

**Research Survey on Industrial Human  
Resource Development in the Lao People's  
Democratic Republic  
Final Report**

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## List of abbreviations

Abbreviation	
ADB	Asian Development Bank
AEC	ASEAN Economic Community
ALACE	The Association of Lao Architects and Civil Engineers
CBTA	Cross Border Transportation Agreement
CSEZ	Champasak province Special Economic Zone
EMIS	Education Management Information System
ESDP	Education and Sports Sector Development Plan
GMS	Greater Mekong Subregion
ISWG	Infrastructure Sector Working Group
JIFFA	Japan International Freight Forwarders Association
JV	Joint Venture
Kip / Kp / KIP	Kip
LANITH	Lao National Institute of Tourism and Hospitality
LFA	Lao Furniture Association
LICA	Laos ICT Commerce Association
LIFFA	Lao International Freight Forwarders Association
LNCA	Lao National Construction Association
LNCCI	Lao National Chamber of Commerce and Industry
MOF	Ministry of Finance
MOIC	Ministry of Industry and Commerce
MPI	Ministry of Planning and Investment
MPT	Ministry of Post and Telecommunications
MPWT	Ministry of Public Works and Transport
NERI	National Economic Research Institute
NHRD	National Human Resource Development Strategy
NSDP	National Strategic Development Plan
NSEDP	National Socio-Economic Development Plan
NUOL	National University of Laos
PATA	Pacific Asia Travel Association
SEZ	Special Economic Zone
SME	Small and Medium Sized Enterprises
TVET	Technical and Vocational Education and Training
VTE	Department of Vocational Teacher Education



# **Research Survey on Industrial Human Resource Development in the Lao People's Democratic Republic Summary of Final Report**

## **1. Objective**

This research survey aims to consider high-potential industrial sectors that are expected to boost the economy of Lao PDR, and to design a roadmap for developing human resources who will contribute to its industrial advancement by investigating current situations including challenges and future prospects in terms of economy, industry, and human resource development as basic information for considering holistic and longitudinal assistance from Japan to Lao PDR.

## **2. Analysis of Growth Industrial Sectors**

### **(1) Manufacturing**

In the 8th NSEDP, this sector is expected not only to be a growth industry, but also to be an export industry. To achieve targets, SEZs have been developed under a national policy. In terms of comparative advantage, Lao PDR has gained a position as an investment target in “Thailand+1” or “China + 1” using its low-cost labor as a source of competitiveness. On the other hand, its FDI value is smaller than those of neighboring countries, and this fact reveals that its position does not have a strong foundation.

### **(2) Service Industries (Tourism)**

The 8th NSEDP sets the target of sharply increasing the number of tourists visiting the country, and plans to develop tourism sites and provide services in the tourism sector. Although the GDP share of the hotel and restaurant industry and the impact of the industry on the economy as a whole is limited, the industry has a unique position and is expected to expand as the number of tourists grows, as various policy supports are provided such as the development plan of Luang Prabang, as spillover effects to surrounding industries are expected, and as the industry, which is still immature, has growth potential.

### **(3) Service Industries (IT Services)**

The IT service industry sector has great development potential for contributing to advances in industries and improving productivity in all industrial sectors. However, this industrial sector has serious human resources issues, and it would be quite difficult to gain a comparative advantage over neighboring countries such as Thailand and Vietnam. Thus, despite its importance, it is difficult to expect it to be a growth industry.

#### **(4) Service Industries (Logistics)**

The logistics service industry is expected to play a fundamental role for industry as a whole and to develop using its geographical advantage of sharing borders with Thailand, Vietnam, and China. With the economic development of Lao PDR and its neighboring countries, this sector has been achieving growth. However, the cost of one-way cargo is high, and the industry still remains a transport industry rather than a logistics service industry. Under such circumstances, the industry should be developed as a growth industry in the medium to long term.

#### **(5) Construction Industry**

The construction industry is important in terms of supporting the economy as a whole by developing infrastructure. Although positioned as an important sector in various plans, and many projects are expected to be implemented, the industry is immature because many domestic companies are not qualified to tender for large construction projects, and wages are higher compared to Vietnam and Cambodia, despite lower productivity. Thus, the industry has many issues to overcome before it can be positioned as a growth industry.

#### **(6) Agribusiness Industry**

Agribusiness is a very important industry because about 70% of the working population in Lao PDR are engaged in the agriculture sector, and agricultural development has a great impact on the development of the economy as a whole. The industry still has many issues in shifting from subsistence to commercial agriculture with high value-added products. However, efforts to develop the industry are indispensable because of its important position.

As presented above, it is difficult to find growth industries with optimism or strong expectations in the immature economy of Lao PDR.

### **3. Current Situation and Challenges of HRD in the Industrial Sector**

#### **(1) Manufacturing**

Lao PDR is attracting attention as a new production base. However, issues of human resources such as low scholastic standards, insufficient business capabilities, and lack of professionals are serious problems. In addition, the quality of technicians and middle managers, who are in charge of productivity, and a lack of skilled engineers also remain as challenges.

#### **(2) Service Industry (Tourism)**

Human resources in terms of civil servants and middle managers in the private sector are

insufficient. Although LANITH college and university programs are preparing the latter, they are considered to be insufficient in terms of quality and quantity because of insufficient opportunities for practical studies.

**(7) Service Industries (IT Services)**

In the IT service industry, human resources are insufficient in terms of quality and quantity at both vendor and user companies. The skills of university graduates are insufficient, and human development in the industry must rely on OJT inside and outside the country.

**(8) Service Industries (Logistics)**

Demand for a new type of human resource who can optimize supply chains as a whole is increasing, but the idea is not fully shared across the entire industry. Thus, the demand and supply gap of human resources within the industry is not being closed, despite the need.

**(9) Construction Industry**

Technicians at construction sites have issues such as low quality and lack of wage competitiveness in comparison with neighboring countries. Demand for foremen, who can manage technicians, is strong in terms of process management and quality control at construction sites. However, in fact, an educational platform for fostering such human resources has not been provided.

**(10) Agribusiness Industry**

To develop the industry, it is considered important to change the mindsets of farmers and have them learn production skills to make the transition from subsistence agriculture to highly value-added commercial agriculture, but this is quite a challenge. There are agriculture extension officers, who are in charge of instructing farmers, but they cannot play their role fully due to budget deficit and insufficient skills.

## **4. Cooperation Program for Industrial Human Resource Development**

**(1) Direction of Cooperation**

The demand side of human resources has the issue of insufficient human resources in many industrial sectors and job titles, while the supply side has issues with higher education, vocational education, and in-house training, and human resources who have capabilities that meet the expectations of industrial sectors cannot be provided.

In terms of the supply side of human resources, at national universities, even at a high-level

educational institute such as FoE/NUOL, its educational content and environment level are not high enough to meet expectations from the demand side. In addition, national universities are also expected to play the role of fostering teachers for the educational base of TVET, but this role is rarely fulfilled.

In addition to these broad and fundamental issues, it is difficult to specify growth industrial sectors. Thus, as the direction of cooperation, improving the fundamentals of the human resource development system is more effective than supporting human resource development for some specific industrial sectors or job titles, while some attention should still be paid to industrial sectors with growth potential.

## **(2) Cooperation Program for Industrial Human Resource Development (Plan)**

### **1) Support for Establishing Lao Technology University (LTU)**

#### **A) Construction of new education and research buildings and providing experimental equipment**

The level of the education and research environment of NUOL is low. To improve the situation, new education and research buildings at LTU, which is under planning as a new university in Lao, are being constructed and experimental equipment is being provided.

This is expected to improve the quality of education and research activities at LTU by providing a new education and research environment. Through those activities, core engineers will be developed in industrial sectors requiring engineering education such as manufacturing, tourism, IT services, logistics services, construction and agribusiness, and research capability in the area will also be strengthened.

The promotion of joint research with private companies as well as securing contracts of experiments and tests, etc. from them making use of the universities' resources including experiment facilities and analytical capabilities could be useful not only for ensuring their revenue sources, but also for contributing to the public good.

#### **B) Support for designing and developing educational programs**

Designing and developing educational programs at the new university will also be supported. Specifically, designing and developing department/faculty structure, common programs across a faculty, programs in each department, teaching methodology, admission systems, and governance system are to be supported.

#### **C) Support for developing teacher training program**

Technical cooperation on developing a teacher training program will be implemented for the purpose of using the new education and research buildings for training primary and secondary

education science teachers. In addition to the training course for teachers as basic education, the teacher training function is applicable to teachers at LUT and other universities and colleges, as well as those at TVETs.

D) Support for developing and introducing training programs for engineers

In addition to human resource development through programs of degree courses, LUT is expected to provide training for active engineers working at factories, because in-house training is not conducted comprehensively. Specifically, implementation of engineer training programs using the new education and research buildings, as well as various support for introducing lectures on demand at SEZs, including development of training programs, publicity for companies, and program management.

These forms of support could help solidify the foundations for developing the human resources required for industries in the short term, and also have the following outcomes:

- Continuous development of core engineers contribute to industry
- Building new university model produce autonomous management and value for industry
- Strengthening TVET education by utilizing research facility
- Continuous expansion of skilled labour force by adult education for engineers
- Promoting new business development and entrepreneurship by expansion of incubation function

**2) Institutional Strengthening of LJI**

A) Support developing and introducing management personnel training programs

The private sector requires development of top management to make investment decisions for new business start-ups, as well as expanding and upgrading existing businesses. So, it is considered to be efficient to support the LJI in providing training programs for higher management levels using the long experience of the business course.

Developing SEZs is a pillar of industrial policy in Lao PDR, and it is considered that training programs for company managers in SEZs will be important in the future. Therefore, developing training programs for company managers in SEZs and implementing training programs at LJI, as well as on-demand lectures at SEZ, will be supported.

B) Strengthen functions for supporting industrial human resource development

To develop industrial human resources effectively, it is necessary to have communication among industrial circles that need human resources, educational circles that supply human

resources, and administration circles that support political aspects, then to have them cooperate in implementing common goals. On the other hand, the command function in industrial human resource development is still immature, so the triangular cooperation described above is not being implemented. When an organization is equipped with a command function, support will be needed for various activities.

For instance, the functions of the industrial human resource development system are expected to be strengthened by supporting the introduction of “Implementation surveys on industrial human resource development (human resource demand survey and supply surveys),” “Implementation of productivity improvement research and consulting,” “Research and development of human resource evaluation and matching system (local HR-Japanese companies, between local-Japanese companies),” and “Policy planning and recommendations for industrial human resource development plan.”

These forms of support could help solidify the foundations for developing the human resources required for industries in the short term, and also have the following outcomes:

- Establishing a model of systematic management education and its application to faculties of economics and business administration of NUOL and other universities (or in collaboration with them).
- Developing human resources for industries based on continuous, holistic, and evolutionary collaboration among industries, academia, and government, which could be underpinned by the control tower function of their collaboration.
- Presenting a human resources development support model established with the involvement of the Laos-Japan Institute in the above-mentioned affairs to sister Institutes in other countries.

# **1. Basic Principles of Research Survey**

## **1.1 Background and Objectives**

### **(1) Background and Objectives**

Lao People's Democratic Republic (Lao PDR) has achieved constant economic growth for several decades and has been expected to contribute to the development of the ASEAN region as an attractive investment destination. However, it is also true that Lao PDR needs to address several urgent issues such as industrial diversification and advancement, and development of relevant systems and policies. Although it is indispensable to develop industrial human resources and to secure a transition from the educational system to the world of work, in order to promote industry diversification and advancement, the government of Lao PDR has not necessarily succeeded in taking the required actions, while it has pointed out the importance of industrial human resource development in its development policies.

Japan and other countries, as well as other organizations, have provided a variety of support to Lao PDR with regard to industrial human resource development. However, most has been conducted as independent projects, so it is essential to promote holistic and strategic assistance from a long-term perspective.

Against such a background, this research survey aims to consider industrial sectors with high growth potential, which are expected to boost the economy of Lao PDR, and to design a roadmap for developing human resources who can contribute to its industrial advancement by investigating the current situation, including challenges and future prospects, in terms of economy, industry, and human resource development, as basic information for considering holistic and longitudinal assistance from Japan to Lao PDR.

