainly target import, export and transit cargo as logistics market of Lao PDR. However the logistics market in Lao PDR is limited in size due to limited population and economic size and it's expected that it holds little promise of expansion in the future relative to the logistics markets in surrounding countries, despite the fact that logistics volume will increase from current levels. Rather than the logistics market in Lao PDR, there is a large promising market in the vicinity of Lao PDR; GMS market.

Lao PDR plays a leading role in economic integration among GMS countries through pursuit of seamless cross-border transport via CBTA and bi-lateral transport agreements with all surrounding countries with the exception of Myanmar. Considering advantages of location and cross-border transport agreements, Lao PDR should formulate 2 basic policies on market exploitation of logistics: one is to realize more seamless cross-border transport and the other is to pursue more liberalization of logistics market into a single market in GMS. Lao PDR shall continue to lead more barrier-free cross-border transport targeting all inter-city transport in GMS. At the same time, Lao PDR should proceed with opening its own logistics market which would open up the GMS market. Accordingly, this strategy should be broken down into the following 3 actions:

- Facilitation of CBTA
- More Improvement of Cross Border Procedures
- Liberalization of Logistics Market

#### **(2) Actions**

Actual actions to be taken under the strategy of "market expansion" are as follow:

- 1) Facilitation of CBTA
  - CBTA Implementation Monitoring Program (P311)
  - Common Control Area Development Project (P312)
  - Cross Border Checkpoints Standardization Program (P313)
  - Tractor Head Exchange System Promotion Program (P314)
- 2) More Improvement of Cross Border Procedures
  - Cross Border Points Development Project (P321)
  - Customs Facilitation Program (P322)
  - National Single Window Acceleration Program (P323)
- 3) Liberalization in Logistics Market
  - Domestic Logistics Market Deregulation Program (P331)
  - Cabotage Deregulation in GMS (P332)

### 3.7 Development Scenario

Logistics development shall start to make efforts to increase land transport volume via Lao PDR. For this purpose, it is highly essential to integrate cargo flow along NR-13N and NR-9. It is necessary to provide physical and institutional privileges to cargo transporters and/or forwarders such that they select major domestic Lao routes. As physical privileges, hub and link system should be developed and cross-border procedures should be made less strenuous: these are actions of the highest priority. Regarding logistics services available in Lao PDR, it is important to improve level and variety of logistics services by introducing foreign logistics businesses in particular the services available along NR-13N and NR-9.

It is important to establish hub functions of cargo flow with Thailand and Vientiane in the short term. Vientiane Logistics Park (VLP) is a key facility to act as a centre to handle transit cargo, import/export cargo from/to Thailand and domestic cargo. Initial target goods of VLP are import goods from Thailand, especially consumer products from Thailand. At a later stage in the short term, VLP and Savannakhet Logistics Park (SLP) would gradually increase transit cargo along NR-13N and NR-9 respectively. Increased volume of cargo at VLP and SLP would contribute to reduced transport costs.

Lao PDR, on the other hand, should emphasize acceleration towards barrier-free cross-border transport and trade in GMS. These cannot be achieved singly by Lao PDR. However, Lao PDR should take initiative to lead towards such transport and trade circumstances in the GMS. On the other hand, Lao PDR should continue reorganization of logistics sector by inviting foreign logistics companies stationed in Lao PDR. Lao PDR would also have to continue improving transport efficiency by enlarge trucks which carry more cargo per trip to further reduce transport costs with improving the network to accommodate such larger and heavier trucks and trailers.

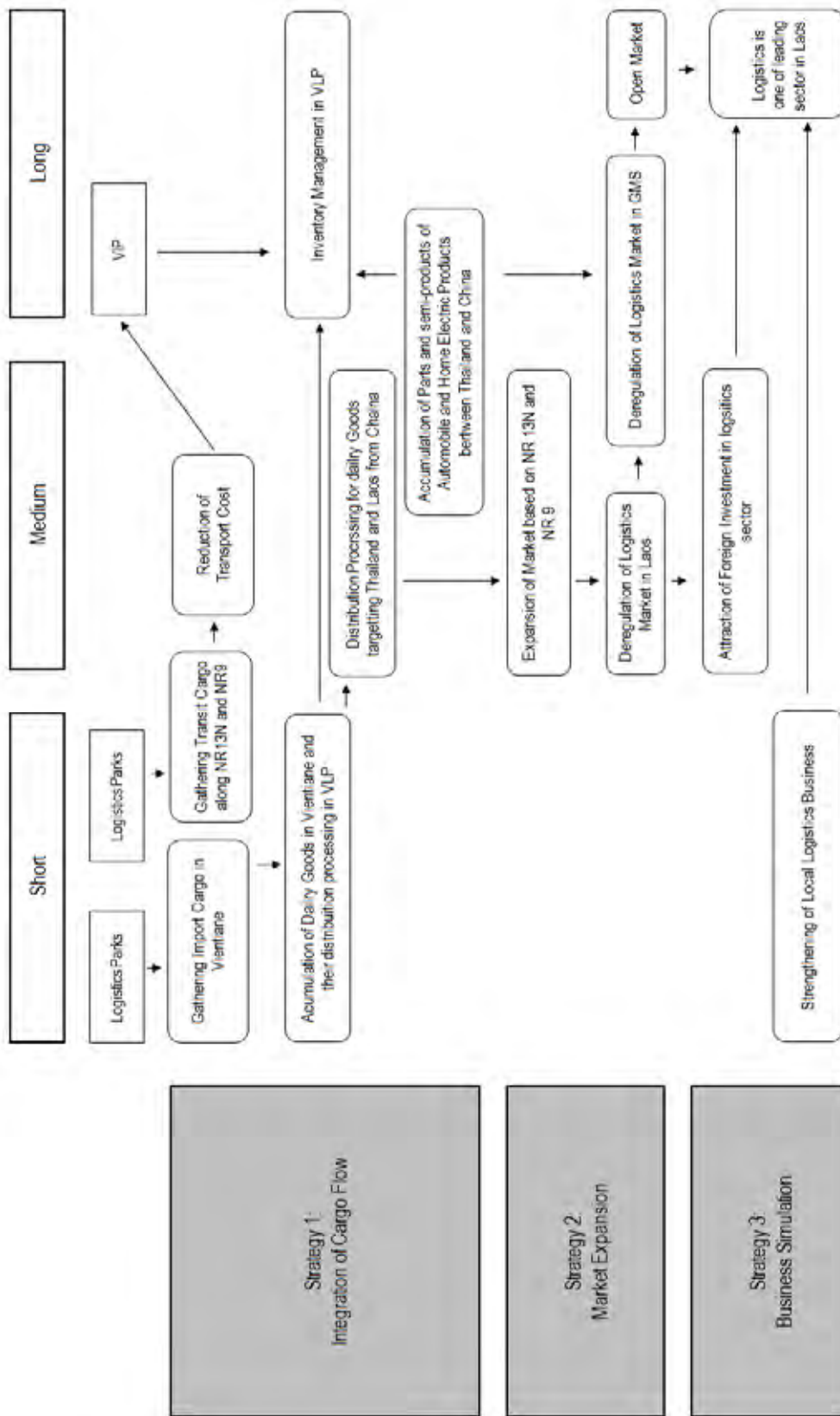
In the mid term period, increased volume of cargo at VLP and SLP would be a seed to develop new functions at VLP and SLP. Especially accumulation of the consumer products at VLP may generate potential to attract distributive processing into VLP. Firstly simple and conventional distributive processing targeting goods distribution in Lao PDR is realistic and acceptable to ensure accumulation of goods and know-how of distributive processing in the VLP.

On the other hand, accumulation of transit goods from China and Vietnam would generate potential of distributive processing targeting goods distribution in Thailand utilizing cheaper labor. In the medium-term, enhanced reputation and accumulation of goods would contribute to attraction of more distributive processing into VLP, positively resulting in further reductions in logistics costs coupled with accumulation of more goods along the NR-13N. Accumulated know-how of the distributive processing in VLP would create new potential to attract stock yards of parts and components of automobiles and home electric appliances from Thailand and China.

In the long term, there is potential for expansion of its stock yard function into an inventory management center connecting Thailand and China along NR-13N coupled with an increase in demand from factories in the VIP.

Logistics companies based in Lao PDR would involve international logistics businesses in GMS in or outside Lao PDR under barrier-free cross-border transport and trade circumstances. Lao PDR would contribute by maintaining functional highway network and functional logistics parks (basements) to generate more scale merits in integrating land transport cargo flow via Lao PDR.

The logistics development scenario mentioned above is illustrated in Figure 3.4.



Source: JICA Study Team

Figure 3.4 Development Scenario

### 3.8 Projects and Programs

Projects and programs identified based on the proposed actions under the afore-mentioned strategies are shown in Table 3.3.

**Table 3.3 Projects and Programs of National Logistics Strategies**

No	Strategy	Action	Projects/Program	Code No.	Objectives	Scope	Schedule			
							S	M	L	
1	Integration of Cargo Flow	Development of Logistics Hub	International Logistics Parks Development Project	P111	<ul style="list-style-type: none"> <li>To develop international interface facility in logistics along strategic economic corridors of NR-13N and NR-9</li> </ul>	<ul style="list-style-type: none"> <li>Construction of logistics park at Vientiane, Savannakhet and Luangnamtha</li> <li>Management and operation of logistics park under PPP</li> </ul>	✓			
2			Regional Logistics Parks Development Project (P112)	P112	<ul style="list-style-type: none"> <li>To improve regional distribution system in Lao by developing regional logistics hub as well as to increase transport volume along the strategic corridors of NR-13N and NR-9</li> </ul>	<ul style="list-style-type: none"> <li>Construction of regional logistics parks at Huoixai, Muang Xai, Luangprabang, Thakhek and Champasack</li> <li>Management and operation of logistics parks under PPP</li> </ul>		✓		
3			Specific Logistics Hubs Development Project	P113	<ul style="list-style-type: none"> <li>To develop logistics hub for specific products to promote export of local products and local logistics businesses</li> </ul>	<ul style="list-style-type: none"> <li>Construction of Specific logistics parks at Huoixai and Champasack</li> <li>Management and operation of logistics parks under PPP</li> </ul>		✓		
4		Improvement of Major Logistics Routes	International Transport Routes Improvement Project	P121	<ul style="list-style-type: none"> <li>To improve international logistics routes to form major land transport corridors in GMS through Lao PDR</li> </ul>	<ul style="list-style-type: none"> <li>Road Improvement in response to larger trucks and trailers</li> <li>Road Improvement for night drive</li> </ul>	✓	✓		
5			Regional Transport Improvement Project	P122	<ul style="list-style-type: none"> <li>To establish more international sub-corridors connecting surrounding countries to increase cargo flow along the strategic corridors of NR-13N and NR-9</li> </ul>	<ul style="list-style-type: none"> <li>Road Improvement in response to larger trucks and trailers</li> <li>Road Improvement for night drive</li> </ul>		✓	✓	
6		Improvement of Transport Efficiency		Truck Enlargement Program	P131	<ul style="list-style-type: none"> <li>To assist private transport companies to replace current vehicles with larger capacity vehicles to reduce transport costs</li> </ul>	<ul style="list-style-type: none"> <li>Incentives and financial support</li> <li>Assist mutual cooperation of logistics businesses</li> </ul>		✓	
7				Consolidation Promotion Program	P132	<ul style="list-style-type: none"> <li>To speed up consolidation cargo transport to reduce transport costs by improving loading factor</li> </ul>	<ul style="list-style-type: none"> <li>Assist in Standardization and business reliability of logistics businesses</li> <li>Incentives and financial support</li> <li>Assist mutual cooperation of logistics businesses</li> </ul>		✓	
8				Inter-modality Improvement Project	P133	<ul style="list-style-type: none"> <li>To promote usage of railway for freight transport</li> </ul>	<ul style="list-style-type: none"> <li>Construction of logistics parks at Vientiane</li> </ul>	✓	✓	
9		Business Stimulation	Provision of Value Added	Attraction of Distributive Processing	P141	<ul style="list-style-type: none"> <li>To promote distributive processing at logistics parks</li> </ul>	<ul style="list-style-type: none"> <li>Provision of incentives to distributive processing at logistics parks</li> <li>Reserve space for future distributive processing</li> </ul>		✓	✓
10			Attraction of Foreign Logistics Business	Foreign Investment and Partnership Promotion Program	P211	<ul style="list-style-type: none"> <li>To promote foreign direct investment in logistics sector</li> </ul>	<ul style="list-style-type: none"> <li>Incentives</li> </ul>		✓	

## The Comprehensive Study on Logistics System in Lao PDR

### Summary

No	Strategy	Action	Projects/Program	Code No.	Objectives	Scope	Schedule		
							S	M	L
11	Business Stimulation	Attraction of Foreign Logistics Business	Logistics Business Deregulation Program	P212	<ul style="list-style-type: none"> <li>To activate logistics market by deregulating logistics business</li> </ul>	<ul style="list-style-type: none"> <li>Deregulation</li> </ul>		✓	✓
12	Business Stimulation	Strengthening of Domestic Logistics Business	Leading Company Cultivation Program	P221	<ul style="list-style-type: none"> <li>To strategically grow local logistics companies to attain competitiveness against foreign logistics companies</li> </ul>	<ul style="list-style-type: none"> <li>Revision of qualification of registration depending on size and type of business</li> <li>Grading of companies</li> </ul>	✓	✓	
13			New Business Incubation Program	P222	<ul style="list-style-type: none"> <li>To incubate logistics related businesses at logistics parks</li> </ul>	<ul style="list-style-type: none"> <li>Construction of logistics park</li> <li>Formulation of incubation scheme in logistics parks</li> </ul>		✓	
14			Business Matching and Service Improvement Program	P223	<ul style="list-style-type: none"> <li>To assist logistics businesses by providing information in response to business inquiries; Collective/shared use of information network at and around logistics park</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of business support units in MPWT</li> <li>Develop business matching service and Information service</li> </ul>		✓	
15			Guarantee Association Development Program	P224	<ul style="list-style-type: none"> <li>To assist LIFFA to set up guarantee scheme</li> </ul>	<ul style="list-style-type: none"> <li>Advice to LIFFA on set-up of guarantee association</li> <li>Reliability support</li> </ul>		✓	
16			Cargo Liability Development Program	P225	<ul style="list-style-type: none"> <li>To develop cargo insurance scheme in Lao PDR</li> </ul>	<ul style="list-style-type: none"> <li>Design insurance system</li> <li>Financial supports (funding or guarantee etc)</li> </ul>	✓	✓	
17			Capacity Development Program	P226	<ul style="list-style-type: none"> <li>To carry out capacity development program for staff of private logistics business and local officers</li> </ul>	<ul style="list-style-type: none"> <li>Development of training program</li> <li>implementation</li> </ul>	✓		
18			Strengthening of Logistics Administration		Program on Establishment of Office responsible for Logistics	P241	<ul style="list-style-type: none"> <li>To integrate and strengthen logistics administration to improve planning and management capacity</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of logistics office in MPWT</li> </ul>	✓
19	LIFFA Strengthening Program	P242			<ul style="list-style-type: none"> <li>To assist LIFFA to strengthen its function</li> </ul>	<ul style="list-style-type: none"> <li>Determination of necessary functions</li> <li>Assistance to strengthen financial basis</li> </ul>	✓		
20	Market Expansion	Facilitation of CBTA	CBTA Implementation Monitoring Program	P311	<ul style="list-style-type: none"> <li>To facilitate practice of CBTA agreements by carrying out monitoring</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring</li> <li>Revision of milestones</li> <li>Evaluation</li> </ul>	✓		
21			Common Control Area Development Project	P312	<ul style="list-style-type: none"> <li>To develop CCAs to facilitate cross border inspection such as CIQ</li> </ul>	<ul style="list-style-type: none"> <li>Construction of CCAs</li> <li>Standardization of operations</li> </ul>	✓		
22			Cross Border Checkpoints Standardization Program	P313	<ul style="list-style-type: none"> <li>To standardize cross-border operations to ensure reliability of land transport in GMS</li> </ul>	<ul style="list-style-type: none"> <li>Standardization of operations</li> <li>Standardization of documentation</li> <li>Standardization of procedures</li> </ul>	✓		
23			Tractor Head Exchange System Promotion Program	P314	<ul style="list-style-type: none"> <li>To promote tractor change system for trans-shipment to improve efficiency</li> </ul>	<ul style="list-style-type: none"> <li>Construction of logistics park</li> <li>Deregulation towing tractor etc.</li> </ul>		✓	
24	More Improvement of Cross-Border procedures		Cross Border Points Development Project	P321	<ul style="list-style-type: none"> <li>To increase cross border points to facilitate more land transport.</li> </ul>	<ul style="list-style-type: none"> <li>Improvement of local cross-border points to international cross border points</li> </ul>	✓		
25			Customs Facilitation Program	P322	<ul style="list-style-type: none"> <li>To promote external trade itself by easing procedure and documentation</li> </ul>	<ul style="list-style-type: none"> <li>Incentives for good traders</li> <li>More simple and transparent customs procedures</li> </ul>	✓	✓	
26			National Single Window Acceleration Program	P323	<ul style="list-style-type: none"> <li>To share necessary information at cross-border points which are standardized and integrated with IT technology</li> </ul>	<ul style="list-style-type: none"> <li>Development of NSW with IT</li> <li>Development of bridge system among each NSW in ASEAN as ASW</li> </ul>		✓	
27	Liberalization in Logistics Market		Domestic Logistics Market Deregulation Program	P331	<ul style="list-style-type: none"> <li>To activate logistics market by deregulating logistics business</li> </ul>	<ul style="list-style-type: none"> <li>Deregulation</li> </ul>			✓
28			Cabotage Deregulation Program	P332	<ul style="list-style-type: none"> <li>To expand free market access to GMS by removing Cabotage regulation in GMS</li> </ul>	<ul style="list-style-type: none"> <li>Deregulation of cabotage</li> </ul>			✓

Note: "S" means short-term, "M" means mid-term, and "L" means long-term



## 4. REGIONAL LOGISTICS STRATEGY

### 4.1 Overall Development Policy

The National logistics strategy emphasizes the strategy to reduce logistics cost of land transport in NR-13N and NR-9 in Lao PDR by integration of cargo flow along them. This can be achieved with completion of “hub and link” system of freight transport network. The system is effectively formulated with the neighboring countries connecting to NR-13N and NR-9. The logistics hub is, for this purpose, an essential and core facility in formulating the system. The national logistics strategy identifies the following logistics hubs:

- International logistics hub for land transport in GMS (in particular connecting Thailand with Viet Nam and Yunnan).
- Regional logistics hub to add domestic cargo and other cargo onto the major corridors; as well as contributing to improvement in trade and services, and quality of life in regional cities by properly distributing goods to remote areas.
- Specific logistics hubs to deal with specific commodities like petroleum products

### 4.2 Logistics Parks

#### (1) International Logistics Park

The International hub is a transport node that acts as the interface between domestic transport and international transport and handles mainly transit cargo, import and export cargo. The international hub shall be located along the NR-13N and NR-9 to integrate cargo flow of transit cargo and import/export cargo. The program consists of the following projects such as:

- Vientiane Logistics Park Development Project
- Savannakhet Logistics Park Development Project
- Luangnamtha Logistics Park Development Project

**Table 4.1 International Logistics Park**

Logistics Park	Major Road	Anticipated Handling Volume (tons/year) in 2025	Functions and Roles
Vientiane Logistics Park	NR-13N, NR-13S	Import: 2,384,000 Export: 281,000 Domestic: 2,817,000 Transit:	<ul style="list-style-type: none"> <li>• Interface with Thailand for import/export and transit cargo</li> <li>• Integration of cargo flow along NR-13N including domestic, transit and import/export to reduce empty return haulage</li> <li>• Trans-shipment and Consolidation</li> <li>• Inventory and storage service for the areas along Mekong River including Thai side</li> </ul>
Savannakhet Logistics Park	NR-9, NR-13S	Import: 1,186,000 Export: 736,000 Domestic: 845,000 Transit:	<ul style="list-style-type: none"> <li>• Interface with Viet Nam for import/export and transit cargo</li> <li>• Integration of cargo flow along NR-9 including domestic, transit and import/export to reduce empty return haulage</li> <li>• Trans-shipment and Consolidation</li> <li>• Inventory and storage service for the areas</li> </ul>

Logistics Park	Major Road	Anticipated Handling Volume (tons/year) in 2025	Functions and Roles
Luangnamtha Logistics Park	NR-13 N, NR-3	Import: 77,000 Export: 33,000 Domestic: 217,000 Transit:	<ul style="list-style-type: none"> <li>Interface with China for import/export and transit cargo</li> <li>Integration of cargo flow along NR-13N including domestic, transit and import/export</li> <li>Trans-shipment and Consolidation</li> </ul>

Source: JICA Study Team

## (2) Regional Logistics Park

The Regional hub is a transport node to carry out mainly trans-shipment of domestic cargo between trunk and area transport. The domestic routes especially along NR-13N and NR-9 are used as both routes for international transit transport and routes for domestic truck routes, such that regional hubs shall support integrating more cargo flow along the routes by adding domestic cargo and import/export cargo on the transit cargo. Regional logistics parks, which is the facility to realize regional hub function and consists of inventory base and trans-shipment facilities. The regional logistics park is expected to render logistics services to associated region; and the facilities and regional network will be crucial in securing supply of goods whenever it is needed in its influencing zones. The following projects are identified to develop as regional logistics park:

- Luangprabang Logistics Park Project
- Thakhek Logistics Park Project
- Champasack Logistics Park Project
- Muangxai Logistics Park Project (to be carried out after 2025)
- Huoixai Logistics Park Project (to be carried out after 2025)

**Table 4.2 Regional Logistics Parks**

Logistics Park	Major Road	Anticipated Handling Volume (tons/year) in 2025	Functions and Roles
Luangprabang Logistics Park	NR-13N	Import: 77,000 Export: 33,000 Domestic: 217,000 Transit:	<ul style="list-style-type: none"> <li>Integration of cargo to and from the surrounding provinces on NR-13N</li> <li>Support integration of cargo flow to reduce empty return haulage</li> <li>Trans-shipment and Consolidation</li> </ul>
Thakhek Logistics Park	NR-13S, NR-12	Import: 77,000 Export: 33,000 Domestic: 217,000 Transit:	<ul style="list-style-type: none"> <li>Interface with Thailand for import/export cargo and transit cargo between Thailand and Vietnam</li> <li>Integration of cargo to and from the surrounding provinces</li> <li>Inventory and storage service for the areas along Mekong River including Thai side</li> <li>Trans-shipment and Consolidation</li> </ul>
Champasack Logistics Park	NR-13S, NR-16, NR-14	Import: 77,000 Export: 33,000 Domestic: 217,000 Transit:	<ul style="list-style-type: none"> <li>Interface with Thailand for import/export cargo</li> <li>Integration of cargo to and from the surrounding provinces</li> <li>Inventory and storage service for the areas along Mekong River including Thai side</li> <li>Trans-shipment and Consolidation</li> </ul>

Note: Logistics Parks at Muangxai and Huoixai are subject to detailed discussions after 2025.

Source: JICA Study Team

### (3) Specific Logistics Hubs

In accordance with population and economic growth in both Lao PDR and Thailand, in particular border areas, goods distribution volume may gradually increase. Utilizing lower labor, land and construction cost in Lao PDR under increased logistics demand, there is a potential to attract inventory and storage function for certain commodities. Logistics hub for specific products shall thus be attached to the international and regional logistics parks to meet local potentials and requirements. The following 3 projects were identified:

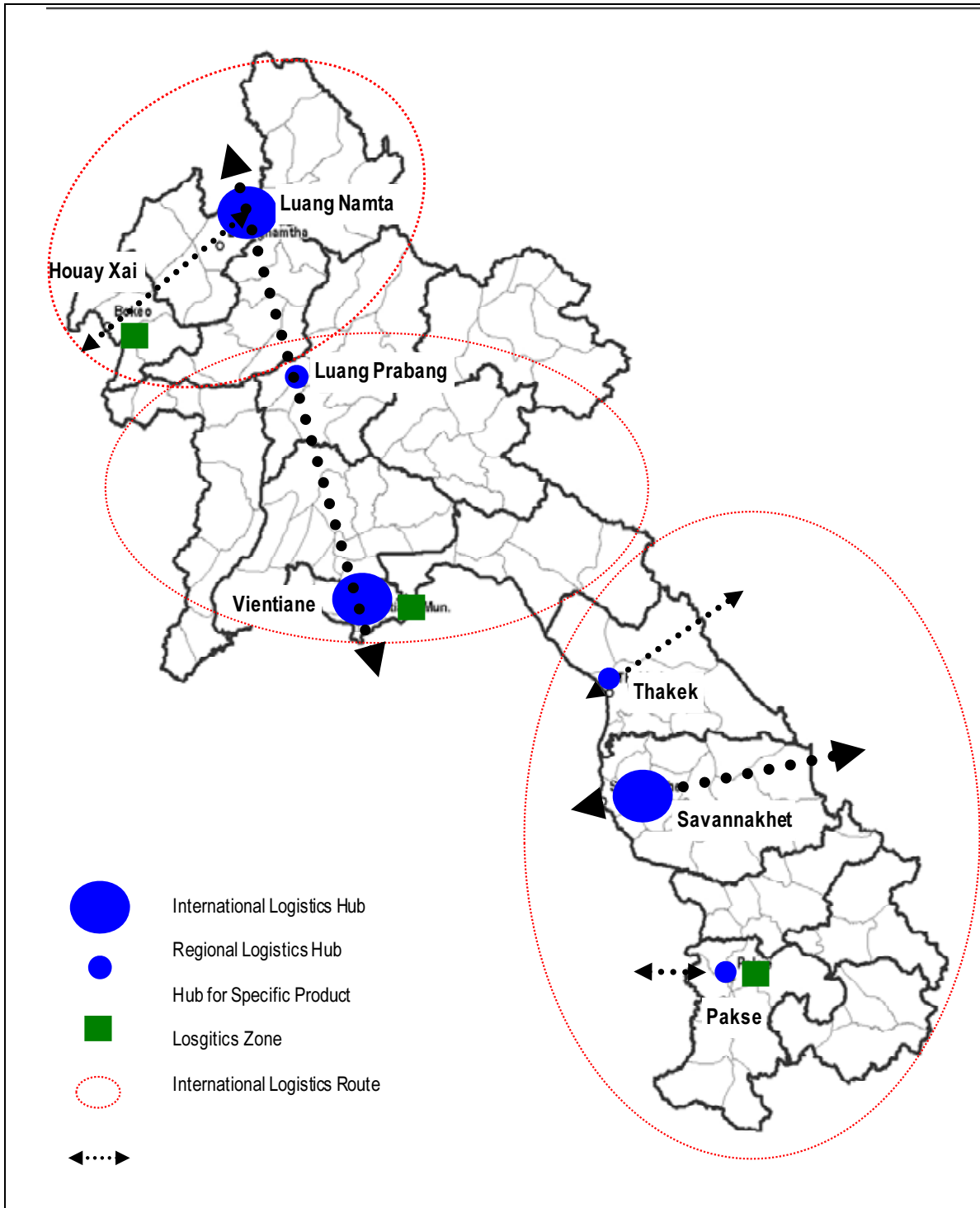
- Energy storage and transfer station in Huoixai
- Petroleum storage at Vientiane
- Agro products cold storage in Pakse

**Table 4.3 Specific Logistics Hubs**

Logistics Park	Major Road	Specific Cargo	Functions and Roles
Huoixai Logistics Park	NR-3	<ul style="list-style-type: none"> <li>• Petroleum Products (from Thailand to China)</li> <li>• Vegetable and flowers (from China to Thailand)</li> </ul>	<ul style="list-style-type: none"> <li>• Storage</li> <li>• Cold storage</li> <li>• Trans-shipment</li> </ul>
Vientiane Logistics Park	NR-9, NR-13S	<ul style="list-style-type: none"> <li>• Petroleum Products (from Thailand to Lao PDR)</li> </ul>	<ul style="list-style-type: none"> <li>• Storage</li> <li>• Trans-shipment</li> </ul>
Champasack Logistics Park	NR-13 N, NR-3	<ul style="list-style-type: none"> <li>• Coffee (from Lao PDR to Thailand)</li> <li>• Vegetable and fruits (from Lao PDR to Thailand)</li> </ul>	<ul style="list-style-type: none"> <li>• Storage</li> <li>• Cold Storage</li> <li>• Trans-shipment</li> </ul>

Source: JICA Study Team

The logistics parks identified above are illustrated in Figure 4.1.