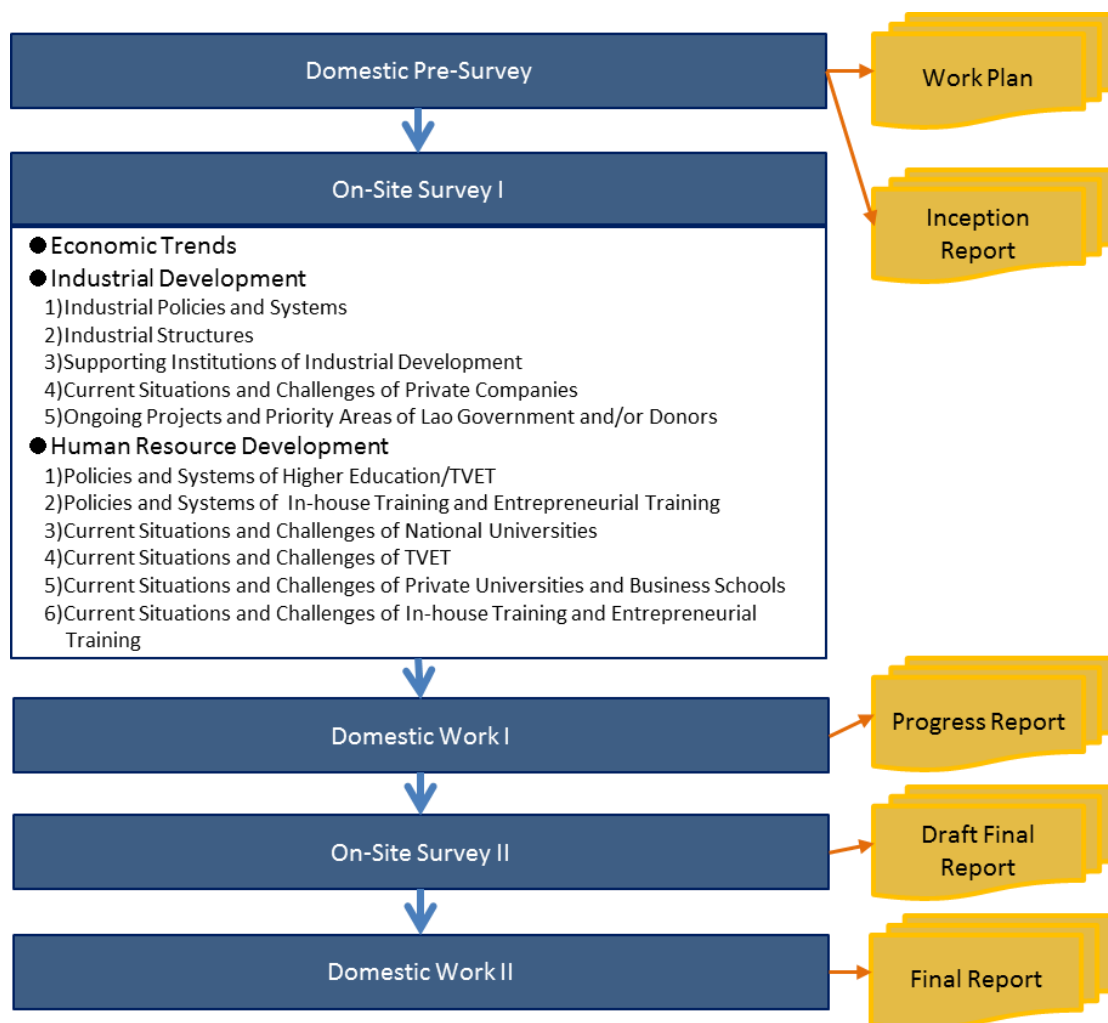
### **(2) Research Targets**

The main areas of the research survey are Vientiane, Savannakhet, and Champasak. In addition, research areas include Luang Prabang as a case study in the field of Tourism.

## **1.2 Methodology**

### **(1) Research Flow**

The research flow is shown in Figure 1-1.



**Figure 1-1 Study Implementation Flow**

**(2) Research Contents**

**1) Domestic Pre-survey**

The research team collected basic information on development policies, economic trends, industrial human resource development policies, and Japan’s past assistance, and identified research topics we should focus upon in On-site Survey I. In addition, we crystalized the topics of interviews for On-site Survey I and drafted a Work Plan and an Inception Report.

**2) On-site Survey I**

The research team conducted an interview survey and collected data to clarify past and current situations, challenges, future prospects, and others in the fields of economic trends, industrial development, and human resource development. The research team also held a meeting with the JICA Lao PDR office and the Embassy of Japan in Lao PDR to discuss



research design. Major research targets included government of Lao PDR, industrial bodies, private companies in industries (manufacturing, tourism, IT services, logistics services, construction, and agribusiness), educational institutions (national university, TVET institutions, private universities, and business schools, in-house training and entrepreneurial training institutions), and Japanese agencies. Interview surveys were conducted covering 140 organizations in total.

### **3) Domestic Work I**

The research team analyzed information collected from On-site Survey I to examine industrial sectors with high growth potential, which are expected to boost the economy of Lao PDR in the future, and to design a roadmap for providing assistance to develop human resources who can contribute to its industrial advancement. In addition, we attended a debriefing session to report the results of On-site Survey I and the research plan of On-site Survey II.

### **4) On-site Survey II**

On the basis of a draft proposal of the Cooperation Program for Industrial Human Resource Development, the research team conducted an additional survey to consider concrete future projects. Concretely, the research team collected missing information and discussed the proposal with local stakeholders.

### **5) Domestic Work II**

In the light of the above-mentioned tasks, the research team made a draft final report in terms of industrial human resource development in Lao PDR, considering collaboration and synergies among technical assistance, grants, loans, training, and other schemes. Then, the research team modified the draft final report as needed to complete a final report in consultation with JICA.

## **1.3 Basic Principles**

In this research survey, it is indispensable to investigate economic trends, industrial development, and industrial human resource development, in order to clarify industry sectors with high growth potential and to design a scenario for developing human resources who can contribute to industry advancement in Lao PDR. Therefore, the research team aimed to carry out the research survey on the basis of the following principles.

### **(1) Analytical Framework of Policy, Demand, and Supply**

To achieve the objectives, it is effective to analyze the information we should gather

through a series of research surveys from the perspectives of: 1) policy aspects (industry and human resource development policies, international cooperation, and investment strategies of Japan and other countries etc.); 2) demand aspects (current situation of industries and companies, human resources required to address challenges etc.); and, 3) supply aspects (current situation of higher education, TVET, and in-house training, and future prospects for their management etc.). Therefore, the research team should conduct investigations in the light of the above-mentioned perspectives, sharing related information among project members.

## **(2) Multifaceted Information Gathering**

It is indispensable to gather information from multifaceted perspectives, in order to consider Japan's strategic assistance policies for Lao PDR. Concretely, clarification of priority items of on-site surveys through careful preliminary studies, the use of interview forms, and the collection of additional information after the on-site survey are options we could take up, in addition to a number of interview surveys.

In addition, recently, human resource development policies have been likely to be developed not only within a specific country but also under the regional direction of ASEAN as a whole. Under these circumstances, the research team may consider visiting the Southeast Asian Ministers of Education Organization Regional Centre for Higher Education and Development (SEAMEO RIHED) and UNESCO Bangkok, both of which are functioning as regional hubs in terms of higher education and other related policies.

## **(3) Collaboration of Experts in Economy, Industry, and Human Resource Development**

It is important to carry out the research survey by collaborating with various experts in the fields of economy, industry, and human resource development, as well as on-site surveys in Asian countries. Therefore, the research team is to be composed of experienced experts. In particular, with regard to human resource development, we allocate researchers who have knowledge not only of industrial human resources but also of linkages between education and labor markets, in order to design a more effective roadmap for human resource development.

## 2. Economic Trends

### 2.1 Achievements of 7th NSEDP and Outline of the 8th NSEDP

Lao PDR has a long-term framework for national development, “Vision 2030” and the “National Strategy on Socio-economic Development until 2025” as an upper level plan. It aims to graduate from being a Least Developed Country (LDC) by 2020 and enter the group of middle- to high-income developing countries by 2030.

To achieve these targets, Lao PDR has completed implementation of the 7th National Socio-economic Development Plan (7th NSEDP, 2011-2015) and approved the 8th National Socio-economic Development Plan (8th NSEDP, 2016-2020) in Parliament in April 2016. At the field survey conducted by the JICA study team in July 2016, information on the 8th NSEDP (Unofficial Translation) was collected.

According to the 8<sup>th</sup> NSEDP, the growth rate of GDP during the period of the 7<sup>th</sup> NSEDP was 7.9%, and almost cleared the original target of more than 8% (Table 2-1). In the 8<sup>th</sup> NSEDP, changes in Economic Structure, Inflation Rate, and Foreign Currency Exchange Rate are shown (Table 2-2, Table 2-3, and Table 2-4).

Regarding Economic Structure, there has been a gradual transition from agriculture-forestry to industry in line with the direction of the Five-year Plan. However, the targeted growth rate of industry of 15% could not be achieved. On the other hand, the growth rate of services was 6.5%, which far surpassed the target (Table 2-1). Thus, the GDP composition of industry could not achieve the target 39.0% and that for services far surpassed the target of 38.0%.

The inflation rate fluctuated within the range set by the Plan (less than the growth rate) and increased to 5% on average during the five-year implementation period. The exchange rate has been stable. The rate of the LAK against the USD has appreciated 0.63% a year on average and 0.99% against the THB.

**Table 2-1 GDP Growth Rate during 7th NSEDP in Lao PDR**

Description	7 <sup>th</sup> NSEDP Targets (2011-2015)	Actual 2010-11	Actual 2011-12	Actual 2012-13	Actual 2013-14	Actual 2014-15	Average (5 years)
<b>GDP growth</b>	<b>&gt;8 percent</b>	<b>8.1 percent</b>	<b>8.3 percent</b>	<b>8.0 percent</b>	<b>7.8 percent</b>	<b>7.5 percent</b>	<b>7.9 percent</b>
Agriculture-Forestry	3.5 percent	2.9 percent	2.8 percent	3.1 percent	3.0 percent	3.0 percent	
Industry	15.0 percent	15.8 percent	14.4 percent	7.4 percent	8.5 percent	8.9 percent	
Service	6.5 percent	7.8 percent	8.1 percent	9.7 percent	9.3 percent	9.1 percent	

*Source: Report on NSEDP Achievements in 2010-11 and 2013-14*

Source: 8th NSEDP (Unofficial Translation)

**Table 2-2 Changes in Economic Structure during 7th NSEDP in Lao PDR**

Description	Targets (2014- 2015)	Actual 2010-11	Actual 2011-12	Actual 2012-13	Actual 2013-14	Targets 2014- 15
Amount of GDP at present value(in million Kip)	<b>104,000</b>	62,458	70,343	80,199	90,823	102,320
<i>Composition</i> ( percent)	<b>100.0</b>	100.0	100.0	100.0	100.0	100.0
- Agriculture-Forestry( percent)	<b>23.0</b>	27.9	26.7	25.2	24.8	23.7
- Industry( percent)	<b>39.0</b>	26.9	29.6	28.2	27.5	29.1
- Service( percent)	<b>38.0</b>	45.2	43.7	46.8	47.7	47.2

*Source: NSEDP2011-2015 and Estimation by the Lao Statistics Bureau*

Source: 8th NSEDP (Unofficial Translation)

**Table 2-3 Trends of Inflation Rate during 7th NSEDP in Lao PDR**

Description	2010-11	2011-12	2012-13	2013-14	2014-15	Average
1. Food	10.39	6.97	10.37	9.17	4.44	8.27
2. Beverage	2.28	3.07	3.38	5.47	2.48	3.34
3. Clothing and footwear	2.39	2.35	4.42	6.02	4.22	3.88
4. Housing, water, electricity	3.14	9.15	9.09	3.64	8.57	6.72
5. Household supplies	1.40	2.54	2.70	2.10	1.30	2.01
6. Healthcare	2.25	1.20	1.31	1.34	0.18	1.26
7. Communications and Transport	7.90	4.88	0.43	0.65	-5.24	1.72
8. Post and telecommunications	2.41	2.13	1.71	0.85	1.19	1.66
9. Entertainment and recreation	0.94	1.63	1.81	2.22	0.18	1.36
10. Education	0.57	0.92	2.19	1.31	0.26	1.05
11. Restaurants and Hotel	3.50	7.93	8.63	8.60	3.83	6.50
12. Goods and Services	9.24	5.61	1.50	1.41	0.24	3.60
<b>Inflation rate( percent)</b>	<b>7.42</b>	<b>5.12</b>	<b>5.64</b>	<b>5.16</b>	<b>1.68</b>	<b>5.00</b>

*Source: Lao Statistics Bureau, MPI.*

Source: 8th NSEDP (Unofficial Translation)

**Table 2-4 Trends of Exchange Rate during 7th NSEDP in Lao PDR**

Currency	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average
LAK/US\$	8.036,34	8.010,73	7.867,92	8.033,20	8.123,15	8.014,27
Appreciation/Depreciation	4,16 percent	0,32 percent	1,82 percent	-2,06 percent	-1,11 percent	0,63 percent
LAK/Baht	266,51	258,13	259,32	251,13	245,52	256,12
Appreciation/Depreciation	-3,39 percent	3,25 percent	-0,46 percent	3,26 percent	2,29 percent	0,99 percent

*Source: Monetary Policy Department, Bank of Lao PDR.*

Source: 8th NSEDP (Unofficial Translation)

In the 8th NSEDP, the targeted growth rate was set at more than 7.5% during the period and rates for the economic structure were set as shown in Table 2-5. The targeted annual growth rate of industry was set at 9.3% in 8th NSDPE, which is higher than those of agriculture-forestry and

services. This means high industrial growth is expected. Furthermore, various targets such as poverty rate, government budget revenue, budget deficit, and trade deficit, have been set within it. To achieve these targets, three Outcomes and 17 Outputs in total (corresponding to each outcome) have been identified as shown in Table 2-6.