Source: JICA Study Team

Figure 4.1 Location of Logistics Parks

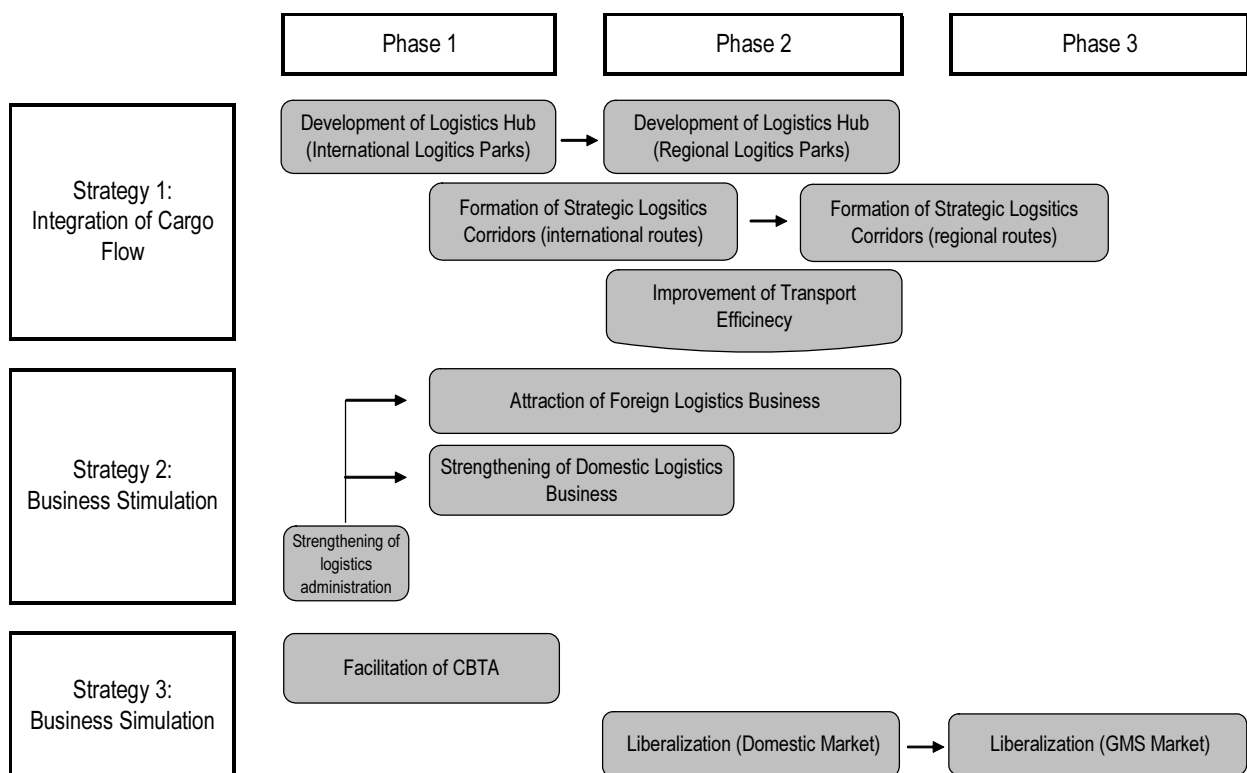
## 5. IMPLEMENTATION PLAN AND APPRAISAL

### 5.1 Development Phasing

There are 28 projects and programs proposed under the national logistics strategy. Implementation of the strategy is divided into 3 phases to reflect the concept of the development scenario as flows:

- Phase 1: Formulating strategic logistics corridors and preparation of competitive and liberalized logistics market
- Phase 2: Reforming logistics business in Lao PDR based on the strategic logistics corridors
- Phase 3: Expansion of logistics services to cover whole GMS but based in Lao PDR

The national logistics strategy should be implemented with the sequence (scenario) of the projects/programs proposed in Figure 5.1.



Source: JICA Study Team

Figure 5.1 Overall Development Phasing

### 5.2 Project Cost

The cost to implement national logistics strategy is approximately 145.5 million USD in total. This cost covers only investment cost to implement the strategy; however, the anticipated cost

comprising of ordinary expenditure to carry out the strategy was not considered. Of the total cost, approximately 46.5 million USD will be needed in the short-term period; 59 million USD will be needed for the medium-term period while 40 million USD will be needed for the long term period. As regards strategy-categorized expenses, approximately 136 million USD will be needed to implement projects and programs under Strategy 1; 4.5 million USD will be needed to implement projects and programs under Strategy 2 while 5 million USD will be required to implement projects and programs under Strategy 3.

Table 5.1 summarizes the necessary investment expenditure (cost estimates) of the strategy.

**Table 5.1 Costs of National Logistics Strategy**

Strategy	Short –Term (2010-2015)	Medium-Term (2015-2020)	Long-Term (2020-2025)	Total
Strategy 1: Integration of Cargo Flow	42.5	53.5	40.0	136
Strategy 2: Business Stimulation	0	4.5	0.0	4.5
Strategy 3: Market Expansion	4.0	1.0	0.0	5.0
Total	46.5	59.0	40.0	145.5

Source: JICA Study Team

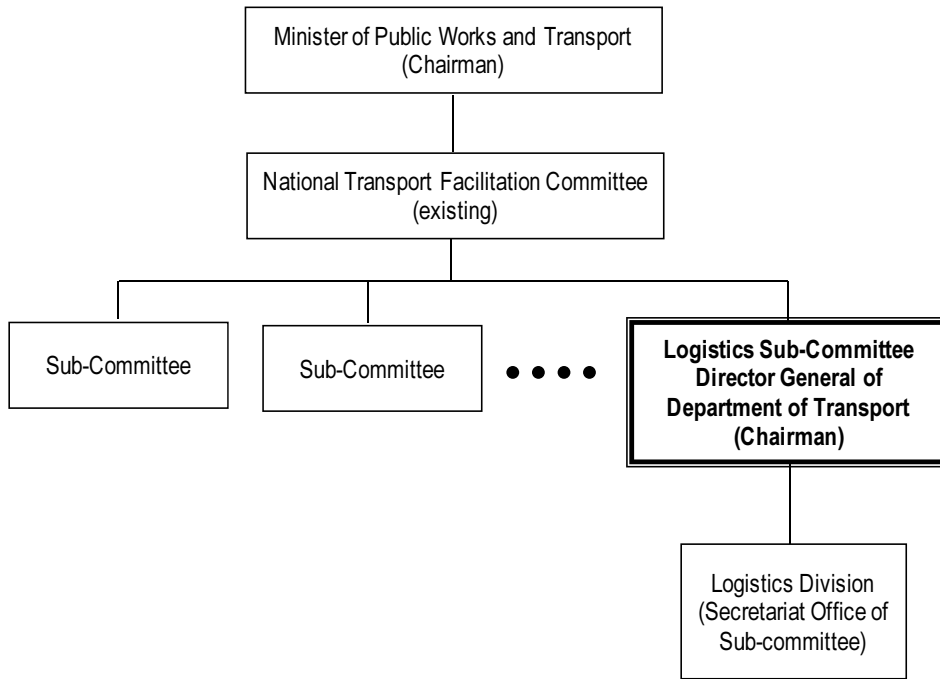
### 5.3 Organization and Institutional Arrangements

#### (1) Responsible Organization

The proposed national logistics strategy consists of several projects and programs to carry out the strategies that are implemented by various agencies. It is highly essential that the activities of the various agencies are properly coordinated so as to ensure effective and smooth implementation of the proposed projects and programs. For this purpose, the establishment of a national logistics sub-committee as a coordination body of decision-making on logistics policy, strategy and project/program and a logistics division in the DOT as a secretariat office of the sub-committee is recommended.

##### 1) National Logistics Sub-committee

The National Logistics Sub-committee is proposed to be established under the existing National Transport Facilitation Committee (the Committee) as a sub-committee dedicated to discussing issues pertaining to logistics. The Sub-committee is specialized to make discussions and proposals to the Committee regarding logistics policy, strategy and project/program. The sub-committee would discuss a topic at the behest of the Committee and proffer the recommendations and proposals to the Committee. The Committee would then convey the results of the discussions to the Minister of Public Works and Transport to take action.



Source: JICA Study Team

**Figure 5.2 National Logistics Sub-Committee**

2) Logistics Division

Logistics Division should be established under the Department of Transport to function as a secretariat office (tentative name) for the National Logistics Sub-committee as well as serving a function of coordinating logistics administration among several agencies concerned with the following major activities:

- Secretariat for the national logistics sub-committee
- Policy and planning in logistics development
- Project planning and implementation in logistics project like logistics park development

To carry out the tasks relevant with the above activities, the logistics division should have at least 3 sections, namely: 1) policy and planning section, 2) project section and 3) administration section as shown in Table 5.2.

**Table 5.2 Tasks of Logistics Division**

Section	Tasks
Policy and Planning Section	Secretariat for the national logistics sub-committee Coordination with other agencies concerning logistics Policy making, master planning, strategic planning in logistics development Foreign relations regarding logistics such as CBTA, bi-lateral agreements etc.
Project Section	Project planning such as logistics park projects Operation of logistics parks Supervision of contractors in logistics parks
Administration Section	EIA, land acquisition Financial planning procurement personnel, accounting and management of the division

Source: JICA Study Team

## **(2) Strengthening of LIFFA**

The private associations in logistics will be increasingly important to carry out several measurements such as liability insurance, cargo guarantee, financial support, staff training and information services, in order to strengthen logistics business in Lao PDR. The most capable organization is Lao International Freight Forwarders Association (LIFFA), which is an existing private association participating all capable freight forwarders in Lao PDR. However LIFFA has very weak financial basis, such that LIFFA does not have a dedicated secretariat office and engages in limited activities. It is strongly recommended that it be strengthened to take LIFFA adequate support functions to logistics businesses as above mentioned.

## **(3) Organization of Logistics Parks**

In DOT, newly proposed “Logistics Division” or more specifically, project section of the logistics division shall administer logistics park project and will be responsible for project formation activities of logistic park and project implementation.

## **5.4 Attraction of Foreign Investment**

### **(1) Transparency in Market**

Market transparency is a must for foreign investment. It is true not only for logistics business but also any other business. The problem regarding market transparency is the existence of “Grey Zone” in the regulations, which cannot be clearly described such that there are ambiguities that are interpreted differently by different persons. This “grey zone” generates uncertainty and risk in business. It is obvious that private companies prefer a standardized interpretation of regulations. To achieve this, it is necessary to make great effort to minimize the room for personal discretion in regulations as much as possible.

However, modifications of regulations or preparation of detailed standard interpretation and manuals of the regulations would take long to be completed: hence the need to establish a “Trouble Shooting Office” for foreign investors.

### **(2) Provision of Flexibility in Business**

Private businesses are required to change business models in accordance with changes in business circumstances like demand in market, competitors and business climate. Therefore, it is very important for the private businesses to maintain flexibility in both production and market. It is interest of private businesses to guarantee such flexibility. To put it in more explicit terms, flexibility such as ability to change clients, and change use of the factory or private land should be guaranteed to foreign investors.

### **(3) Incentives**

The incentives system is a popular tool to attract investment. Several incentives tend to be given to the foreign investors: as is currently the case in Lao PDR. Since Lao PDR is a late comer in industrialization compared to Thailand and Vietnam, hence there is an immense need to come up with better and more innovative incentives so as to be able compete against them in attracting



foreign investment. It is also necessary to consider the competition that exists among the late comers such as Cambodia, Myanmar, Bangladesh and Sri Lanka. Tax reduction is a major tool and commonly-used incentive but Lao Government should consider other potential incentives. Lao Government should also elaborate incentives from various aspects which improve business environment and reduce business risks in Lao PDR.

## 5.5 Economic Effects of the National Logistics Strategy

### (1) Direct Effects and Indirect Effects

Economic effects generated from the National Logistics Strategy are divided into direct effects and indirect effects. Direct effects are directly generated from the 3 strategies: "Integration of Cargo Flow," "Business Stimulation," and "Market Expansion". The direct effects bring about reduction in logistics costs.

Indirect effects result from reduction in logistics costs. They provide impact in both supply and demand sides of the national economy, and finally contribute to increase of the GDP.

#### 1) Direct Effect

Implementation of the 3 strategies, which include 27 projects and programs, generates the following 4 effects.

- Increase in cargo volume across Lao PDR,
- Decrease in empty return haulage,
- Reduction in transport time at international and regional logistics routes and reduction in trans-shipment time at logistics hubs, and
- Effective transport by introduction of freight train at VLP.

These effects generate "savings in opportunity cost of cargo and vehicles," "reducing vehicle operation costs (VOC) of vehicles" and "increase in value-added generated from logistics industry." These effects are measured as economic benefits and are included in calculation of EIRR. On the other hand, implementation of the National Logistics Strategy also generates the following effects:

- Improvement of reliability in logistics due to improvement of inventory function at logistics hubs;
- Decrease of environmental load.

Improvement of reliability in logistics is an important effect of the National Logistics Strategy; however, it is almost impossible to quantify the benefit to logistics service users.

#### 2) Indirect Effects

The effects can be classified into 3 categories, namely: effects of consumer goods which could be translated as effects of aggregate demand side, effects of intermediate goods which could be translated as effect of aggregate supply side, and effects of logistics industry.

Reduction in logistics costs, which is the consequence of direct effects, is a starting point for the indirect effects. The reduction in logistics costs brings about reduction in prices of consumer goods, and demand to the goods increases due to the reduction in price. The

increase of demand relies on price elasticity of demand. For example, Demand on foods which have low price elasticity does not change so much but demand on most of goods increases if the price drops. Consumers can enjoy the consumption goods in terms of price and consumption volume and their benefits will increase<sup>1</sup>.

The second group of the indirect effects also results from the reduction in logistics costs. The reduction in logistics costs drops the prices of intermediate goods, which are parts of the final assembly of goods such as vehicles, electric machines, electric appliances and commercial crops. As is the case with consumer goods, demand on the intermediate goods increases, and it brings about the expansion of production in manufacturing and agriculture. Reduction in price of intermediate goods also improves the investment environment, and promotes direct foreign investment in Lao PDR. Expansion of existing entities in manufacturing and agriculture and establishment of new business entities by the direct foreign investment increase the production volume of manufactured goods and agricultural goods.

Increase in demand of consumption goods and intermediate goods have an impact on logistics industry. Demand in the logistics industry is boosted and logistics companies increase in terms of number and scale. The industry also generates employment.

The consequences of each group, that is to say, increase of consumer's benefit; expansion of production in manufacturing and agriculture and development; and job creation of logistics industry contribute to increase in GDP. Hence, implementation of the National Logistics Strategy accelerates national economic development.

## **(2) EIRR Analysis**

### **1) Basic Assumptions**

Economic Internal Rate of Return (EIRR) of the National Logistics Strategy (NLS) is calculated and evaluated in this section. At first, the following basic assumptions were employed:

- Methodology of economic analysis: In this analysis, economic cost and economic benefit of the 27 projects and programs in the National Logistics Strategy were consolidated and treated like a single project.
- 'With-project' case and 'without-project' case: Under the 'with-project' case, all the 27 projects and programs were assumed to have been conducted while under the 'without-project' case, all 27 projects and programs were assumed not to have been conducted.
- Project implementation schedule: Development of logistics hubs and improvement of international and regional logistics routes encompass 2 years of engineering service and 3 years of construction. Implementation period would last until 2045 i.e., 35 years from commencement of the National Logistics Strategies.
- Lifetime: The lifetime of civil works in the logistics hub and logistics routes in the projects was assumed to be 30 years.

### **2) EIRR**

The EIRR of the National Logistics Strategy is 11% which is less than the opportunity cost of

capital set at 12%. On the other hand, EIRR of the National Logistics Strategy excluding improvement of the international and the regional transport routes (USD 65 million in total) amounts to 14.1%.

The result means that projects and programs which are directly connected to promotion and improvement of logistics in Lao PDR are feasible from the perspective of national economic development. However, improvement of transport routes (road network, in particular, regional road network) is not only justified by benefits to the logistics. In order to clarify economic justification of the projects, it is necessary to consider other beneficiaries such as automobile users, motorbike users and public transport users.

An EIRR of 11% indicates that the National Logistics Strategy would be viable from the perspective of the national economy if benefits in other aspects outside logistics were included in the economic analysis of regional road improvement projects. For that reason, the strategy is viable and should be put into action.

### (3) Financial Capacity

Capital investment in Lao PDR is the largest line of expenditure at nearly 50% of the total national budget. Table 5.3 summarizes the total budget of the Ministry of Public Works and Transport (MPWT) and the ratio to the national budget per annum during the period running from FY2000/01 to FY2004/05. It shows that nearly half the national budget has been expended on infrastructure development. It indicates that the development of infrastructure is assigned high priority in Lao PDR.

**Table 5.3 Ministerial Budget of MPWT and Proportion in National Budget**

Unit: Billion Kip

	2000/01	2001/02	2002/03	2003/04	2004/05
Budget of MPWT (including donors)	702	305	537.5	759	938.7
Ratio to National Budget	37.6%	30.3%	37.7%	43.7%	47.6%

Source: Motoyoshi Suzuki (2008), Industrial Base in Lao PDR, Section 3 of Chapter 2.

As indicated in Table 5.3, the budget for MPWT amounted to LAK938.3 million (USD110.3 million). Annual disbursements for the National Logistics Strategy amount to USD 8.5 million from the 1<sup>st</sup> year to 5<sup>th</sup> year, USD 10.7 million from 6<sup>th</sup> year to 10<sup>th</sup> year and USD 7.3 million from 11<sup>th</sup> year to 15<sup>th</sup> year. They are equivalent to 7.7% (1-5 years), 9.7% (6-10 years) and 6.6% (11-15 years). The disbursements would account for a consistent proportion of the MPWT. It should be noted that receipt of financial support from development partner(s) was a precondition in this analysis.

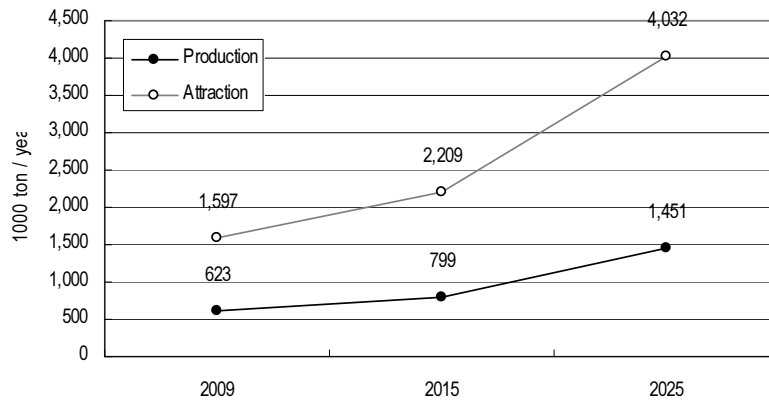
Basically, private companies bear the burden of most of the operation and maintenance costs regard to facilities such as logistics hubs while the government would only disburse for CIQ services in the logistics parks/hubs. However, the government has to arrange funds for the maintenance of international and regional transport routes. The maintenance costs are about USD 1.2 million per annum: a figure which is equivalent to 5.2% of the total road maintenance costs in 2008 (USD 22.9 million). This is not a small amount to incorporate into the current road maintenance budget; hence it's necessary to enhance financial capacity in this field.

## **Part 2: Feasibility Study on Logistics Park Projects**

## 6. VIENTIANE LOGISTICS PARK

### 6.1 Present and Future Freight Demand in Vientiane

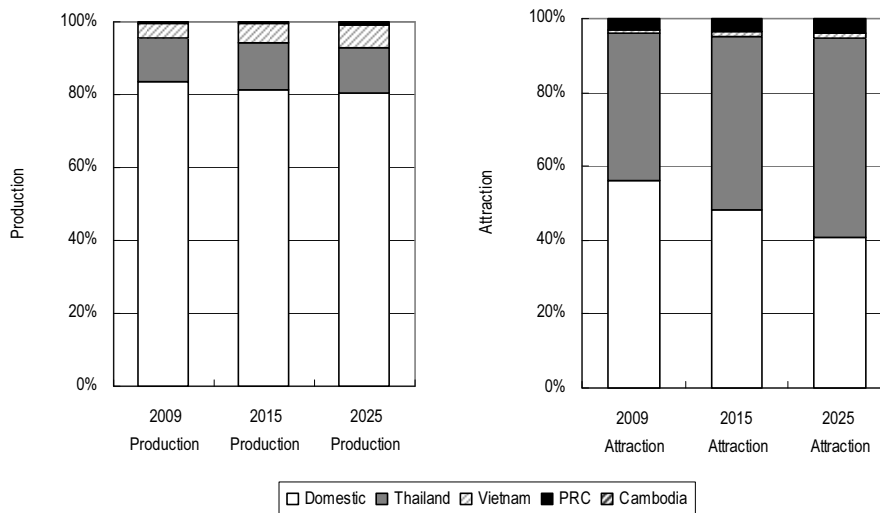
Present and future freight production and attraction volume relevant to Vientiane Capital is, as shown in Figure 6.1 and is expected to increase from 1.5 million tons/year in 2009 to 4.0 million tons/year in 2025.



Source: JICA Study Team

**Figure 6.1 Forecasted Freight Generation in Vientiane Capital**

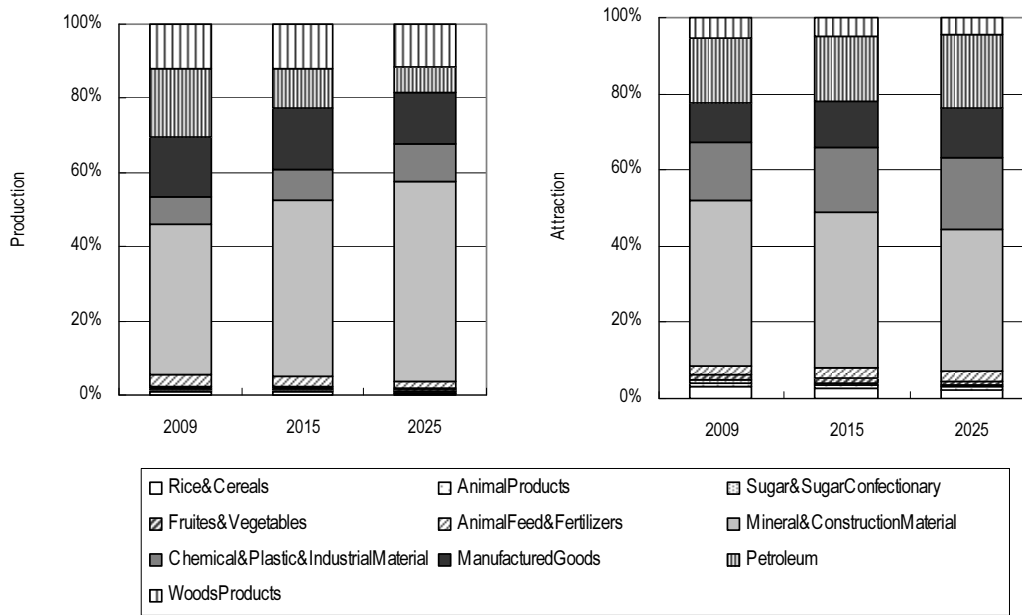
Figure 6.2 shows composition of freight production and attraction by direction. The share of freight attraction from Thailand, namely imports from Thailand is expected to increase in the future.



Source: JICA Study Team

**Figure 6.2 Forecasted Freight Composition in Vientiane Capital**

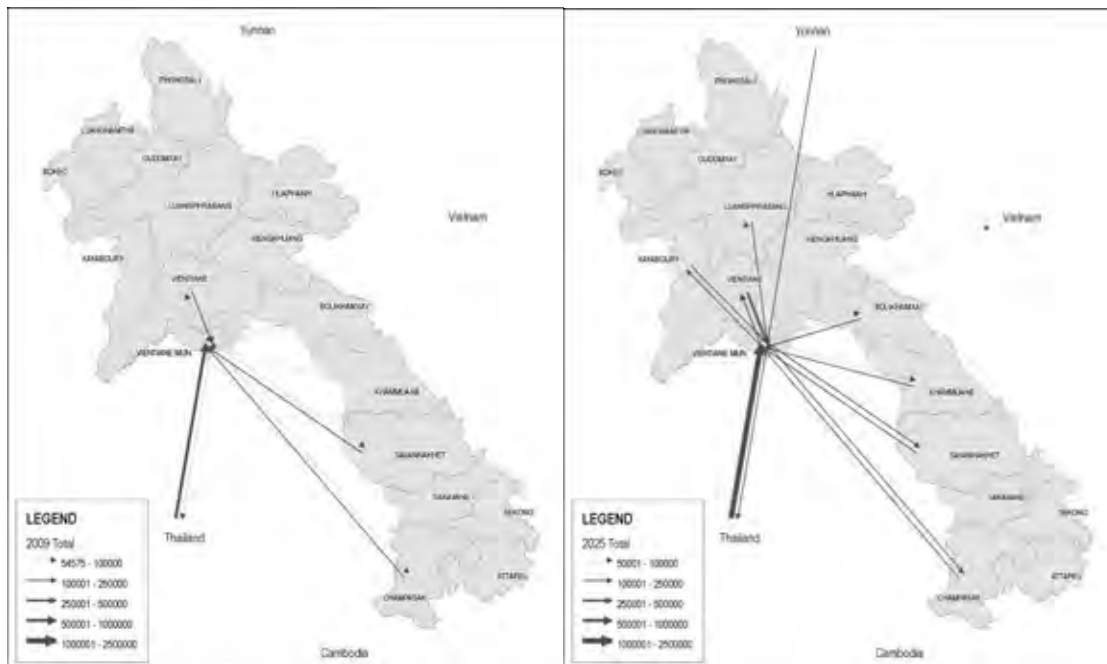
Figure 6.3 shows forecasted future commodity composition by production and attraction in Vientiane Capital. Production and attraction of minerals and construction materials are dominant in Vientiane.



Source: JICA Study Team

**Figure 6.3 Forecasted Freight Commodity Proportions in Vientiane Capital**

Figure 6.4 shows current and future freight distribution of all commodities relevant to Vientiane Capital.



Source: JICA Study Team

**Figure 6.4 Forecasted Freight Distribution**

## 6.2 Logistics Development Strategy in Vientiane

Vientiane is required to perform as a center of trans-shipment and distributive processing. The activities are expected to be concentrated in one place so as to ensure higher efficiency and

convenience of operation. Tax incentives would be provided by designating Vientiane Logistics Park as a special economic zone. In this regard, it is necessary to develop the international logistics parks (Detailed in Action No P111 of the National Logistics Strategy). VLP is also an international interface facility in logistics in Lao PDR. Vientiane is also expected to develop specific logistics hubs (Detailed in Action P113) for specific products as part of its functions as an international logistics park. These specific products in Vientiane include petroleum products, mainly delivered from Thailand and distributed to the central and northern parts of Lao PDR.

### 6.3 Summary of Results of Feasibility Study on Vientiane Logistics Park

#### (1) Location

The following 4 alternative project sites were identified as prospective project sites for the Vientiane Logistics Park.

- Alternative A: South-west side of Thanaleng Station
- Alternative B: Around Thanaleng Station
- Alternative C: Vientiane Station
- Alternative D: Inside planned Industrial Park

These 4 alternative sites for Vientiane Logistics Park were tested and the optimum solution for development of the logistics park was proposed, considering several engineering and environment factors such as: topography, land use, accessibility to the transport network, consistency with the upper plan, flexibility for the future development, social and natural environment and cost. Alternative B was selected as the most optimum solution amongst the 4 options.



Source: JICA Study Team

Figure 6.5 Alternative Sites for Development of Vientiane Logistics Park

## (2) Functions and Services Provided

Through the comprehensive freight demand forecast, it was established that the VLP would mainly handle import and export cargo from Thailand. Due to its geographic advantages, it is also expected that it will, in the future, become a trans-shipment centre for the transit cargo between Yunnan and Thailand. Also, using the trunk road network linking with Vientiane, the VLP is expected to function as the distribution centre for the northern and central parts of Lao PDR. As proposed in the National Logistics Strategy, explored in Chapter 6 of the main report, the VLP is expected to provide the following functions and services.