**Table 2-5 Targets Set in 8th NSDPE on Macro-economic Indicators**

			7th NSEDP		8th NSEDP
			Target	Result	Target
Annual GDP Growth Rate			>8%	7.9%	7.5%以上
Industrial Structure (composition)	Agriculture	composition	23.0%	23.7%	19%
		<i>Annual Growth Rate</i>	<i>3.5%/year</i>	<i>3.0%/year</i>	<i>3.2%/year</i>
	Industry	composition	39.0%	29.1%	32%
		<i>Annual Growth Rate</i>	<i>15.0%/year</i>	<i>8.9%/year</i>	<i>9.3%/year</i>
	Service	composition	38.0%	47.2%	49%
		<i>Annual Growth Rate</i>	<i>6.5%/year</i>	<i>9.1%/year</i>	-

Source: 8th NSEDP (Unofficial Translation)

**Table 2-6 Outcomes and Outputs Set in 8th NSDPE**

Outcome	Output
Outcome1: Sustained inclusive economic growth	Output 1- Sustained and Inclusive Economic Growth Output 2- Macro-economic Stability Output 3- Integrated Development Planning and Budgeting Output 4- Balanced Regional and Local Development Output 5- Improved Public /Private Labor Force Capacity Output 6- Local Entrepreneurs are Competitive in Domestic and Global Markets Output 7- Regional and International Cooperation and Integration
Outcome2: Human resources are developed and the capacities of the public and private sectors is upgraded	Output 1- Improved Living Standards through Poverty Reduction and 3 builds implementation Output 2- Food Security Ensured and Incidence of Malnutrition Reduced Output 3- Access to High Quality Education Output 4- Access to High Quality Health Care and Preventative Medicine Output 5- Enhanced Social Welfare Output 6- Protection of Traditions and Culture Output 7- Political Stability, Order, Justice, and transparency
Outcome3: Natural resources and the environment are effectively protected and utilized according to green growth and sustainable principles	Output 1- Environmental Protection and Sustainable Natural Resources Management Output 2- Preparedness for Natural Disasters and Risk Mitigation Output 3- Reduced Instability of Agricultural Production

Source: 8th NSEDP (Unofficial Translation)

## 2.2 Macro-economic Indicators

In the preliminary survey in Japan, various macro-economic indicators were gathered and analyzed through bibliographic and Internet surveys. Then, in the 1st Field Research, the latest and more precise data were gathered by visiting related organizations in Lao PDR as necessary.

**Table 2-7 Organizations Covered by Interview Survey (Macro economy)**

Organizations	Location
MOIC, Department of Industry and Handicrafts	Vientiane
MPI, Lao Statistic Bureau	Vientiane
MOF, Fiscal Policy Department	Vientiane
NERI (National Economic Research Institute)	Vientiane

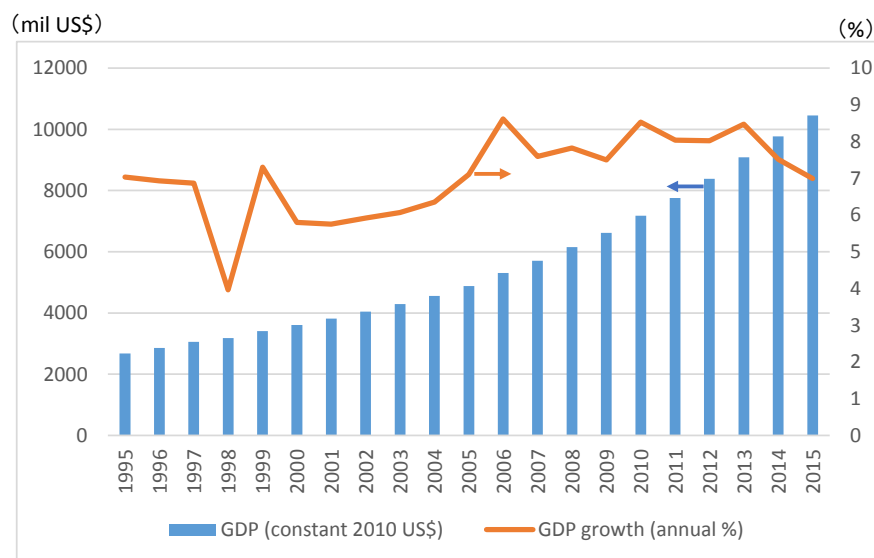
**(1) GDP, GNI**

The trend of Gross Domestic Product (GDP) at constant prices in 2010 USD and trend of Growth Rate are shown in Table 2-8 and Figure 2-1. Lao PDR has been achieving steady growth and the GDP in 2015 was USD 10.46 bn (at constant prices in 2010 USD), which expanded 7.0% from 2014.

**Table 2-8 Trends of GDP Growth**

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
GDP (constant, 2010, milUS\$)	5,306	5,709	6,155	6,617	7,181	7,759	8,381	9,091	9,775	10,458
GDP growth (annual %)	8.6	7.6	7.8	7.5	8.5	8.0	8.0	8.5	7.5	7.0

Source: World Bank Database (data in July 2016)



Source: World Bank Database (data in July 2016)

**Figure 2-1 Trends of GDP (at constant prices) and Growth Rate**

Trends of GDP per capita (at current prices) are shown in Table 2-9 and Figure 2-2, and those of GDP per capita (at constant prices) are shown in Table 2-10 and Figure 2-3 for various

countries.

The GDP per capita of Lao PDR in 2015 is USD 1,812 at current prices and USD 1,538 at constant prices, which exceed those of Cambodia and Bangladesh and approach those of Vietnam.

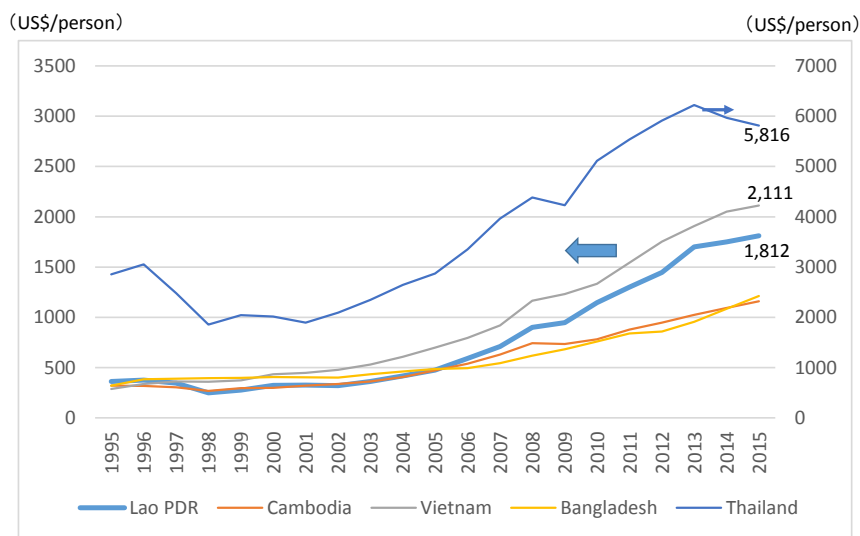
The trends of the growth rate of GDP per capita in Lao PDR are shown in Figure 2-4. Lao PDR has been achieving higher and more stable growth among neighboring countries over the 10 years covered.

**Table 2-9 Trends of GDP per Capita (at current prices)**

(USD/person)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Lao PDR	591	711	900	948	1,147	1,301	1,446	1,701	1,751	1,812
Cambodia	538	629	743	735	783	879	946	1,025	1,095	1,159
Vietnam	797	919	1,165	1,232	1,334	1,543	1,755	1,908	2,052	2,111
Bangladesh	496	543	618	684	760	839	859	954	1,087	1,212
Thailand	3,351	3,963	4,385	4,231	5,112	5,539	5,915	6,225	5,970	5,816

Source: World Bank Database (data in July 2016)



Source: World Bank Database (data in July 2016)

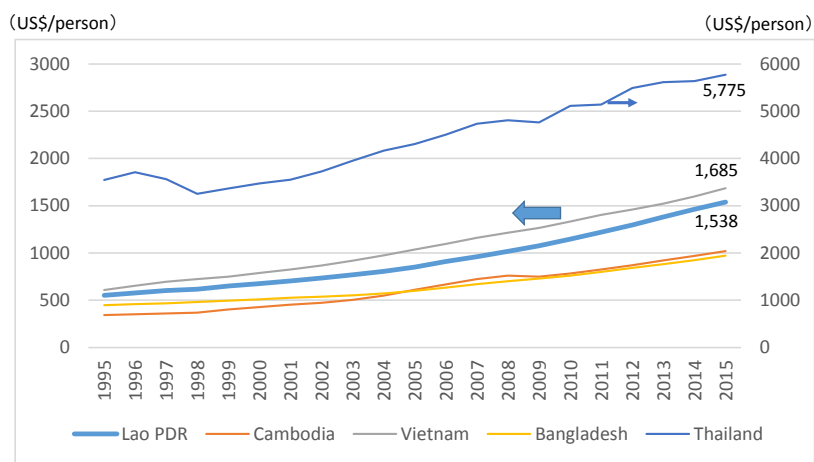
**Figure 2-2 Trends of GDP per Capita (at current prices)**

**Table 2-10 Trends of GDP per Capita (constant prices at 2010)**

(USD/person)

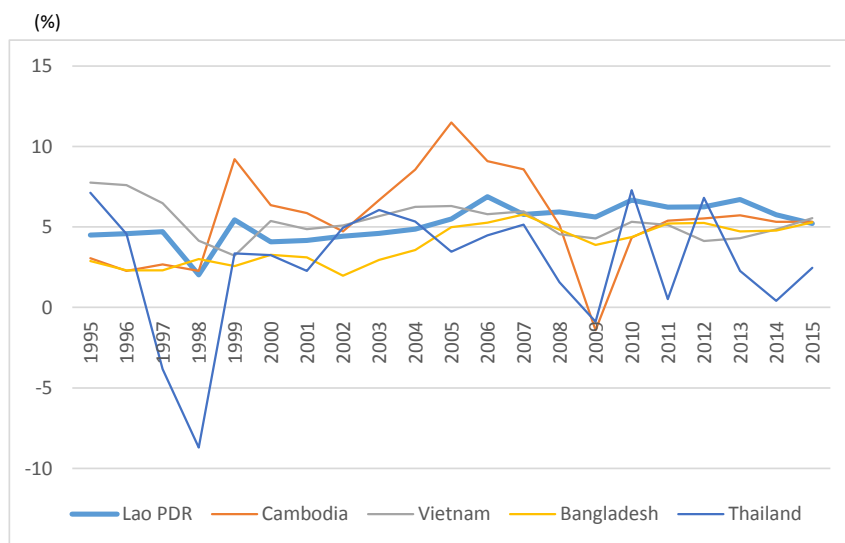
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Lao PDR	909	961	1,018	1,075	1,147	1,219	1,295	1,382	1,461	1,538
Cambodia	667	724	761	750	783	825	870	920	969	1,021
Vietnam	1,096	1,161	1,214	1,266	1,334	1,402	1,460	1,522	1,596	1,685
Bangladesh	632	669	701	728	760	800	842	882	924	973
Thailand	4,501	4,733	4,808	4,765	5,112	5,138	5,488	5,613	5,636	5,775

Source: World Bank Database (data in July 2016)



Source: World Bank Database (data in July 2016)

**Figure 2-3 Trends of GDP per Capita (constant prices at 2010)**



Source: World Bank Database (data in July 2016)

**Figure 2-4 Trends of Growth Rate of GDP per Capita**



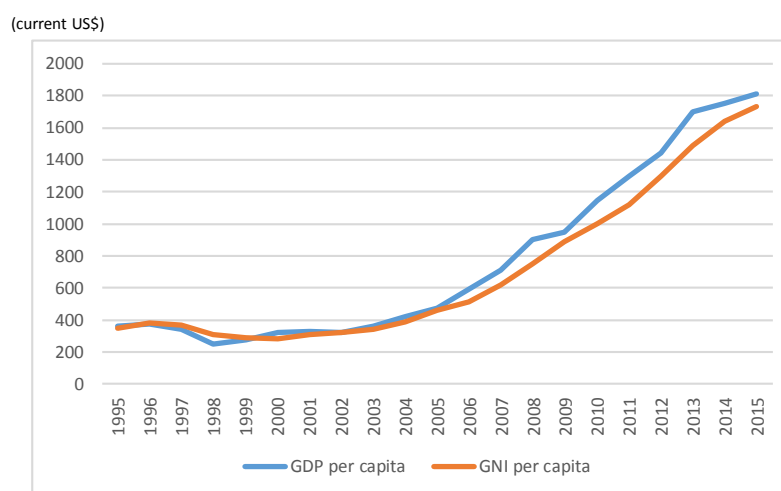
The trend of GNI per capita in Lao PDR is shown in Table 2-11 and Figure 2-5 in comparison with GDP. It is shown that GNI per capita is lower than GDP by around 5% in Lao PDR.

**Table 2-11 Trends of GDP per Capita and GNI per Capita**

(current USD/person)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
GDP per capita	476	591	711	900	948	1,147	1,301	1,446	1,701	1,751	1,812
GNI per capita	460	510	620	750	890	1,000	1,120	1,300	1,490	1,640	1,730

Source: World Bank Database (data in July 2016)



Source: World Bank Database (data in July 2016)

**Figure 2-5 Trends of GDP per Capita and GNI per Capita**

## (2) Other Macro-economic Indicators

### 1) Gross Domestic Saving

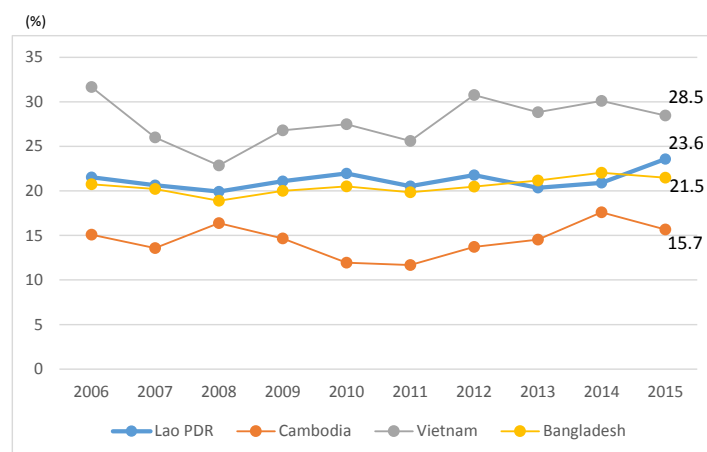
Gross Domestic Saving in Lao PRD has a slight increasing tendency (Table 2-12, Figure 2-6). GDP ratio of Gross Domestic Saving was 23.6% in 2015. This is the second highest after Vietnam among four neighboring countries.

**Table 2-12 Trends of GDP per Capita and GNI per Capita**

(Unit :%)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Lao PDR	21.5	20.6	19.9	21.1	22.0	20.5	21.8	20.3	20.9	23.6
Cambodia	15.1	13.6	16.4	14.7	11.9	11.7	13.7	14.5	17.6	15.7
Vietnam	31.7	26.0	22.8	26.8	27.5	25.6	30.7	28.8	30.1	28.5
Bangladesh	20.7	20.2	18.9	20.0	20.5	19.8	20.5	21.2	22.0	21.5

Source: World Bank Database (data in July 2016)



Source: World Bank Database (data in July 2016)

**Figure 2-6 Trends of Gross Domestic Saving**

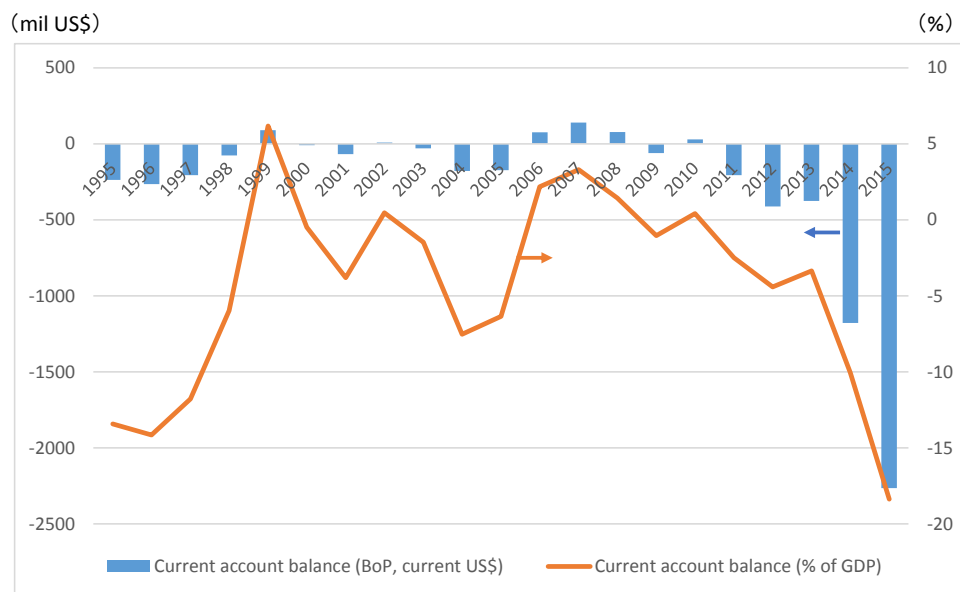
## 2) Balance of Current Account

The deficit of the Balance of Current Account in Lao PDR has been increasing rapidly in the last few years. It was USD 2.26 bn in 2015, which corresponded to GDP of 18.4%. This deficit was mainly caused by an expansion of the trade deficit.

**Table 2-13 Trends of Balance of Current Account**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Current account balance (current Mil US\$)	-174	75	139	78	-61	29	-206	-413	-376	-1,178	-2,264
Current account balance (% of GDP)	-6.4	2.2	3.3	1.4	-1.0	0.4	-2.5	-4.4	-3.4	-10.1	-18.4

Source: World Bank Database (data in July 2016)



Source: World Bank Database (data in July 2016)

**Figure 2-7 Trends of Balance of Current Account**

### 3) Public Debt, External Debt

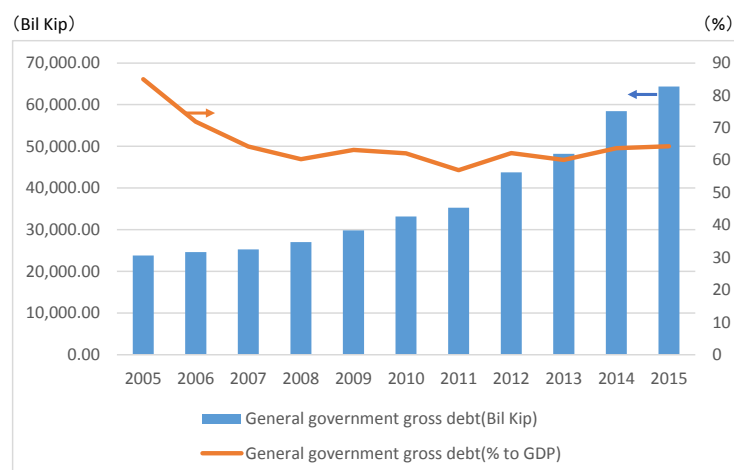
The trends of Public Debt are shown in Table 2-14 and Figure 2-8. The ratio of public debt to GDP has been stable at a level of 60~64% for nearly 10 years.

**Table 2-14 Trends of Public Debt**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
General government gross debt (Bil Kip)	23,790	24,602	25,272	27,021	29,848	33,182	35,294	43,747	48,222	58,434	64,339
General government gross debt (% to GDP)	85.0	71.9	64.2	60.3	63.2	62.1	56.9	62.2	60.1	63.7	64.3

Note: estimated data in 2014 and 2015

Source: World Bank Database (data in July 2016)



Source: World Bank Database (data in July 2016)

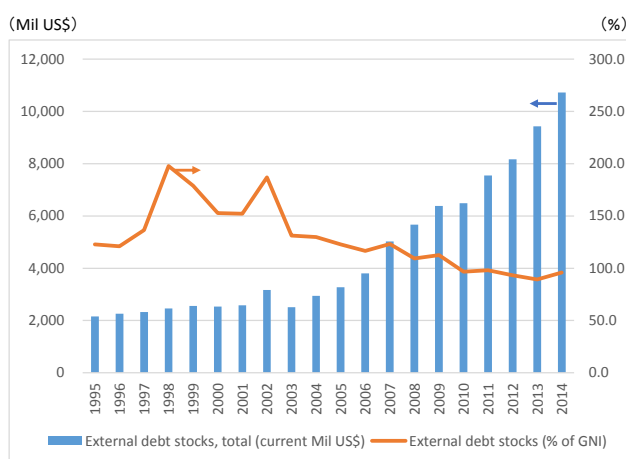
**Figure 2-8 Trends of Public Debt**

The trends of External Debt are shown in Table 2-15 and Figure 2-9. The ratio of external debt to GNI has been stable at a level below 100% for five years.

**Table 2-15 Trends of External Debt**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
External debt stocks, total (current Mil US\$)	3,277	3,807	5,023	5,670	6,383	6,487	7,547	8,169	9,426	10,724
External debt stocks (% of GNI)	122.7	116.7	123.2	109.3	112.6	96.6	98.1	93.3	89.3	95.9

Source: World Bank Database (data in July 2016)



Source: World Bank Database (data in July 2016)

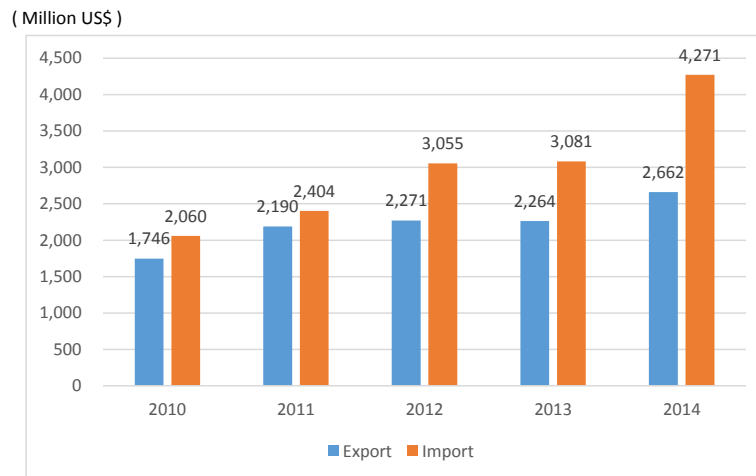
**Figure 2-9 Trends of External Debt**

#### 4) Exports, Imports

Trends in the values of exports and imports are shown in

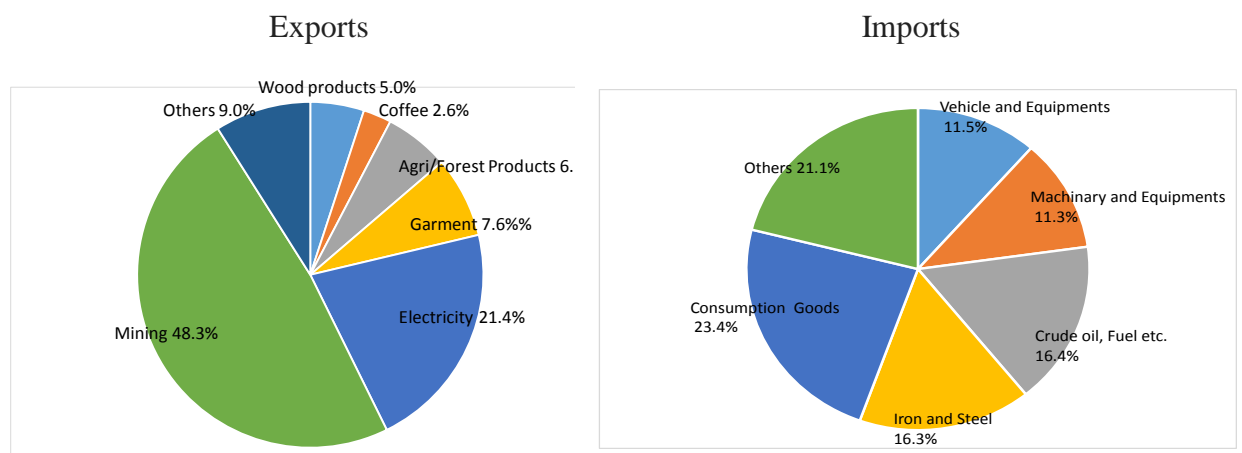
Figure 2-10. Recently, the value of imports has increased sharply and the trade deficit has been expanding.

The main export items are products derived from natural resources, which are mining products, electric power, and coffee, and light industry products, which are garments and wood products. Whereas the main import items are all kinds of industrial product, including vehicles and equipment, and machinery and equipment etc., and industrial materials including consumer products, crude oil, iron & steel etc. (Figure 2-11).