- Interface with Thailand for import/export and transit cargo
- Integration of cargo flow along NR-13N including domestic cargo, transit cargo and import/export cargo to reduce empty return haulage
- Trans-shipment and Consolidation
- Inventory and storage services for the areas along Mekong River including Thai side
- Distributive processing for goods imported from Thailand in the short term; goods in transit from China to Thailand in the short and medium-term; and parts and semi-products inventory center in the medium to long term.

## (3) Handling Volume

In the course of the study, the comprehensive freight demand forecast model was developed to foresee the province/commodity-wise freight demand.

Based on this future freight demand, the volume of cargo handled at the VLP was estimated for the target years of 2015 and 2025. The freight demand figures are summarized in Table 6.1. It should be noted that VLP will handle approximately 5,000 tons/day of cargo, and half of the cargo to be handled at the VLP is expected to be carried by the railway.

**Table 6.1 Daily Cargo Demand in VLP (Unit: tons/day)**

Mode of Transport	Truck			Rail		
	2009	2015	2025	2009	2015	2025
Import Cargo						
Petroleum Freight	0	0	0	0	92	515
Heavy Bulk	250	396	759	0	37	206
General Cargo	469	700	1,137	0	68	315
Container	99	141	386	0	59	571
Export Cargo						
Petroleum Freight	0	0	0	0	0	0
Heavy Bulk	0	18	81	0	18	89
General Cargo	0	3	12	0	3	10
Container	0	1	8	0	2	18
VIP cargo						
Container	0	37	176	0	9	689
Total	818	1,297	2,559	0	288	2,412

Source: Daily cargo demand was estimated assuming 260 working days for truck and 310 working days for railway.

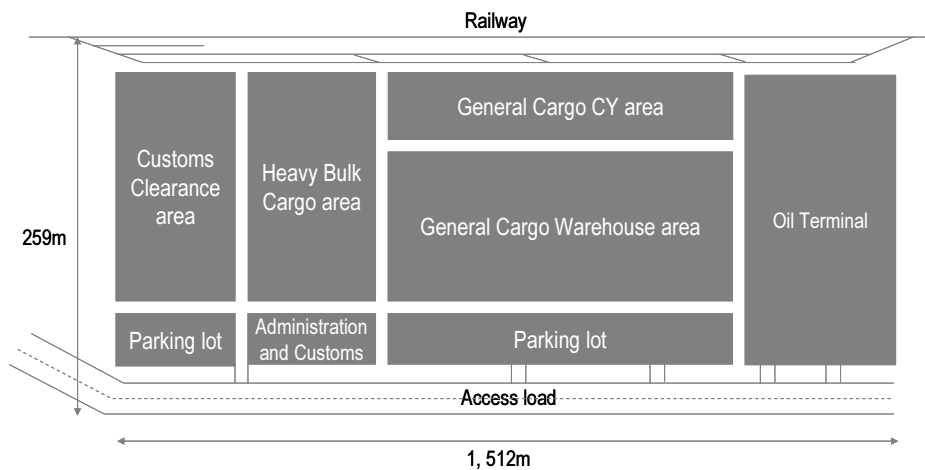
Source: JICA Study Team



#### (4) Facility Plan

The functions and services provided at the VLP include (i) Interface with Thailand for import/export and transit cargo; (ii) Integration of cargo flow along NR-13N including domestic cargo, transit cargo and import/export cargo to reduce empty return haulage; (iii) Trans-shipment and Consolidation; and (iv) Inventory and storage services and (v) distributive processing and distribution center. So as to fulfill these functions and services, the type and size of logistic facilities at the VLP have to be properly planned with due consideration for the future freight volume. The layout plan of these facilities was arranged considering the operational efficiency and security.

The facilities proposed at the VLP include (i) Customs clearance area, (ii) Heavy bulk cargo area, (iii) General cargo CY area, (iv) General cargo warehouse area, (v) Parking lots, (vi) Administration and customs office, (vii) Operator office, (viii) Maintenance workshop. Unlike the logistics parks in other cities, the VLP will also have a siding to the railway track and an oil terminal area. The areas required for the VLP was calculated as 34.9 ha, including the oil terminal area.



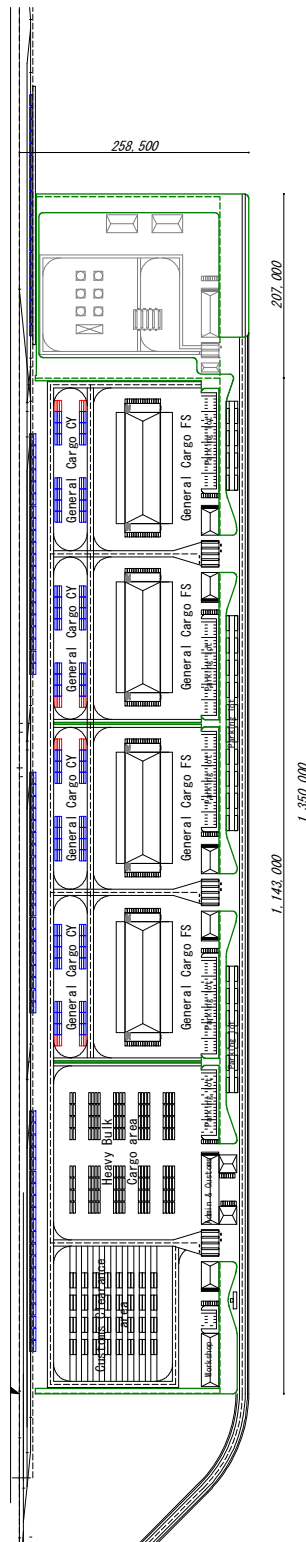
Source: JICA Study Team

Figure 6.6 Layout Plan of VLP

Table 6.2 Summary of Total Area required for VLP

Facilities	Area (m <sup>2</sup> )	Remarks
Customs Clearance area	20,500	
Heavy bulk Cargo area	32,500	
General Cargo CY area	39,900	CY area includes CY, container pool, chassis pool and container washing area.
General Cargo warehouse area	76,200	Warehouse includes warehouse and warehouse office.
Parking Lots	20,900	Aisle is shared by heavy bulk area and general cargo area
Administration and Customs office	5,800	
Operator Office	9,300	
Maintenance shop	4,000	
Gate and Weight Station	7,700	
Buffer area	17,000	
Road in VLP	24,500	
VLP access road	10,200	
Siding to railway track	17,100	
Others	9,100	
Oil Terminal area	53,600	
Total area	348,600	
Total area, excluding oil terminal area	295,000	

Source: JICA Study Team



Source: JICA Study Team

Figure 6.7 Layout of VLP

**(5) Implementation Plan**

The implementation process is divided into the following 3 stages: design stage, construction stage and operation stage. It would take 65 months to complete the VLP project as indicated in Figure 6.8.

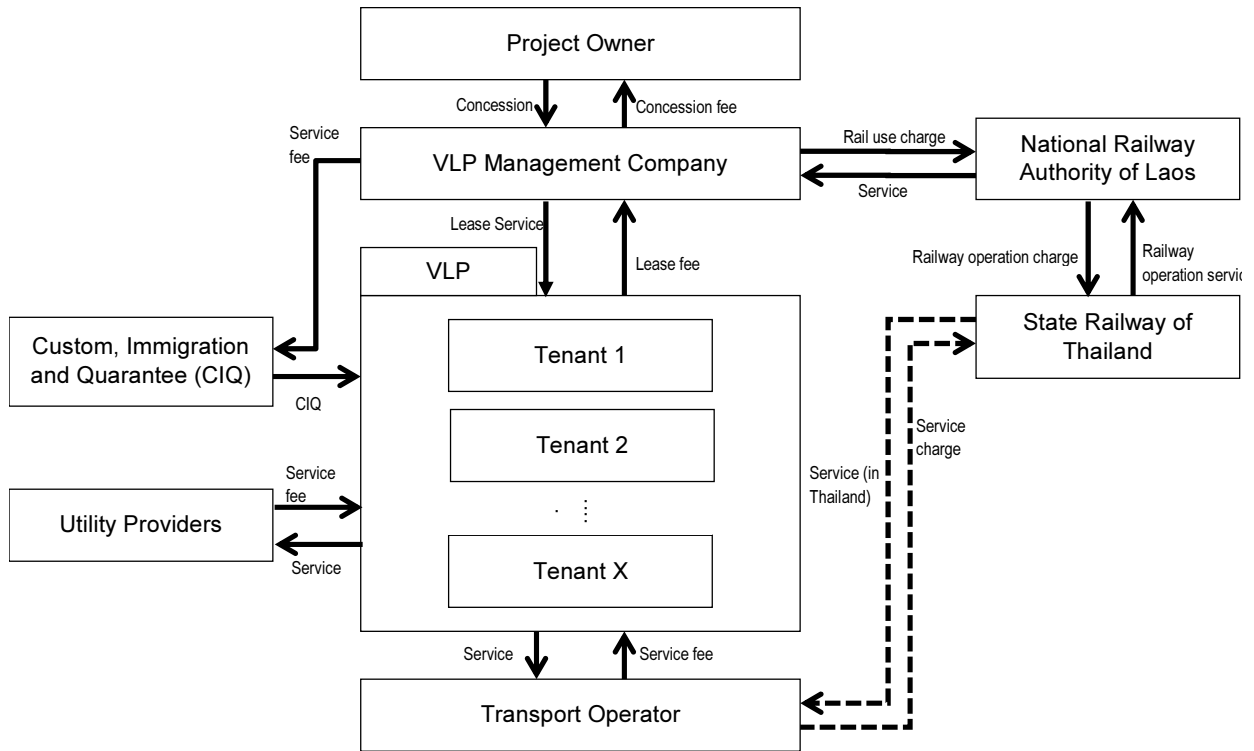
Task	No of Year	1	2	3	4	5	6
Project Preparation							
Consensus building for development of VLP							
Determination of financing plan							
Determination of project owner		█					
Preparation of loan application							
EIA and land acquisition							
Compilation of TOR and tender documents for consultant							
Design							
Selection of consultants			█				
Detailed design and bid documents			█	█	█		
Selection of contractor(s)							
Construction							
█					█	█	█
Operation Preparation							
Operation and management plan							
Promotion plan							
Operation guideline							
Selection of VLP-MC and tenants							
Operation							◇

Source: JICA Study Team

**Figure 6.8 Implementation Schedule**

**(6) Management and Operation Plan**

Private participation is essential to the realisation of good management and operation in VLP, and certain public intervention is also necessary to realize the national logistics policy at VLP. Accordingly, VLP should be developed by the public and managed by the private. The project owner will select VLP-MC through tender, and will contract out management and maintenance of VLP to the VLP-MC. The VLP-MC will take care all necessary tasks by directory or by sub-contract. Actual logistics business will be carried out by tenants of VLP who will be selected by the VLP-MC.



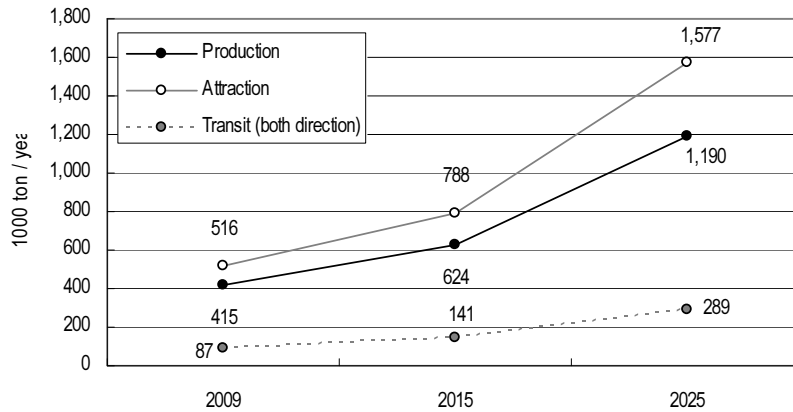
Source: JICA Study Team

Figure 6.9 Overall Management Structure of VLP

## 7. SAVANNAKHET LOGISTICS PARK

### 7.1 Present and Future Freight Demand in Savannakhet

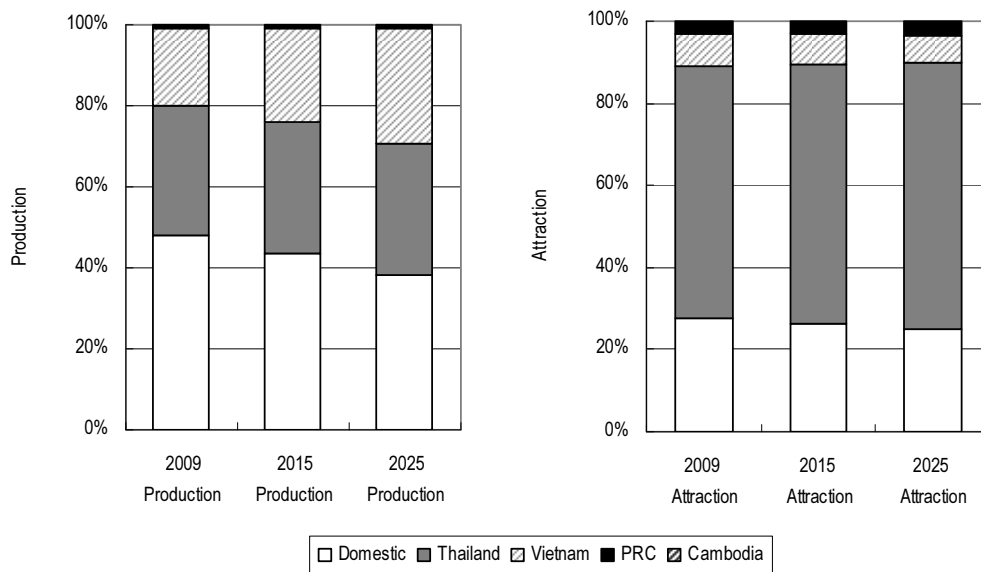
Present and future freight production and attraction volume in Savannakhet is, as shown in Figure 7.1, and is expected to increase from 1,190,000 tons/year in 2009 to 1,577,000 tons/year in 2025. Transit freight between Thailand and Vietnam is expected to reach 289,000 tons per year.