Source: Bank of the Lao PDR “Annual Economic Report 2014”)

**Figure 2-10 Trends of Total Exports and Imports**



Source: Bank of the Lao PDR “Annual Economic Report 2014”)

**Figure 2-11 Trends of Total Exports and Imports**

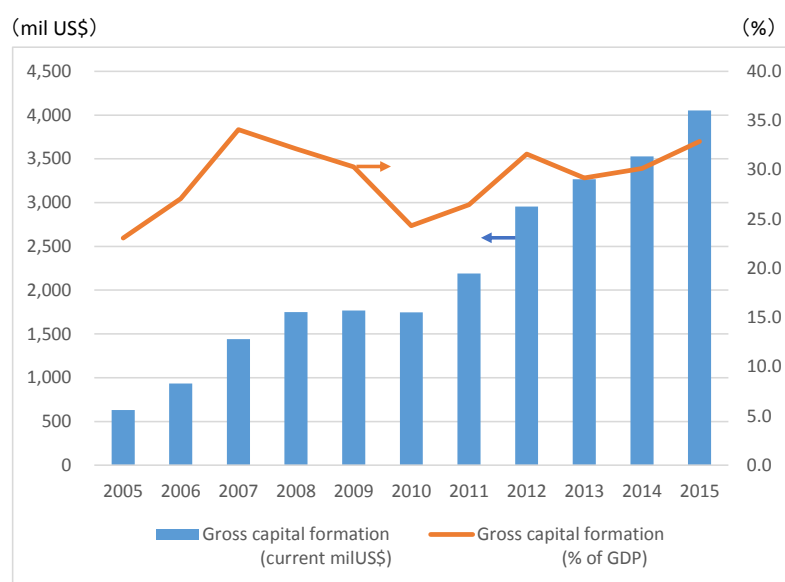
**5) Gross Capital Formation**

The Gross Capital Formation is increasing rapidly. In 2015 it was USD 4.05 bn and the ratio to GDP was 32.9%.

**Table 2-16 Trends of Gross Capital Formation**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Gross capital formation (current milUS\$)	631	934	1,440	1,749	1,767	1,747	2,191	2,956	3,266	3,529	4,052
Gross capital formation (% of GDP)	23.1	27.1	34.1	32.1	30.3	24.3	26.5	31.6	29.2	30.1	32.9

Source: World Bank Database (data in July 2016)



Source: World Bank Database (data in July 2016)

**Figure 2-12 Trends of Gross Capital Formation**

**6) FDI**

Foreign Direct Investment in Lao PDR was USD 9.13 bn over the five years from 2005 to 2010 and USD 6.48 bn over the five years from 2011 to 2015.

Regarding sectoral composition, investments in the area of electricity generation and mining have been rather large so far. It is noted that investments in mining declined and those in agriculture increased in 2015.

Regarding composition by country, investments from China, Thailand, and Vietnam have been large so far. In 2015, investment from Thailand declined and that from Malaysia increased.

**Table 2-17 Trends of FDI into Lao PDR (by Sector)**

(Mil USD)

	2005–2010	composition	2011–2015	composition	2015	composition
	Electricity Generation	2,048.4	22.4%	2,218.5	34.2%	430.3
Mining	2,109.4	23.1%	2,123.4	32.8%	85.3	8.4%
Agriculture	1,531.5	16.8%	935.0	14.4%	466.1	46.1%
Industry & Handicraft	815.5	8.9%	399.2	6.2%	21.6	2.1%
Service	1,598.6	17.5%	137.4	2.1%	6.0	0.6%
Others	1,028.9	11.3%	668.4	10.3%	1.7	0.2%
Total	9,132.3	100.0%	6,481.9	100.0%	1,011.0	100.0%

Note: data for 2015 are included in data for 2011–2015

Source from <http://www.investlaos.gov.la/index.php/resources/statistics>

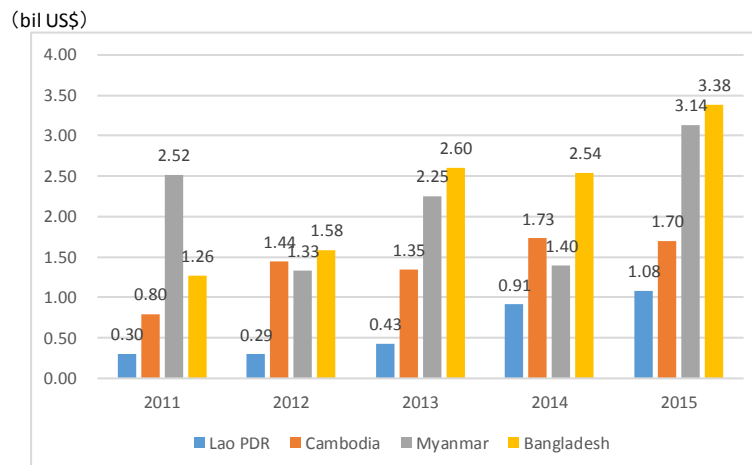
**Table 2-18 Trends of FDI into Lao PDR (by Country)**

(Mil USD)

	2005–2010	composition	2011–2015	composition	2015	composition
	China	2,802.6	30.7%	2,536.6	39.1%	88.9
Thailand	2,134.8	23.4%	1,038.9	16.0%	2.3	0.2%
Vietnam	2,289.3	25.1%	1,132.2	17.5%	466.1	46.1%
Malaysia	95.1	1.0%	569.6	8.8%	430.3	42.6%
Japan	323.0	3.5%	90.9	1.4%	0.3	0.0%
Others	1,487.5	16.3%	1,113.7	17.2%	23.1	2.3%
Total	9,132.3	100.0%	6,481.9	100.0%	1,011.0	100.0%

Note: data for 2015 are included in data for 2011–2015

Source: from <http://www.investlaos.gov.la/index.php/resources/statistics>



Note: Data indicate net inflow amount at current prices

Source: World Bank Database (data in July 2016)

**Figure 2-13 Comparison of Amount of FDI (net inflows) by Country**

## 7) Business Environment

The World Bank conducts a survey on the business environment from the viewpoint of business establishment and management across 189 economies and releases the results in a report titled “Doing Business” in the form of a ranking table.

In the latest ranking conducted in June 2015, Lao PDR ranked 134th among 189 countries in the world and 18th among 25 countries in the East Asia & Pacific region. The No. 1 country globally was Singapore.

Because Lao PDR ranked 139th in the previous year, Lao PDR achieved an increase of five positions.

**Table 2-19 Competitiveness Ranking According to “DOING BUSINESS”**

	Lao PDR	Thailand	Vietnam	Cambodia	Myanmar	Total Number of Countries
<b>Ease of Doing Business Rank in the World</b>	<b>134</b>	49	90	127	167	189
<b>Filtered Rank in East Asia &amp; Pacific</b>	<b>18</b>	5	11	17	24	25
<b>Starting a Business</b>	<b>19</b>	11	14	25	20	25
<b>Dealing with Construction Permits</b>	<b>10</b>	9	4	25	13	25
<b>Getting Electricity</b>	<b>24</b>	4	18	22	23	25
<b>Registering Property</b>	<b>12</b>	8	9	16	19	25
<b>Getting Credit</b>	<b>10</b>	19	4	1	25	25
<b>Protecting Minority Investors</b>	<b>21</b>	6	15	12	24	25
<b>Paying Taxes</b>	<b>21</b>	10	25	14	12	25
<b>Trading Across Borders</b>	<b>17</b>	5	15	14	21	25
<b>Enforcing Contracts</b>	<b>12</b>	6	8	22	24	25
<b>Resolving Insolvency</b>	<b>23</b>	5	15	9	20	25

Source: from <http://www.doingbusiness.org/rankings>

## 8) GDP Share by Sector

The trend of GDP share by industry is shown in Table 2-20. The share of agriculture decreased from 28.82% (2010) to 23.15% (2014), whereas the share of industry increased from 28.04% (2010) to 32.42% (2014). The GDP share of services has been almost constant for five years.

In terms of trends of sub-categories, the share of manufacturing among industries has been decreasing every year and was 7.87% in 2014. On the other hand, the share of construction among industries increased from 5.18% (2010) to 7.03% (2014), which approaches that of manufacturing.

The GDP share of “Hotels and Restaurants,” which is related to the tourism industry, was



0.67%, and that of “Transport, Post and Communication,” which is thought to include IT services and logistic services was 3.68%

**Table 2-20 Competitiveness Ranking According to “DOING BUSINESS”**

Sector	2010	2011	2012	2013	2014
Agriculture	28.82	27.24	24.30	23.47	23.15
Crops, animal raising, and hunting	22.80	22.04	19.80	19.45	19.56
Forestry	2.80	2.07	1.50	1.16	0.79
Fishing	3.29	3.13	2.90	2.87	2.80
Industry	28.04	30.56	35.00	33.20	32.42
Mining and quarrying	9.26	10.56	16.90	14.92	14.19
Manufacturing	9.77	9.65	8.10	7.89	7.87
Electricity and water	3.83	4.41	3.40	3.56	3.33
Construction	5.18	5.95	6.60	6.83	7.03
Services	37.25	36.42	34.90	37.45	37.87
Wholesale and retail trade, repairs	18.91	18.67	18.00	18.02	17.89
Hotels and restaurants	0.64	0.68	0.70	0.68	0.67
Transport, post and communication	4.63	4.52	3.70	3.58	3.68
Financial intermediation	3.33	3.46	3.50	3.70	3.88
Real estate and business services	2.92	2.91	2.80	2.87	2.97
Community, social and personal services	1.59	1.59	1.40	1.40	1.37
Private households with employed persons	0.68	0.63	0.50	0.51	0.50
Producers of government services	7.40	6.93	7.10	9.86	10.18
Financial intermediation services indirectly measured	-2.86	-2.98	-3.00	-3.17	-3.27
All industries at basic prices	94.11	94.21	94.10	94.12	93.43
Taxes on products and Import duties, net	5.89	5.79	5.90	5.88	6.57
GDP at market prices	100.00	100.00	100.00	100.00	100.00

Source: Lao Statistic Bureau, Ministry of Planning and Investment “Statistical 40 Years”

### **3. Industrial Development**

#### **3.1 Manufacturing**

##### **(1) Industrial Policies and Systems**

###### **1) Position of Manufacturing Industry in the National Plan**

The 8th NSDPE shows three Outcomes and 17 Outputs in total (corresponding to each outcome) as targets (Table 3-1). Among these, Output 1 in Outcome 1 titled “Sustained and Inclusive Economic Growth” have following goals:

- Increase the industrial sector’s processing and handicrafts, as well as trade and services growth rates to approximately 15 percent per annum on average.
- Increase export value to 15 percent on average and maintain the foreign trade deficit at a level at which settlement is possible.
- Increase ratio of the industrial sector to GDP to more than 70 percent.

It describes the following activities to achieve the goals for the Industrial manufacturing sector:

- Diversify commercial goods produced in the industrial processing sector and quantitatively and qualitatively make it a high growth sector for domestic consumption and exports, using agricultural and forestry raw materials and products as production inputs and modernizing the industrial processing sector so that it is capable of competing internationally. Have it become a basic sector of the economy to create employment. Support investment in factories that assemble spare parts such as: factories for assembling vehicles and other machinery spare parts. In addition, it is important to differentiate prioritized industries that justify incentives from those that do not.
- Develop industrial parks to attract foreign investment in processing industries, such as Savanah-Seno Special Economic Zone and Vientiane-Phonthong Industrial and Commerce Park by targeting medium-sized investments in clothing and electronic supplies.