Source: JICA Study Team

Figure 7.1 Forecasted Freight Generation in Savannakhet

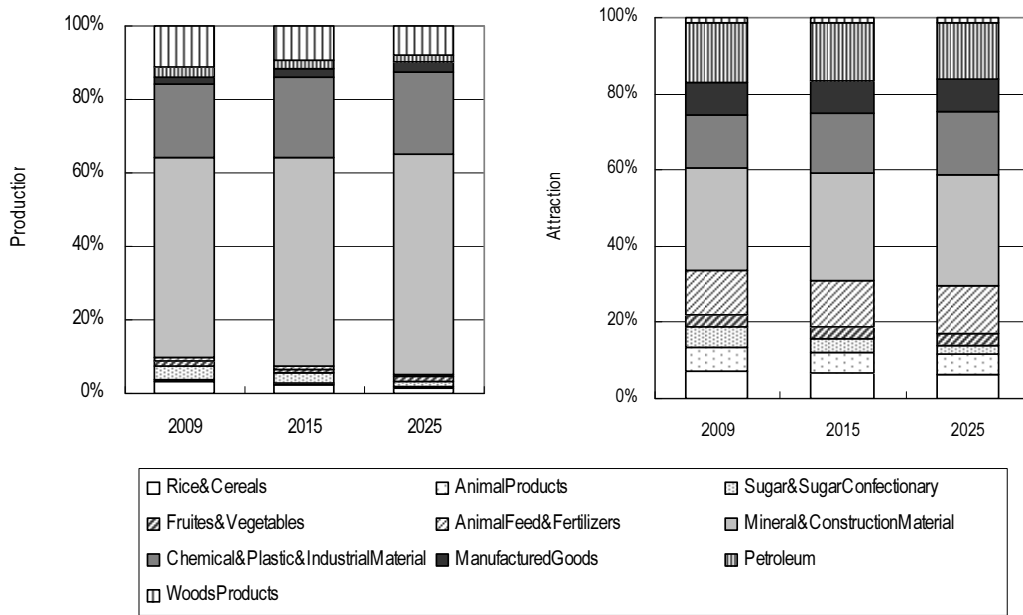
Figure 7.2 shows composition of freight production and attraction by direction. The share of freight attraction from Thailand, namely import from Thailand is expected to increase in future.



Source: JICA Study Team

Figure 7.2 Forecasted Freight Composition in Savannakhet

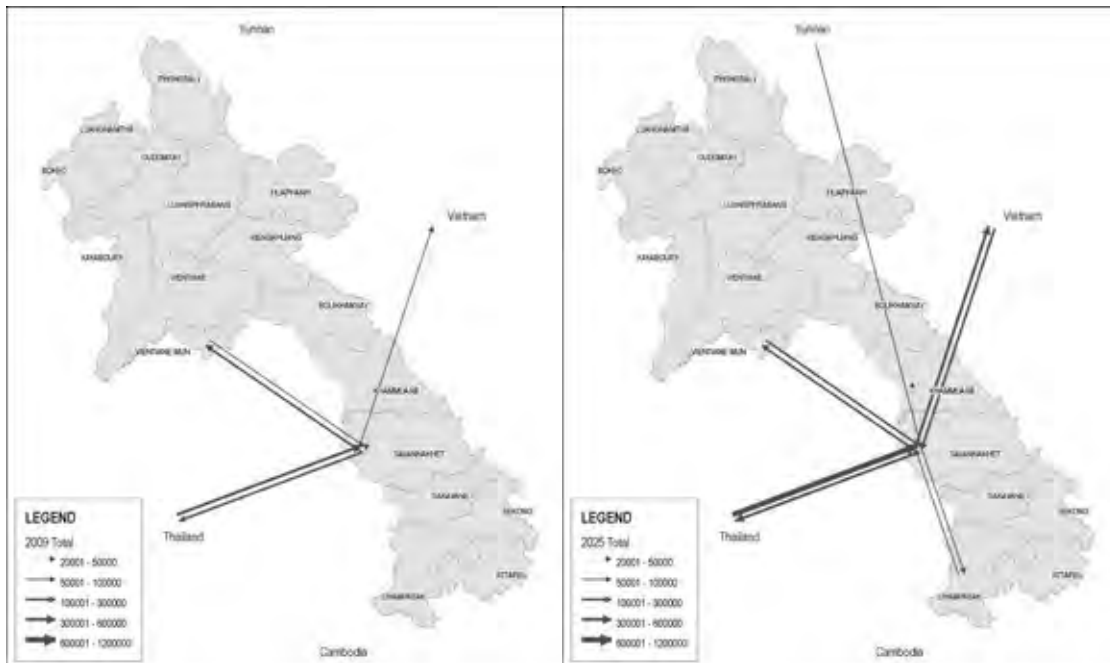
Figure 7.3 shows forecasted future commodity composition by production and attraction in Savannakhet. Production of minerals and construction materials and attraction of industrial materials will be dominant in the composition of forecasted freight in Savannakhet.



Source: JICA Study Team

**Figure 7.3 Forecasted Freight Commodity Proportions in Savannakhet**

Figure 7.4 shows current and future freight distribution of all commodities relevant to Savannakhet.



Source: JICA Study Team

**Figure 7.4 Forecasted Freight Distribution**

## 7.2 Logistics Development Strategy in Savannakhet

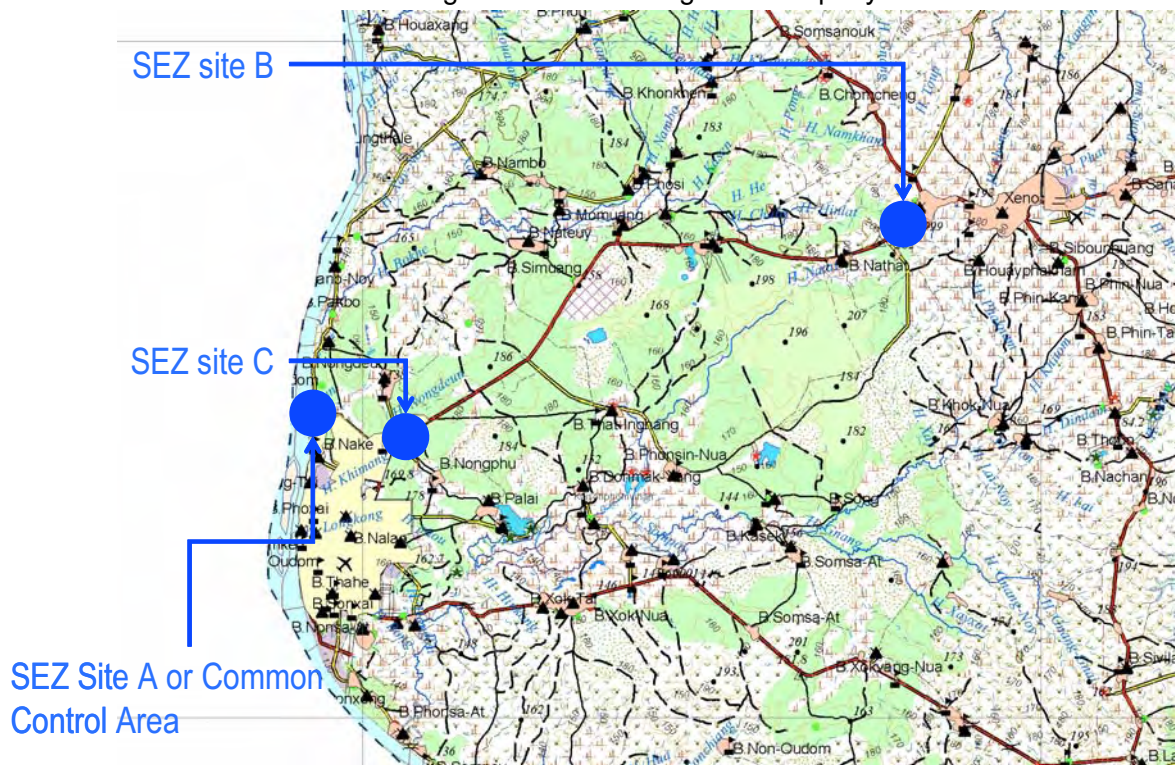
Savannakhet is expected to set up an international logistics park (Detailed in Action No. P111 of the National Logistics Strategy) to serve as an international interface facility in logistics in Lao PDR. Savannakhet and surrounding provinces are also expected to develop international and regional transport routes (Detailed in Action P121 and P122) in order to shorten travel times for the large vehicles. They are also expected to improve road structure so as to accommodate larger truck loads. The roads are also expected to be equipped with road safety facilities. It is beneficial to concentrate logistics functions in one location so as to ensure higher efficiency of operation and enhancement of foreign involvement in the project.

## 7.3 Summary of Results of Feasibility Study on Savannakhet Logistics Park

### (1) Location

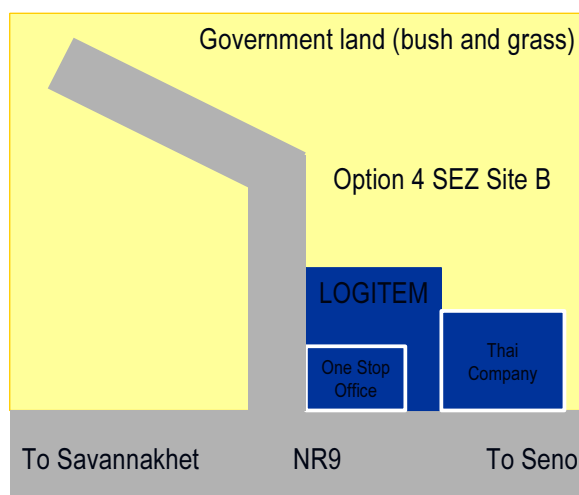
During the selection of an optimum location for the SLP, 3 alternative locations were considered, namely: Sites A, B and C shown in Figure 7.5. From the alternatives, Site B was selected, after a series of stakeholders meetings at Savannakhet, because of the availability of land at the location and its better accessibility to NR-9 and NR-13S.

The detailed location of Site B is illustrated in Figure 7.6. Site B is located at the intersection of NR-13S and NR-9: behind the existing SEZ office and logistics company.



Source: JICA Study Team

Figure 7.5 Alternative Locations of the Logistics Park in Savannakhet



Source: JICA Study Team

**Figure 7.6 Location of the Logistics Park in Savannakhet (Site B)**

## (2) Functions and Services Provided

Through the comprehensive freight demand forecast, it was established that the SLP is expected to handle mainly import cargo from Thailand and transit cargo between Thailand and Vietnam. Due to its geographic advantage, it is also expected that it will become a trans-shipment centre for the transit cargo between Thailand and Vietnam. As proposed in the National Logistics Strategy, explored in Chapter 6 of this report, the SLP is expected to provide the following functions and services.

- Interface with Thailand for import/export and transit cargo
- Integration of cargo flow along NR-13N including domestic cargo, transit cargo and import/export cargo to compete with NR-3 route and reduce empty return haulage
- Trans-shipment and Consolidation
- Inventory and storage services for the areas along Mekong River including Thai side

## (3) Capacity

In the course of the study, the comprehensive freight demand forecast model was developed to foresee the province/commodity-wise freight demand (detailed in Chapter 5 of this report). Based on this future freight demand, the volume of cargo handled at the SLP was estimated for the target years of 2015 and 2025. The results of the freight demand forecast are summarized in Table 7.1.

**Table 7.1 Annual Handling Volume in 2015 and 2025**

Package Type	Unit: 000 ton	
	2015	2025
Container	20.3	123.1
General Cargo	12.2	20.5
Heavy Bulk	3.4	7.3
Liquid Cargo	0.0	0.0
Total	35.9	150.9

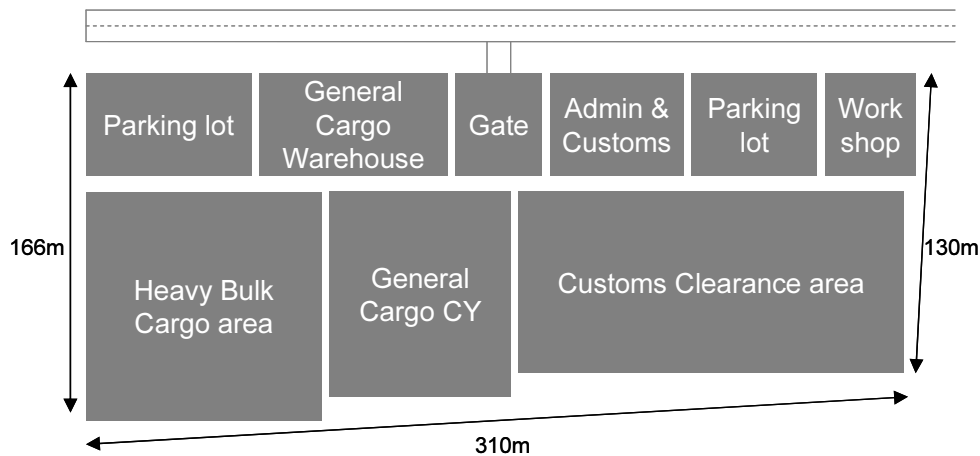
Source: JICA Study Team



**(4) Facility Plan**

The functions and services provided at the SLP include (i) Interface with Thailand for import/export and transit cargo, (ii) Integration of cargo flow along NR-13N including domestic cargo, transit cargo and import/export cargo to compete with NR-3 route and reduce empty return haulage, (iii) Trans-shipment and Consolidation and (iv) Inventory and storage services for the areas along Mekong River including Thai side. In order to fulfill these functions and services, the type and size of logistic facilities at the SLP have to be properly planned with due consideration for the future freight volume. The layout plan of these facilities was prepared considering operational efficiency and security.

The facilities proposed at the SLP include (i) Customs clearance area, (ii) Heavy bulk cargo area, (iii) General cargo CY area, (iv) General cargo warehouse area, (v) Parking lots, (vi) Administration and customs office, (vii) Operator office, (viii) Maintenance workshop. The areas required for the SLP was calculated as 5.1 ha.



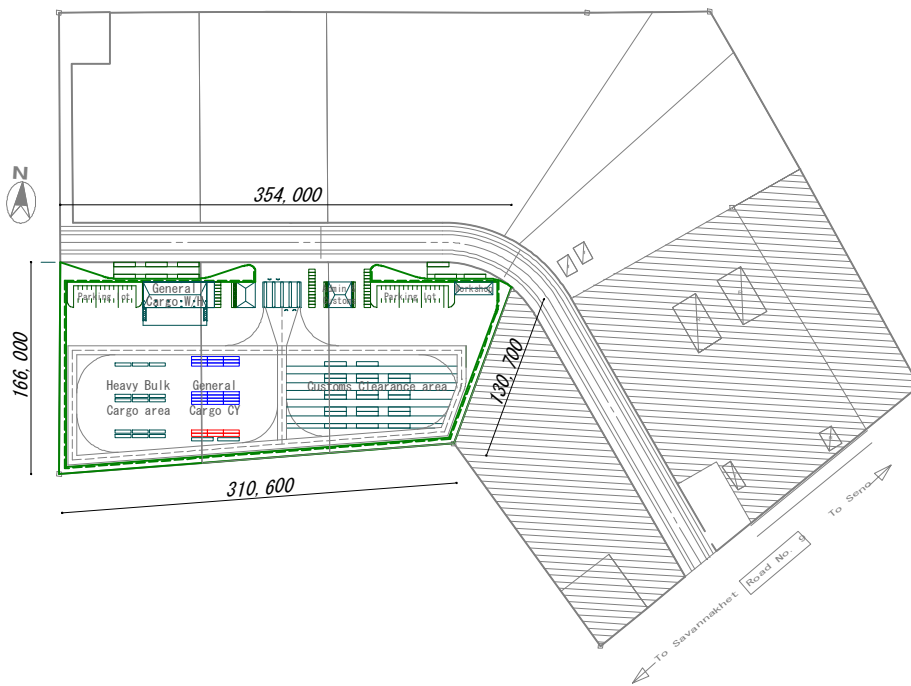
Source: JICA Study Team

**Figure 7.7** Layout Plan of SLP

**Table 7.2** Summary of Total Area required for SLP

Item	Area (m <sup>2</sup> )	Remarks
Customs Clearance area	8,000	
Heavy bulk Cargo area	6,100	
General Cargo CY area	5,500	CY area includes CY, container pool, chassis pool and container washing area.
General Cargo Warehouse area	2,800	Warehouse includes warehouse and warehouse office.
Parking Lots	8,800	Aisle is shared by heavy bulk area and general cargo area
Administration and Customs office	3,400	
Operator Office	1,800	
Maintenance shop	1,600	
Gate and Weight Station	2,400	
Buffer area	4,300	
Load in SLP	5,800	
Others	600	
<b>Total area</b>	<b>51,100</b>	

Source: JICA Study Team



Source: JICA Study Team

Figure 7.8 Layout of SLP

**(5) Implementation Plan**

The implementation process is divided into the following 3 stages: design stage, construction stage and operation stage. It would take 56 months to complete the SLP project as indicated in Figure 7.9.

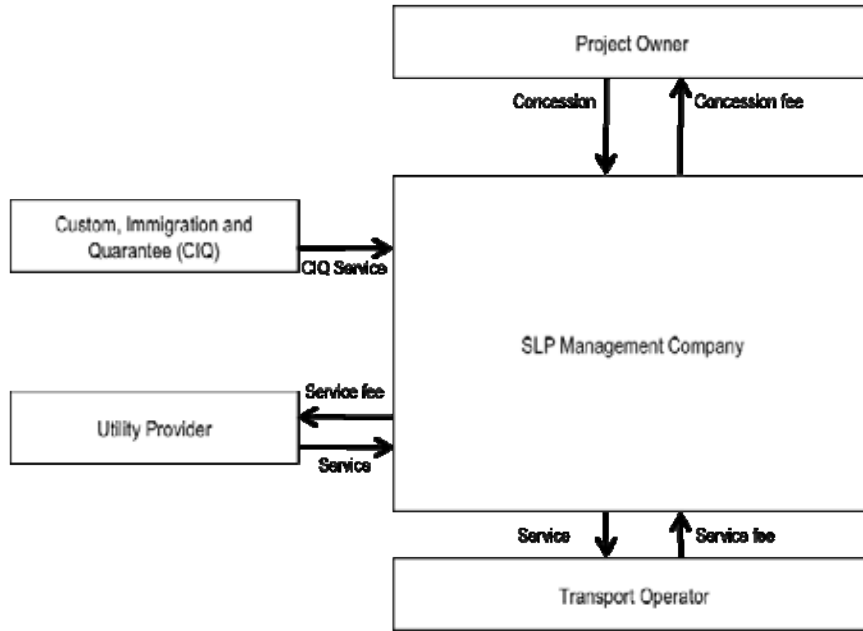
Task	No of Year	1	2	3	4	5
Project Preparation						
Consensus building for development of SLP						
Determination of financing plan						
Determination of project owner		█				
Preparation of loan application		█				
EIA and land acquisition						
Compilation of TOR and tender documents for consultant						
Design						
Selection of consultants			█			
Detailed design and bid documents			█			
Selection of contractor(s)						
Construction						
Operation Preparation						
Operation and management plan						
Promotion plan						
Operation guideline						
Selection of SLP-MC						
Operation						◇

Source: JICA Study Team

Figure 7.9 Implementation Schedule

**(6) Management and Operation Plan**

Private participation is essential to the realisation of good management and operation in SLP. SLP-MC will be contracted by the project owner and will operate and maintain SLP as the representative of the project owner. SLP-MC will also engage actual logistics businesses in SLP.



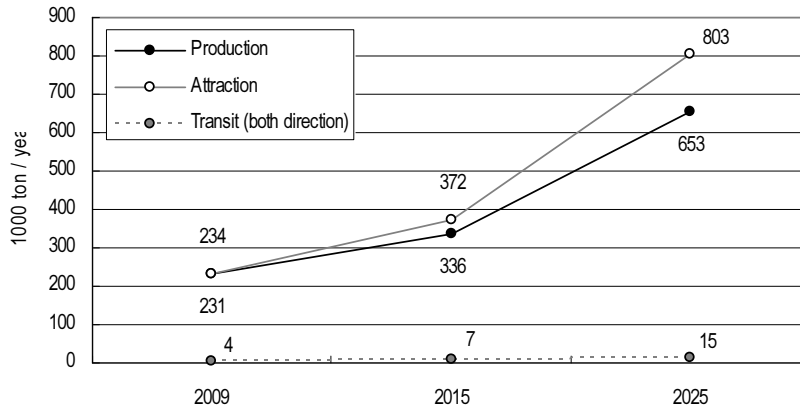
Source: JICA Study Team

**Figure 7.10 Overall Management Structure of SLP**

## 8. CHAMPASACK LOGISTICS PARK

### 8.1 Present and Future Freight Demand in Champasack

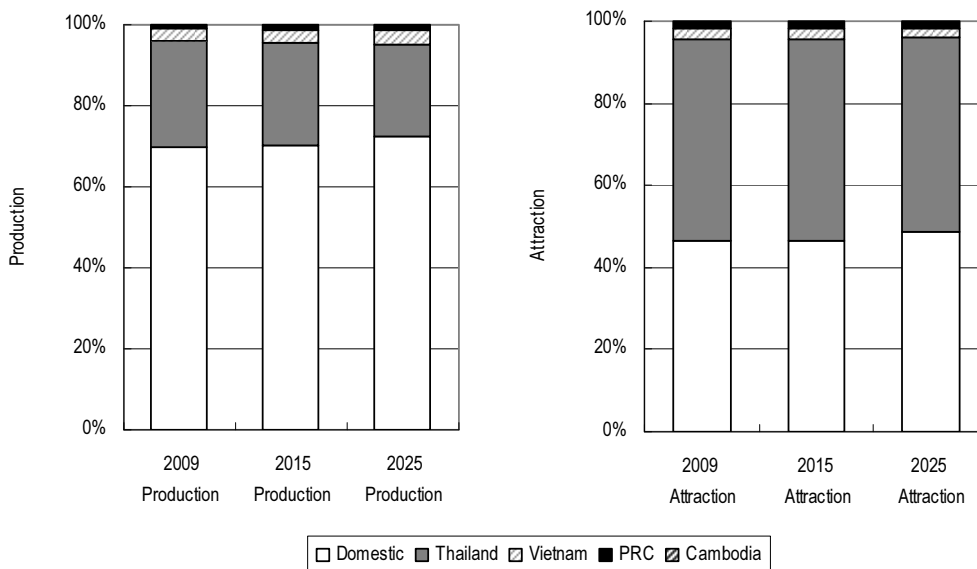
Figure 8.1 shows present and future freight demand of Champasack. Future freight production is expected to reach 653,000 tons per year by 2025 while freight attraction is expected to reach 803,000 tons per year by 2025.



Source: JICA Study Team

**Figure 8.1 Forecasted Freight Generation in Champasack**

Figure 8.2 shows composition of freight production and attraction by direction. The share of freight production in Lao PDR is expected to remain dominant in the future.

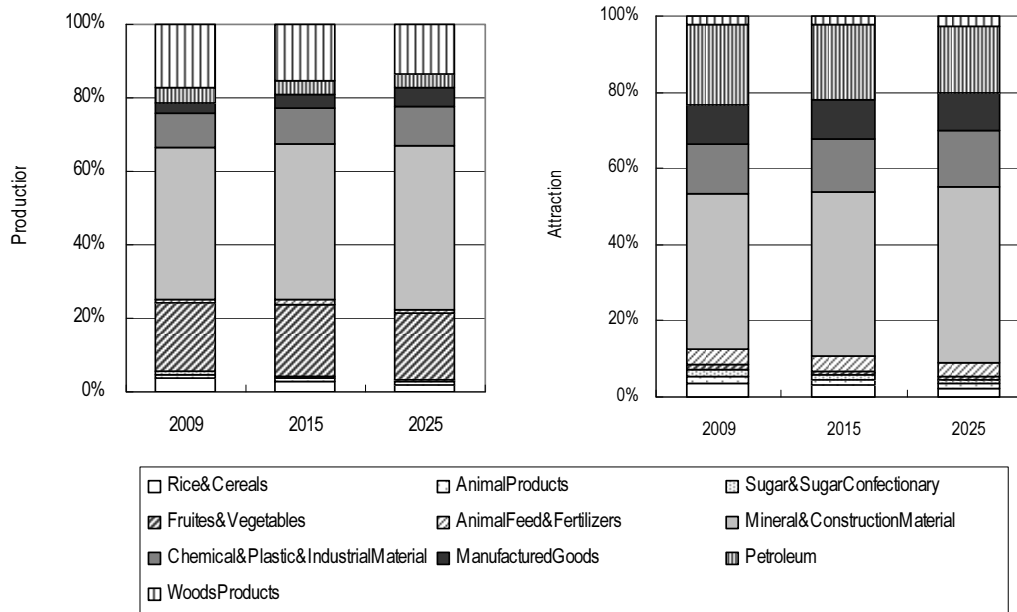


Source: JICA Study Team

**Figure 8.2 Forecasted Freight Composition in Champasack**

Figure 8.3 shows forecasted commodity composition by production and attraction in Champasack.

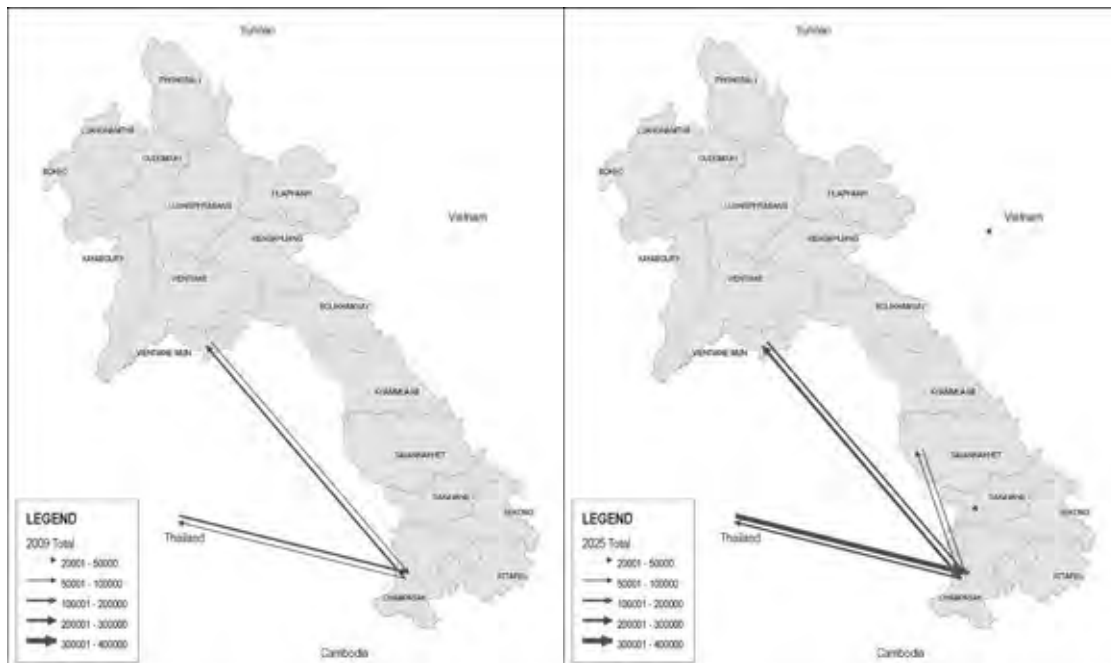
Production and attraction of minerals and construction materials is dominant in Champasack.



Source: JICA Study Team

**Figure 8.3 Forecasted Freight Commodity Proportions in Champasack**

Figure 8.4 shows current and future freight distribution of all commodities relevant to Champasack.