**Table 3-1 Outcomes and Outputs in 8th NSEDP (same as Table 3-6)**

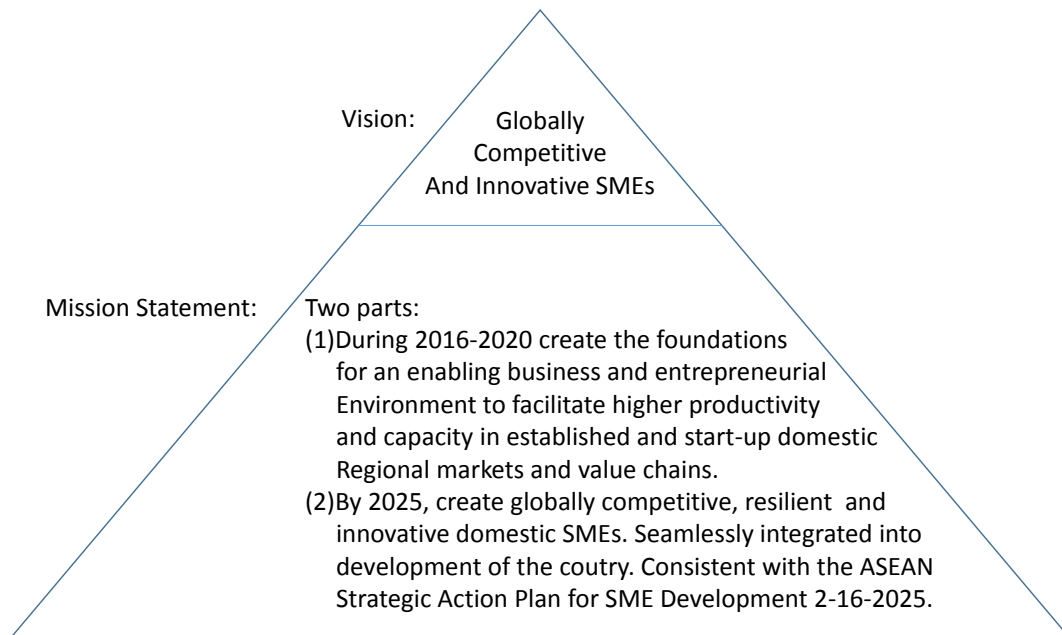
Outcome	Output
Outcome1: Sustained inclusive economic growth	Output 1– Sustained and Inclusive Economic Growth Output 2– Macro-economic Stability Output 3– Integrated Development Planning and Budgeting Output 4– Balanced Regional and Local Development Output 5– Improved Public /Private Labor Force Capacity Output 6– Local Entrepreneurs are Competitive in Domestic and Global Markets Output 7– Regional and International Cooperation and Integration
Outcome2: Human resources are developed and the capacities of the public and private sectors is upgraded	Output 1– Improved Living Standards through Poverty Reduction and 3 builds implementation Output 2– Food Security Ensured and Incidence of Malnutrition Reduced Output 3– Access to High Quality Education Output 4– Access to High Quality Health Care and Preventative Medicine Output 5– Enhanced Social Welfare Output 6– Protection of Traditions and Culture Output 7– Political Stability, Order, Justice, and transparency
Outcome3: Natural resources and the environment are effectively protected and utilized according to green growth and sustainable principles	Output 1– Environmental Protection and Sustainable Natural Resources Management Output 2– Preparedness for Natural Disasters and Risk Mitigation Output 3– Reduced Instability of Agricultural Production

Source: 8th NSEDP (Unofficial Translation)

## 2) Development Strategy of Manufacturing Industries

Department of SME Promotion, Ministry of Industry and Commerce prepared the “Small and Medium-sized Enterprises Development Plan 2016-2020 (First Draft).” The Vision and Mission Statement for SME development of the plan is shown in Figure 3-1. Six strategic targets are indicated for achieving the Plan as listed below.

- Promote productivity, technology, and innovation
- Enhance access to finance
- Enhance access to business development services (BDS)
- Enhance SME accession to expanding domestic and international markets
- Create and develop entrepreneurs
- Create an enabling environment for the establishment and operation of SME businesses



Source: Small and Medium-sized Enterprises Development Plan 2016-2020 (First Draft)

**Figure 3-1 SME Development Plan—Vision and Mission Statement**

### 3) Current Situation of Related Legal System

In Lao PDR, the Prime Minister’s Decree on SEZs was issued in 2010. Subsequently, the National Committee for Special Economic Zone was established under the Prime Minister’s Office and has been developing SEZs. Now, the National Committee for SEZs is under the Ministry of Planning and Investment, which was transferred from the Prime Minister’s Office.

SEZ-related Laws and regulations are listed below. The Law on Investment Promotion will be submitted for approval to Parliament this December.

- The Law on Investment Promotion No. 02/Na, Dated 08 July 2009.
- Resolution of the National Assembly’s Standing Committee on the Adoption of Decree on Special Economic Zone and Specific Economic Zone in the Lao PDR No. 443/PM No.47/NASC, Date 26/10/2010.
- Decree on Special Economic Zone and Specific Economic Zone in the Lao PDR No. 443/PM, Date 26/10/2010.
- Decree on the Organization and Activities of Lao National Committee for Special Economic Zone No. 517/PM, Dated 09/12/2010.
- Decision on the Organization and Activities of the Secretariat to Lao National Committee for Special Economic Zone No.01/NCSEZ, Dated 13/12/2010.

#### 4) Related Ministries

The governmental agency overseeing manufacturing industries is the Ministry of Industry and Commerce. Under the ministry, there are 12 departments including the Department of Industry and Handicraft, which oversees industrial policy in manufacturing industries, and Department of SME Promotion, which oversees SME policy.

The ministry overseeing foreign investment into Lao PDR is the Investment Promotion Department of the Ministry of Planning and Investment. The department is the first stop for providing information on the investment process in Lao PDR. The primary functions of the department include: promoting Lao PDR as an investment destination; offering investment incentives; screening investment proposals; correcting investment data; and, monitoring investment practices.



Source: <http://www.investlaos.gov.la/index.php/about-us/ministry-of-planning-and-investment-ipd>

**Figure 3-2 Organization of Investment Promotion Department, MPI**

According to interviews with governmental agencies and private enterprises, it seems that there are no national licenses for skills and techniques related to manufacturing industries.

#### (2) Industrial Structure

The GDP ratio of manufacturing among all industries in Lao PDR is shown in Table 3-2. The GDP ratio of secondary industries, that is, "Industry," is 28.8%. Within that 28.8%, the ratio of

manufacturing is limited to 10.0%, because each of Mining and quarrying, Electricity and water, and Construction has a certain ratio.

**Table 3-2 GDP ratio of Manufacturing (2014)**

	GDP (Mil Kip)	composition ratio(%)
Agriculture	10,591,865	24.8%
Industry	12,262,178	28.8%
Mining and quarrying	2,956,414	6.9%
<b>Manufacturing</b>	<b>4,275,033</b>	<b>10.0%</b>
Electricity and water	1,950,801	4.6%
Construction	3,079,929	7.2%
Service	16,991,095	39.8%
All industries at basic price	39,845,138	93.4%
Taxes on products and Import duties,	2,801,309	6.6%
GDP at market price	42,646,447	100.0%

Note: The figures of GDP in the table are at constants price in 2002 LAK

Source: Lao Statistics Bureau

A breakdown of data of value added for manufacturing industries in Lao PDR is shown in Table 3-3.

According to data for 2015-2016, the food industry including food and beverages etc. is the biggest industry at around 68% in data for manufacturing as a whole. The second largest industry is the wood-related industry, including wood, wood products, and furniture, at 7.0%. The shares of these industries account for 75% of manufacturing industries, which means that 3/4 of manufacturing is accounted for by industries that use agricultural and forestry products or natural resources as raw materials.

On the other hand, the share of the non-metal materials industry including cement is 4.5% and Iron and Steel is 5.1%, which form basic industrial materials. Among machinery, the share of Electric and Electronic Machinery is 3.0% and the share of General and Transport Machinery is 6.0%. These shares can be said to be very small.

**Table 3-3 Industrial Structure of Manufacturing Industry in Lao PDR**

(unit: LAK bn)

	2013-2014	(ratio)	2014-2015	(ratio)	2015-2016*	(ratio)
Food	1, 144. 5	21. 2%	1, 162. 3	21. 3%	1, 201. 6	21. 3%
Beverage, Tobacco	2, 549. 8	47. 3%	2, 569. 2	47. 0%	2, 659. 1	47. 0%
Textile, Leather Products	19. 0	0. 4%	19. 1	0. 3%	19. 8	0. 3%
Wood, Wood Products	212. 2	3. 9%	219. 8	4. 0%	227. 5	4. 0%
Paper, Paper Products, Printing	32. 8	0. 6%	33. 2	0. 6%	34. 3	0. 6%
Petroleum Products, Chemicals	111. 4	2. 1%	113. 2	2. 1%	117. 2	2. 1%
Pharmaceuticals	83. 8	1. 6%	85. 6	1. 6%	88. 6	1. 6%
Non-Metal Mterials	239. 9	4. 4%	243. 1	4. 5%	251. 6	4. 5%
Iron and Steel	272. 2	5. 0%	277. 0	5. 1%	286. 7	5. 1%
Metal Materials	79. 9	1. 5%	80. 7	1. 5%	83. 5	1. 5%
Electric and Electronic Machine	161. 7	3. 0%	162. 9	3. 0%	168. 6	3. 0%
General and Transport. Machine	324. 4	6. 0%	330. 0	6. 0%	341. 5	6. 0%
Furniture	163. 9	3. 0%	165. 7	3. 0%	171. 5	3. 0%
Others	0. 6	0. 0%	0. 6	0. 0%	0. 6	0. 0%
<b>Total</b>	<b>5, 396. 1</b>	<b>100. 0%</b>	<b>5, 462. 3</b>	<b>100. 0%</b>	<b>5, 652. 1</b>	<b>100. 0%</b>

Note: \* : planned

Source: from materials provided by the Ministry of Commerce and Industry

Manufacturing is composed of various industries. Among these, the steel industry and the cement industry are supposed to be the base for future industrial development in Lao PDR. An interview survey was conducted with the Lao Steel Group and the Cement Producer's Group within the Lao National Chamber of Commerce and Industry. Based on the interview survey, the outlines of the steel industry and the cement industry in Lao PDR are described in the following section.

### 1) Production Output

#### A) Steel Industry

In 1994, the first factory for steel rods was established in Lao PDR with a production capacity was 30 thousand tons a year. The present production capacity is 800 thousand tons a year.

The market for steel rods in Lao PDR is now estimated at one to two million tons, of which 30 to 40% are provided from factories in Lao PDR. This means 60 to 70% of steel rods are

imported. The reason is the low cost competitiveness of the Lao steel industry, because the size of a factory is relatively small due to limited financing.

#### B) Cement Industry

The first cement factory was a small one China built in 1995. At present, the production capacity is 5,200 thousand tons, and construction of a new factory is under planning with a production capacity of two million tons. On the other hand, the market in Lao PDR is estimated at three to four million tons, which means the business environment will become tougher for small-scale factories.

### **2) Number of Companies**

#### A) Steel Industry

The number of member companies was 17 when Lao Steel Group was established at 2007. At present, it is eight because small companies exited the business due to low cost competitiveness.

#### B) Cement Industry

The Cement Producer's Group started with six companies when it was established in 2010. At present, the number of members is nine. Besides these, there are three companies that do not belong to the group. The number of cement companies in Lao PDR is 12 in total.

Among these, three companies have large-scale plants with a production capacity of around 900 thousand tons. Other factories are small. In Lao PDR, limestone, the raw material of cement, is produced at various sites. Because it is better to locate a cement factory near a mining site, the number of factories tends to increase.

Many companies are JVs of Chinese and Lao companies. The share of Chinese companies is around 80%.

Now, there are six ongoing projects for constructing new cement factories; among these, one has a 100% investment from Siam Cement in Thailand.

### **3) Number of Employees**

#### A) Steel Industry

The number of employees in the steel industry is around 1,500 at a total of eight companies.

Among 1,500 personnel, 10% are engineers, 10-15% are technicians, and the others are workers.

Half of the engineers are Lao and the others are foreign. On the other hand, technicians and workers are almost all Lao.



## B) Cement Industry

The number of employees in the cement industry is around 2,500 at a total of 12 companies.

Among these, engineers and technicians account for around 10% of the total.

Some companies depend heavily on Chinese engineers for operations and some operate factories with only Lao employees and technology transferred from China. In total, among all engineers and technicians in Lao PDR, 70% are Lao and 30% are Chinese, respectively.

## 4) Average Salaries

Information on wages in the industry in Lao PDR was not taken from the interview survey.

According to research conducted by JETRO, the wages of workers and engineers in Vientiane are as follows:

- Workers: 179 USD/month, 1,456,922 LAK /month (from research in Oct-Nov 2015)
- Engineers: 424 USD/month, 3,449,010 LAK /month (from research in Oct-Nov 2015)

## 5) Exports and Imports

### A) Steel Industry

60-70% of demand for steel rods is met by imports. Steel rods produced in Lao PDR are not exported, and are only sold within the country. Similarly, regarding billets, which are raw materials of steel rods, 70% of demand are met by imports from Thailand and 30% are produced using electric furnaces within the country.

### B) Cement Industry

Cement is not exported. It is imported from Thailand and Vietnam. But, the actual status of imports is not revealed, so the Cement Producer's Group requested the Ministry of Commerce and Industry to conduct research on the actual status of imports and to restrict them.

## 6) Investment

Information on investment was not taken from the interview survey.

Regarding traditional industries—the garment industry and the furniture industry—an interview survey was not conducted and precise information on those industries was not obtained. However, information was obtained from Web sites and other sources, although it is not sufficient. Information summarizing these two industries is provided below.

### (Garment Industry)

The garment industry expanded from 2003 to 2011, but a downward trend has prevailed since 2012. At present, 92 garment factories are operating in Lao PDR, six fewer than in 2014, of which

60 produce clothing for export. Of exporters, 12 are solely owned by Lao nationals, 10 are joint ventures, and 38 are foreign owned.

It is said that the reason for the downward trend is a labor shortage, because workers now have other job choices, such as in services. Another reason is that a large number of workers still do not have a professional working mindset and do not have enough experience, skills, and initiative to take on responsibilities. For these reasons, investors tend to transfer investment from Lao PDR to neighboring countries of Cambodia, Vietnam, and Myanmar, etc.

Note: The description above references the Web site of the Association of the Lao Garment Industry and the article on the Website below. <http://www.nationmultimedia.com/business/Lao-garment-industry-shrinks-amid-labour-shortage-30282684.html>

#### (Furniture Industry)

The Lao Furniture Association (LFA) was established as a member of the Lao National Chamber of Commerce and Industry (LNCCI) in 2003. The number of member companies is around 100. According to the Web site, LFA provides the services listed below.

##### Training Programs

- Training for upgrading skills and knowledge
- Training on technical novelties/innovations

##### Technical and Business Services

- Woodworking machinery
- Production Planning
- Layout Planning

##### Industry specific information and news

- Demonstrating new products and technologies
- Technical product information
- Trends of product design
- Important events—domestic, regional, and international

Source: <https://sites.google.com/site/competencecenterlfa/home>

According to one of the three major furniture companies in Lao PDR, which can buy logs from the Lao Government, it had been expanding its business rapidly due to exports to China in the past. But, since 2012, exports to China have been slowing and prices have been tending to fall. As a result, the number of employees has decreased from 100 to 10 currently.

The interviewee said that the Furniture industry in Lao PDR has the possibility of expanding in the medium to long term due to abundant wood resources; however, to expand business, improvements in technology and marketing information on foreign markets, including Japan,

are needed.

Note: the description above references the Web site of Lao Furniture Association and interview survey conducted with a furniture manufacturer in Lao PDR.

### (3) Institutions Supporting Industrial Development

Among supporting institutions related to manufacturing, the organizations listed in Table 3-4 were visited when conducting an interview survey. Among these, the results of interviews with the Department of SME Promotion, Lao National Committee for Special Economic Zone, and Lao National Chamber of Commerce and Industry are summarized below.

**Table 3-4 Organizations Covered by Interview Survey (Manufacturing)**

organization	location
MOIC, Department of SME Promotion	Vientiane
Industry and Commerce Department, Savannakhet Province	Savannakhet
Lao National Committee of Special Economic Zone, Champasak province Special Economic Zone(CSEZ)	Champasak
Lao National Chamber of Commerce and Industry	Vientiane
Chamber of Commerce and Industry, Savannakhet Province	Savannakhet
Chamber of Commerce and Industry, Champasak Province	Champasak
Chamber of Commerce and Industry, Luang Prabang Province	Luangprabang
Lao Steel Group	Vientiane
Cement Producer's group	Vientiane

#### 1) Department of SME Promotion

##### A) Outline of Organization

The Department of SME Promotion is a department of the Ministry of Commerce and Industry. It has 35 staff. It formulates SME Promotion policy, collaborates with related departments and foreign assistant agencies on implementing policy, and monitors and evaluates implementation.

##### B) Outline of Services

The main activities of the Department of SME Promotion are as follows.

- Establishing SME Development Fund and financing SMEs
- Providing subsidies to the SME Promotion Program, such as capacity development of SMEs and collaborating on trade fairs with the Lao National Chamber of Commerce and Industry
- Promoting matching programs to entrepreneurs through training courses

##### C) Outreach

As a part of policies for providing subsidies, the Business Assistance Facility (BAF) was founded and subsidies for training-related expenses are provided. Until now, 245 companies

have applied.

#### D) Challenges

According to the Department of SME Promotion, some challenges for SMEs in Lao PDR have been pointed out.

- Lack of skills for starting a business
- Lack of investment on capacity development for employees by managers of SMEs
- Lack of access to finance
- Lack of expertise to access markets

### **2) National Committee for Special and Specific Economic Zone**

#### A) Outline of Organization

Lao National Committee for Special Economic Zone (NCSEZ) is a special governmental agency, which manages SEZs in Lao PDR and implements National Policies on SEZs in collaboration with individual districts and foreign organizations.

In this study, Champasak province Special Economic Zone (CSEZ), which oversees SEZs in Champasak district, was visited. CSEZ has 12 staff, of which one can speak Chinese and two can speak English.

#### B) Outline of Services

CSEZ manages SEZs and provides one-stop-services to companies coming to SEZs in Champasak district. More precisely, CSEZ manages Pakse-Japan SME SEZ and provides one-stop-services approved in 2015, and also manages Mahanathi Siphandone Zone, Bolaven Plateau Zone, and Vangtao Zone, which has already started a feasibility study.

In 2015, Pakse-Japan SME SEZ was approved and now is starting to reclaim part of a 195 ha area and carry out promotional activities. Another SEZ is at the conceptual design and planning stage.

#### C) Outreach

There are six Japanese SMEs in Pakse-Japan SME SEZ now. Furthermore, some Japanese SMEs are interested in SEZ and are in discussions with CSEZ.

#### D) Challenges

CSEZ is thinking of acquiring staff who can speak Japanese.

### **3) Lao National Chamber of Commerce and Industry**

#### **A) Outline of Organization**

The Lao National Chamber of Commerce and Industry is the biggest community for enterprises in Lao PDR. It makes proposals on policy for improving the business environment as an organization bridging government and private sectors. It has 36 staff, subsidiary Chambers of Commerce and Industry in each of 17 districts, and represents 29 industry groups.

#### **B) Outline of Services**

Committees in the Chamber of Commerce and Industry include: management, finance and economics, employees, trade and exhibitions, and training. It conducts activities such as holding exhibitions under these committees.

The Lao National Chamber of Commerce and Industry conducted an interview survey of over 400 companies and submitted a report (draft) titled “Employer Skills Needs Survey” in April 2016 making policy recommendations. In this study, some statistics such as number of employees, recruitment situation, and turnover, are shown by company size and industry sector, and the competitiveness of human resources in Lao PDR is evaluated, along with needs and challenges for HRD.

#### **C) Outreach**

There are 5,000 member companies, among which the number of direct members paying a membership fee is 500.

#### **D) Challenges**

According to a person at the organization, the ability to make policy recommendations and carry out research is a challenge.

### **4) Current Situation and Challenges of Private Companies**

#### **A) Current Situation of Private Companies**

The companies shown in Table 3-5 were visited during an interview survey as manufacturing companies. Twelve Japanese companies and five Lao companies were visited.

Among the 12 Japanese companies, five are located in Vientiane, four in Savannakhet, two in Champasak, and one in Thakhek. There are two Garment/Shoe-making companies, one wig manufacturer, one charcoal manufacturer, one daily goods manufacturer, four electric /electronic/precision parts manufacturers, and one car sheet-metal manufacturer.

Among the five Lao companies, there are one furniture manufacturer, two handicraft manufacturers, one cement manufacturer, and one steel manufacturer, and all are located in

Vientiane. The cement and steel companies are leading companies in each industrial association so the current situation of each company, as well as each industry, could be learned from them.

**Table 3-5 Organizations Covered by Interview Survey (Manufacturing)**

categories	name of organization	location
Lao Company	Sithon Wood Processing Import-Export Co., Ltd.	Vientiane
	Magic Lao Carpets Handicraft	Vientiane
	Kheuamai Handicraft	Vientiane
	Vientiane Capital Steel Industry Co., Ltd.	Vientiane
	State Enterprise for Agriculture-Industry Development IMP-EXP & General Services	Vientiane
Japanese Company	Hatchilao Sole Co., Ltd	Vientiane
	Sakura Garment Lao Sole., Ltd.	Vientiane
	KB Yagi Lao Co., Ltd.	Vientiane
	Lao Midori Safety Shoes Co., Ltd.	Vientiane
	MMC Electronics Lao Co., Ltd.	Vientiane
	Laos Maehata Co., Ltd.	Vientiane
	Toyota Boshoku Lao Co., Ltd.	Vientiane
	KP-Nissei Mizuki (Lao) Co., Ltd.	Vientiane
	KOYO (LAO) Co., Ltd.	Thakhek
	KP Beau Lao Co., Ltd.	Savannakhet
	Shindengen Lao Co., Ltd	Savannakhet
Leonka World Lao Co., Ltd	Savannakhet	

- Outlines of Companies

The Japanese companies in Lao PDR are divided into two groups: one comprises companies that moved to Lao PDR from 2005 to 2010 and the other comprises companies that moved to SEZs in Lao PDR after 2013. The local cement, steel, and furniture companies we visited were all established in 1995.

The reasons for coming to Lao PDR are to collaborate with businesses in Thailand (six companies), collaborate with businesses in China (three companies), and low labor and power costs (three companies).

- Outlines of Businesses

Most Japanese companies in Lao PDR import almost all raw materials from Thailand and Japan, and almost all products are exported to Japan or Thailand. Only one company, which uses wood as a raw material, procures local raw materials. Production machines are introduced from Japan, China, or Thailand, depending on the business. One Japanese company outsources a part of its process to a local Japanese company.

All perform production activities based on production plans and product specifications from headquarters in Japan or from a branch of Thailand. Among the 12 companies interviewed, the general managers of two companies spoke from their hearts that they would like to develop

businesses in Lao PDR and neighboring countries, and that they would like to establish new kinds of business.

- Funding

Operating capital is financed by Japanese entities. Almost no Japanese companies use local finance because of high interest rates and short payback periods (around one year).

- Business Environment

According to companies coming to Lao PDR, there are generous incentives for FDI, including corporate tax and custom duty. The business environment in Lao PDR is highly rated by many Japanese companies because of political stability and good public order.

On the other hand, because Lao PDR does not have a port, some challenges are pointed out, such as rather expensive freight costs and that most raw materials have to be imported.

Regarding business trends among Japanese companies, in the areas of motor vehicles and machinery some companies may be influenced by the economic slowdown. However, in the area of garments, shoe-making, daily necessities etc., companies are not influenced by the global economic slowdown directly because they are subsidiaries of Japanese companies and are operated just to respond to orders from headquarters.

On the other hand, local companies in the areas of cement and steel feel threatened by imports from China and Thailand, and by FDI from those countries because Lao companies are not competitive in terms of capital strength and production costs.

- Human Resources

The numbers of employees of Japanese companies we visited were between around 100 and 300 in many cases. Only two companies in Savannakhet have around 400 employees. CSEZ in Champasak assumes the number of employees in one company is a maximum of 300 among companies coming to Pakse-Japan SME SEZ.

In the case of local companies, the biggest steel company has 300 employees and one of the biggest cement companies has 700 employees, including those at four factories.

Regarding the level of wages, because the minimum wage is fixed at LAK 900 thousand (USD 114) in Lao PDR, wages of newly hired employees start at LAK 900 thousand or LAK one million (USD 127) and gradually increase depending on period worked. After adding meal and commuting allowances etc. payments are between one million and LAK 100 thousand (USD 139) and one million and 300 thousand LAK (USD 164) on average. In some cases, much more is paid by introducing a pay per action system. Apart from these, wages for managers who graduate from university or have experience studying in Japan differ from workers by more than

USD 1,000.

Companies prepare dormitories for workers living far from a factory and provide meals at low prices. Some companies provide bus services for commuting between factories and neighboring villages.

Regarding Human Resource Development, all companies provide introductory education directly after entry and then OJT on production lines. No further education or training is provided to workers.

Many companies provide senior staff or leaders with training at group companies in Thailand or at headquarters in Japan. It seems effective for them to understand the activities of the company and attitudes abroad through training abroad. On the other hand, training provided by external institutions such as LJI and private organizations is not used because of training costs and job change risk.

#### B) Current Situation of SEZ Development

Japanese companies have been established and are operating at three SEZs in Lao PDR.

The Savan-Seno Special Economic Zone was the first to be developed in Lao PDR. It is located along the East-West Corridor. It has been promoted as an appropriate site for manufacturing industries, and is drawing attention. There are three Japanese companies in zone B, including Nikon, and there are six Japanese companies, including Toyota Boshoku, in zone C.

VITA PARK is a SEZ located near Vientiane city. Some Japanese companies are located there, including Mitsubishi Material. The number of factories is now increasing.

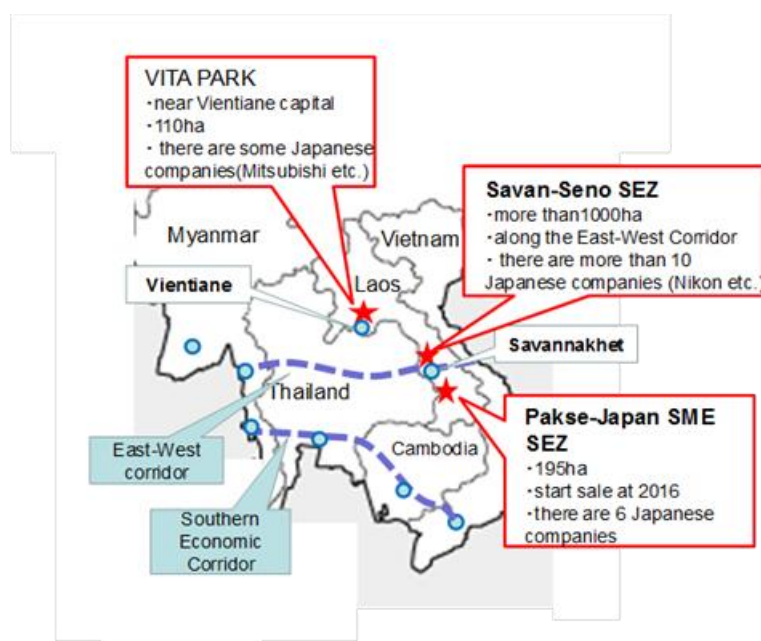
Pakse-Japan SME SEZ occupies 195 ha and was set up in May 2016. It has two other small sites in neighboring areas and six Japanese companies have already started operating there. The Champasak province Special Economic Zone (CSEZ) hopes to invite more than 10 Japanese SMEs annually.