Source: JICA Study Team

**Figure 8.4 Forecasted Freight Distribution**

## 8.2 Logistics Development Strategy in Champasack

Champasack is expected to develop the regional logistics parks (Detailed in Action No. P112 of

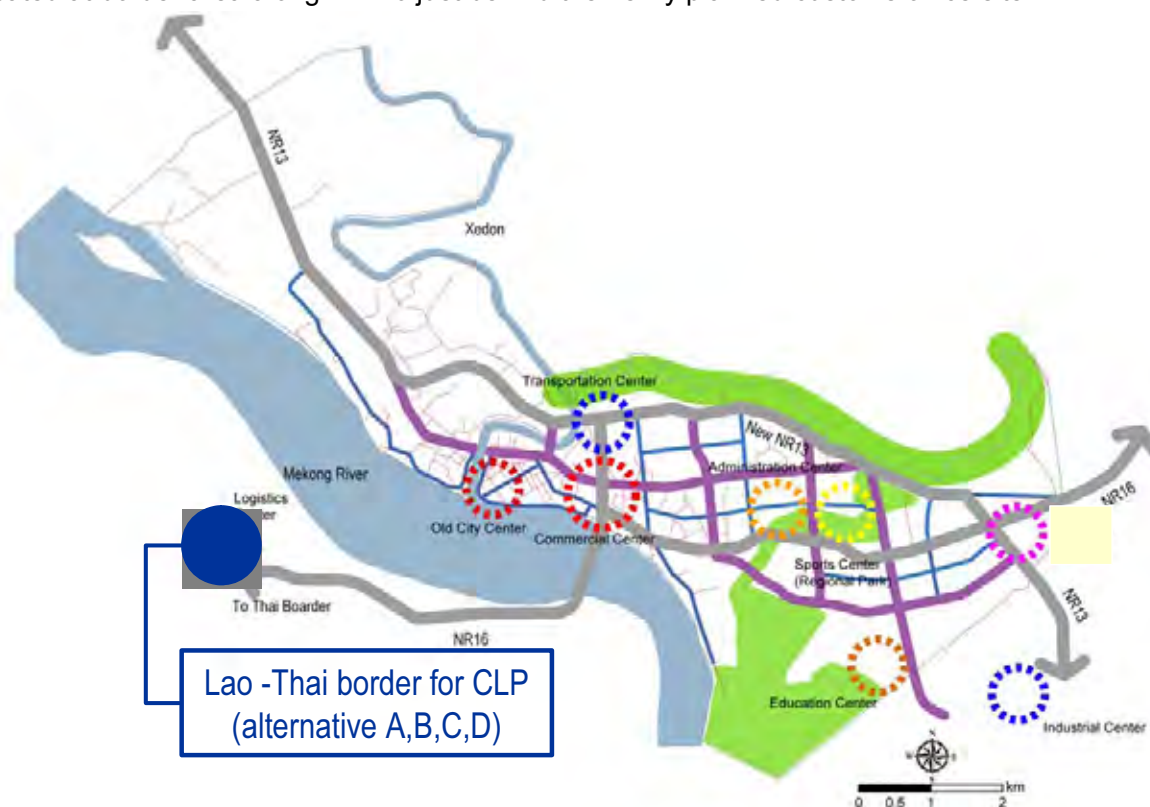
the National Logistics Strategy) to improve efficiency of regional logistics system by creating hierarchical logistics network. Champasack and surrounding provinces are also expected to develop international and regional transport routes (Detailed in Action P121 and P122) to speed up travel time of the large vehicles and improve road structure to accommodate larger truck loading and equip road safety facilities.

### 8.3 Summary of Results of Feasibility Study on Champasack Logistics Park

#### (1) Location

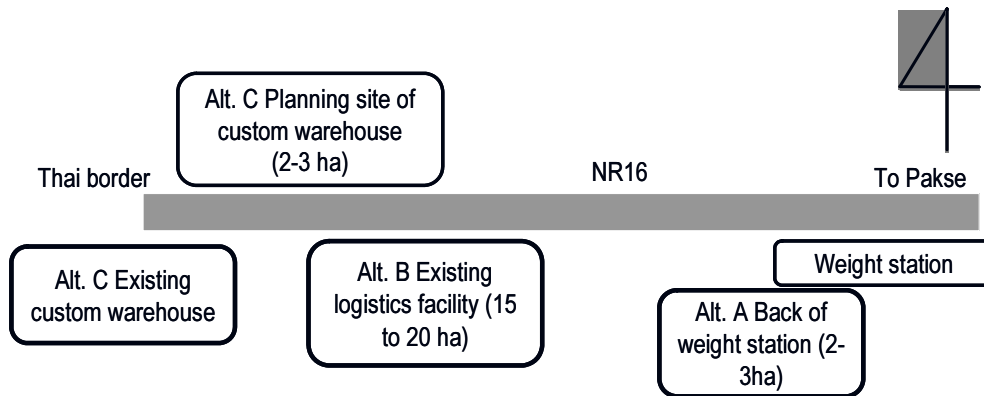
During the selection of the optimum location of the CLP, 4 alternative locations were considered, namely: Site A, Site B, Site C and Site D as shown in Figure 8.5. From the alternatives, Site C was selected, after a series of stakeholders meetings at Pakse, because of the availability of land at the location and its better accessibility to the Thai border and new customs office.

The detailed location of Site C together with other sites is illustrated in Figure 8.6. The site C is located at border area along NR-16 just behind the newly planned customs office site.



Source: JICA Study Team

Figure 8.5 Alternative Locations of the Logistics Park in Champasack



Source: JICA Study Team

Figure 8.6 Location of the Logistics Park in Pakse (Site C)

## (2) Functions and Services Provided

Through the comprehensive freight demand forecast, it was established that the CLP is expected to handle mainly import and export cargo from Thailand. Also, using the trunk road network linking with Champasack, the CLP is expected to function as the distribution centre for the southern part of Lao PDR. As proposed in the National Logistics Strategy, explored in Chapter 6 of this report, the CLP is expected to provide the following functions and services.

- Interface with Thailand for import/export cargo
- Integration of cargo flow to and from the surrounding provinces
- Trans-shipment and Consolidation
- Distributive processing for the goods imported from Thailand

## (3) Capacity

In the course of the study, the comprehensive freight demand forecast model was developed to foresee the province/commodity-wise freight demand (detailed in Chapter 5 of this report). Based on this future freight demand, the volume of cargo handled at the CLP was estimated for the target years of 2015 and 2025: the figures are summarized in Table 8.1.

Table 8.1 Annual Handling Volume in 2015 and 2025

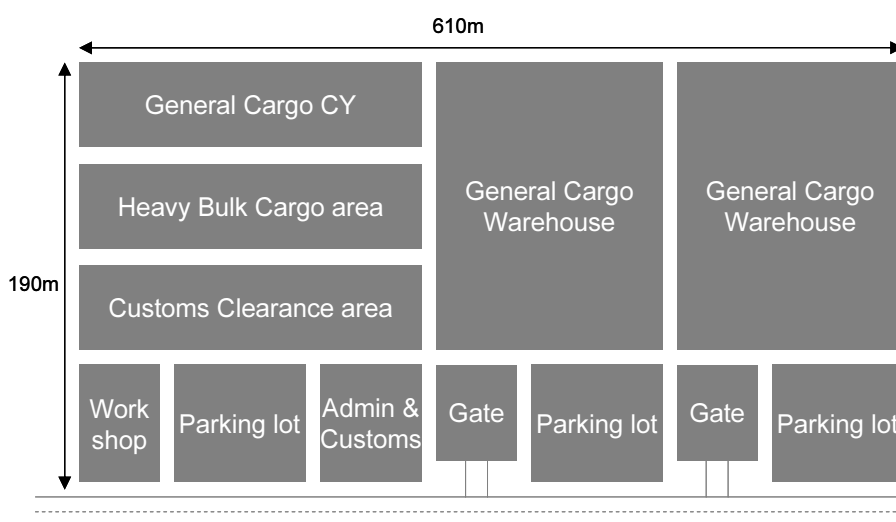
Package Type	Unit: 000 ton	
	2015	2025
Container	16.5	94.4
General Cargo	77.6	199.6
Heavy Bulk	12.3	1.7
Liquid Cargo	0.0	0.0
Total	106.4	295.8

Source: JICA Study Team

#### (4) Facility Plan

The functions and serviced provided at the CLP include (i) Interface with Thailand for import/export cargo, (ii) Integration of cargo flow to and from the surrounding provinces, (iii) Inventory and storage services for the areas along Mekong River including Thai side and (iv) Trans-shipment and Consolidation. In order to fulfill these functions and services, the type and size of logistic facilities at the CLP have to be properly planned with due consideration for the future freight volume. The layout plan of these facilities was prepared considering operational efficiency and security.

The facilities proposed at the CLP include (i) Customs clearance area, (ii) Heavy bulk cargo area, (iii) General cargo CY area, (iv) General cargo warehouse area, (v) Parking lots, (vi) Administration and customs office, (vii) Operator office, (viii) Maintenance workshop. The area required for the CLP was calculated as 11.6 ha.



Source: JICA Study Team

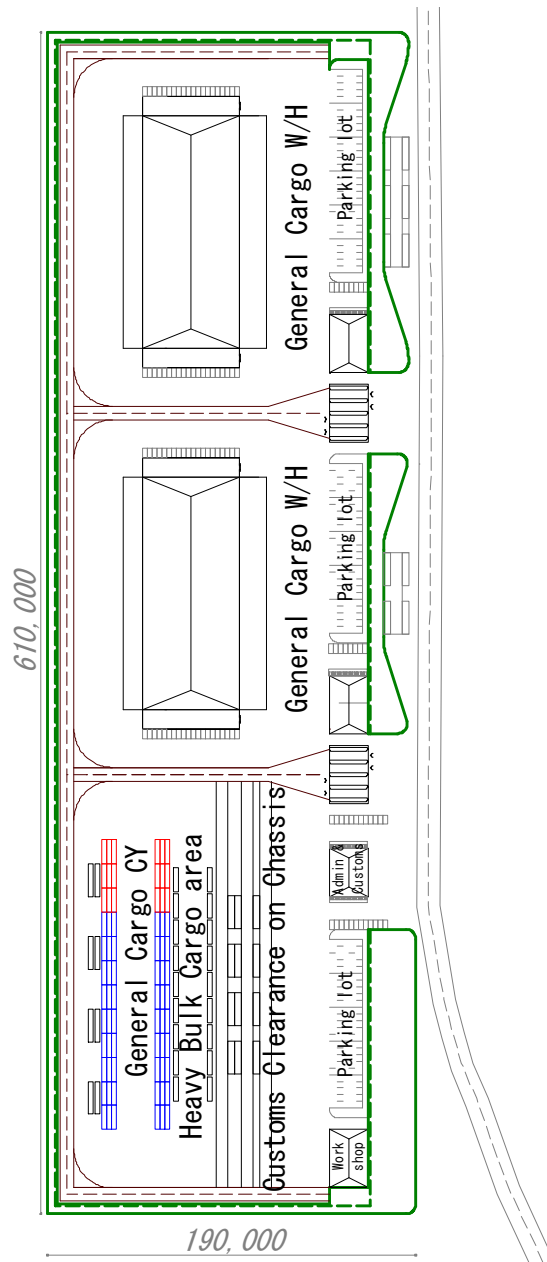
**Figure 8.7** Layout Plan of CLP

**Table 8.2** Summary of Total Area required for CLP

	Area (m <sup>2</sup> )	Remarks
Customs Clearance area	8,600	
Heavy bulk Cargo area	5,500	
General Cargo CY area	10,600	CY area includes CY, container pool, chassis pool and container washing area.
General Cargo Warehouse area	42,000	
Administration and Customs office	3,800	2 stories: 1,000m <sup>2</sup> .
Operator Office	5,500	By 2 operators. Operator office is included near the gate and neighbor warehouse.
Maintenance shop	1,200	
Gate and Weight Station	4,400	2 operators.
Parking Lots	13,800	Aisle is shared by customs clearance area and warehouse area. Occupancy area of parking lot is 4800 m <sup>2</sup> .
Buffer area	12,700	
Load in CLP	7,700	
Others	100	
<b>Total</b>	<b>115,900</b>	

Source: JICA Study Team





Source: JICA Study Team

Figure 8.8 Layout of CLP

### (5) Implementation Plan

The implementation process is divided into the following 3 stages: design stage, construction stage and operation stage. It would take 57 months to complete the CLP project as indicated in Figure 8.9.

Summary

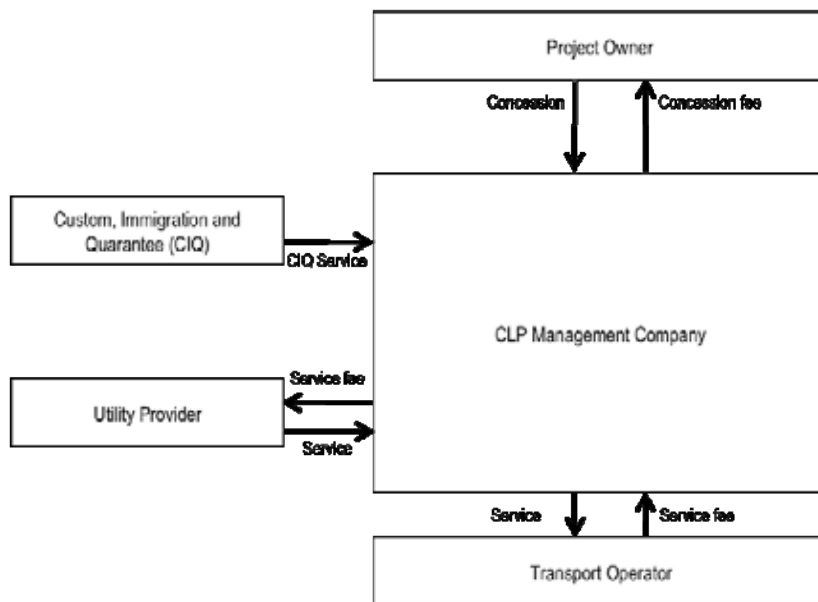
Task	No of Year	1	2	3	4	5
Project Preparation Consensus building for development of SLP Determination of financing plan Determination of project owner Preparation of loan application EIA and land acquisition Compilation of TOR and tender documents for consultant		█				
Design Selection of consultants Detailed design and bid documents Selection of contractor(s)			█			
Construction					█	
Operation Preparation Operation and management plan Promotion plan Operation guideline Selection of SLP-MC					█	
Operation						◇

Source: JICA Study Team

Figure 8.9 Implementation Schedule

(6) Management and Operation Plan

Private participation is essential to the realisation of good management and operation in CLP. CLP-MC will be contracted by the project owner and will operate and maintain CLP as the representative of the project owner under the supervision and direction of the project owner. Management of CLP contains various tasks. Some of them will be performed by CLP-MC while others will be performed by appropriate service providers hired on contract basis by CLP-MC.



Source: JICA Study Team

Figure 8.10 Overall Management Structure of CLP