**Table 3-6 SEZs for Manufacturing Industries in Lao PDR**

name	Savan-Seno Special Economic Zone	Vientiane-Nonthong Industrial and Trade Area (VITA PARK)	Pakse-Japan SME SEZ (PJSEZ)
history	approved at Sep. 2003 by the decree(PM) as a first SEZ in Lao PDR	established at Oct. 2009 founded by the Ministry of Commerce and Industry(30%) and Nam Wei Development(Taiwan, 70%)	approved at Aug. 2015, developing company has been established at Dec. 2015, groundbreaking at May 2016.
position	near the second friendship bridge at Savannakhet, along the National Road 9	21km form the center of Vientiane city	15min by car from the Pakse city
area	SiteA:305ha SiteB:20ha, SiteB1:353ha SiteC:234ha SiteD:108ha	110ha	195ha, there are another 2 small sites in the neighboring area.
developer	SiteB:Savan Japan Joint Development Co., Ltd. SiteC:Savan Pacifica Co., Ltd.	Nam Wei Development Co.,Ltd.	Pakse-Japan SME SEZ Development
Jalpanese companies promoting into the SEZ	SiteB: 3 Japanese companies SiteC: 6 Japanese companies there seems to be more than 10 Japanese companies in Savannakhet.	there are some Japanese companies; electronic parts, wire harness, tools etc.	there are 6 Japanese companies in the neighboring sites; magnegtic parts, wire harness, small coil, wig, Japanese dress materials, leather wallet 2 Japanese companies have an interest to enter.

Source: Compiled by the Mitsubishi Research Institute, Inc. from various sources



Source: Compiled by the Mitsubishi Research Institute, Inc. from various sources

**Figure 3-3 Locations of SEZs for Manufacturing Industries in Lao PDR**

C) Challenges for Japanese Companies in Lao PDR

According to an interview survey covering 12 Japanese companies in Lao PDR, their

challenges are summarized under two headings: infrastructure and human resources.

The infrastructure challenges indicated by the companies are described below. Among these, power and water supplies are challenges for companies located in local areas far from the capital Vientiane, and not located in a large industrial park. On the other hand, reducing logistic costs is a big challenge for almost all of the companies.

- Power shortages occur, although they are short and intermittent.
- There is no running water and they have to supply their own water.
- Logistic costs are very high.

The human resources challenges heard from the companies are described below. According to interviews with the companies, the reason for these challenges is a lack of perception of working for an enterprise because workers' parents did not work for enterprises.

(worker level)

- Lao people do not have enough consciousness of having an occupation and are not sufficiently educated, are likely not to keep time, quit jobs readily, and do not follow set procedures.
- Quite a few do not graduate from an elementary school and cannot write characters.

(manager level)

- Graduates from colleges and universities have insufficient knowledge and practical business ability.
- There are not enough of them who can perform accounting work.
- There are not enough of them who can communicate in Japanese or English.

(general)

- Lao people do not have enough motivation to try aggressively and get something done.
- There are not enough who can take leadership roles.

Needs for human resource development (HRD) have been heard from 12 Japanese companies in response to these challenges.

Regarding workers, the three requests below on HRD were indicated by Japanese companies. The number of the companies that made each request is shown in brackets below. Among 12 companies, four are in the garment industry, but the other companies are in various industries. No special requests from a particular industry were found.

- Education on basic knowledge and mental attitude to working in an organization (five

companies)

- Education on basic knowledge and electrical and machinery etc. skills (for maintaining plant and equipment) (five companies)
- Education on basic skills needed for production lines of a factory (sewing, molding etc.) (four companies)

Monthly turnover is around 5-7% near Vientiane and less than 2-3% in Savannakhet and Pakse. At this time, the companies have no trouble getting a labor force. But, in the future, some companies plan to increase their workforces and some more companies will probably enter Lao PDR.

Developing various infrastructure, improving quality, and securing the quantity of human resources required in all hierarchies from worker to manager levels will become big challenges as Japanese companies entering Lao PDR increase.

#### **5) Assistance from other International Cooperation Agencies**

An interview survey was conducted on current activities with international cooperation agencies actively working in ADB and DIZ. According to the results of the interviews, they are working actively in the area of industrial HRD, as described below, although they are not acting directly in the manufacturing sector.

(ADB)

- Provides technical cooperation on making HRD plan for the period 2016-2025
- Establishes Competitive Research Fund (CRF) and provides support to a maximum of USD 3,000 for academic research at the National university.
- Plans to support research activities through the establishment of Center of Excellence (COE) and plans to promote industry-academia cooperation through the establishment of an Incubation center at Savannakhet University
- Plans to activate SMEs by establishing an Incubation center at Champasak University

(GIZ)

- Provides support widely through vocational training mainly to TVET from 2013
- Regarding support activities on connecting private entities to TVET, establishes skill standards and develops curricula in the automobile, electronics, and garment sectors in cooperation with TVETs and private companies

### 3.2 Service Industries (Tourism)

#### (1) Industrial Policies and Systems

##### 1) Position of Tourism Industry in the National Plan

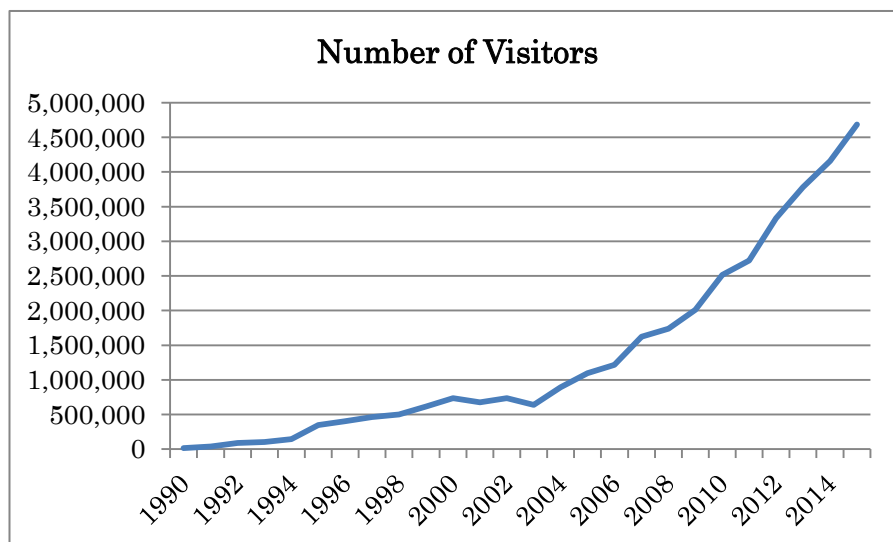
The tourism industry in Lao PDR is the third largest industry generating foreign currency after the mineral industry and the power industry. The Lao PDR government is encouraging tourism. It started tourism development in 1990, and a visa waiver arrangement for a stay of less than 15 days was introduced from January 1<sup>st</sup>, 2007. However, it is pointed out that integration of the Ministry of Tourism with the Ministry of Information and Culture in 2011 made it difficult to implement a distinctive tourism policy.

In 2014, there were 1,916 tourist attractions in Lao PDR.

- Natural attraction sites: 1,093
- Cultural attraction sites: 541
- Historical based attractions sites: 282

Two are already UNESCO world heritage sites and 20 are listed as national heritage sites by the government.<sup>1</sup>

The number of visitors to Lao PDR is increasing. Almost 4.7 million people visited Lao PDR in 2015. First-time visitors to Lao PDR account for 79.9%, second-time visitors account for 8.2%, and third-time visitors account for 7.9%.



Note: “Visitors” include people visiting Lao PDR for business. The percentage visiting Lao PDR for a vacation was about 70 to 90% from 2010 to 2015.

Source: 2015 Statistical Report on Tourism in Lao PDR

**Figure 3-4 Number of Visitors**

<sup>1</sup> 8<sup>th</sup> NSEDP

93% of the visitors are from the Asia-Pacific region. About 57% are from Thailand, 31% from Vietnam, and 12% from China; the top three countries are neighbors of Lao PDR. However, these visitors tend to stay at tourist sites near the borders, and they do not spend so much foreign currency. Visitors from Europe (Germany, UK, Netherlands, and France), United States, Canada, Australia, and Japan tend to visit major tourist sites such as Luang-Prabang, which is a World Cultural Heritage site, and spend much more foreign currency.

Currently, visitors from Thailand are increasing following construction of a bridge over the Mekong River, and visitors from Korea have been increasing since routes of Jin Air went into service. The numbers of hotels and tour companies are increasing as well.

90% of visitors to Lao PDR visit Luang-Prabang, and there is a lot of potential at other areas for developing the tourism industry. For example, there are the Vat Phou and Associated Ancient Settlements within the Champasak Cultural Landscape at Champasak, which is another World Cultural Heritage site in Lao PDR. There are the Khmer-ruins tours visited along with Angkor Wat and the Temple of Preah Vihear in Cambodia. Besides, although not so many foreigners visit Vientiane for sightseeing, according to local travel agencies there is great demand for sightseeing after visitors complete their business or volunteer activities.

## **2) Development Strategy of the Tourism Industry**

In the 8th NSEDP, the goal is to increase the number of visitors to Lao PDR to six million by 2020, the average stay to 10 days, and acquisition for foreign currency by the tourism industry to USD 950 million. The goal is also to develop one product in one village, develop 25 tourist sites, conduct surveys of 40 tourist sites, and develop 10 quality tourist cycle sites, which means encouraging connectivity among attraction sites and letting visitors stay longer, have more fun, and spend more.

Besides, Internet publications and visitors will be linked with websites of ASEAN, GMS<sup>2</sup>, and PATA<sup>3</sup>, and tourism offices will be established in five major tourism market countries (Cambodia, China, Myanmar, Thailand, and Vietnam).

ADB is working on the “Mekong Tourism Sector Strategy 2016-2025” based on its “2005-2015 Strategy” with Cambodia, China, Lao PDR, Myanmar, Thailand, and Vietnam, and they have set up discussion groups using the Internet. The “Mekong Tourism Sector Strategy 2005-2015” aims to promote the tourism market effectively with countries cooperating on marketing. For example, it aims to encourage multiple countries so that tourists spend more money, and increase side visits and repeat visits. This strategy is trying to promote Mekong

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<sup>2</sup> GMS :Greater Mekong Sub-region

<sup>3</sup> Pacific Asia Travel Association

tourism based on a situation analysis (international tourism trends and position of tourism in the Asia Pacific Region and in the Mekong region) and make an action plan (packaging multiple countries' tour products with themes, branding Mekong tourism, and cooperating on marketing and promotion).

Besides, the variety within Lao PDR is emphasized, such as ethnic minorities' cultural fairs and local traditional fairs, so that tourists can learn about their unique cultures.

Especially in northern Lao PDR, eco-tourism and cultural tourism are being promoted through community tourism and festivals at Luang Prabang, Muang Sing, and Xieng Khuang.

The aim is to connect natural tourism with historical tourism and traditional cultural tourism featuring ethnic minorities, and concentrate on the national tourist center in Luang Prabang. GMS tourism is also encouraged through cooperation with the four neighboring countries.

On the other hand, to achieve those goals, for example, 155 projects are planned in the "Luang Prabang Tourism Development and Marketing Strategy Plan for 2011-2020" based on the "Lao PDR Tourism Strategy 2006-2020," which have not been implemented as of 2016, five years after being planned. According to the tourism department, this is because of a lack of budget and human resources; however, the validity of the plans themselves should be considered.

There are 24 international gateways to Lao PDR, such as the Friendship Bridge, Wattay International Airport, and Luang Prabang Airport. However, the user-friendliness of domestic transportation is one of the challenges Lao PDR faces; for example, land roads are not fully developed and flights are often cancelled. The Ministry of Information, Culture and Tourism is cooperating with MPWT to solve these problems.

### **3) Current Situation of Related Legal System**

All guided-tours in Lao PDR need pre-application with the tourism police system, and its complicated procedures are becoming a burden for travel agencies, according to local travel agencies. Under this system, travel agencies need to apply to the tourism police with information such as passport number, place and date entering the Lao PDR, nationality, sex, and place of stay of all participants of the guide tour, and pay a commission. Then, they can get permission for the tour. The commission is not so high (less than USD 5), but applicants need to apply to several different offices, which is time-consuming for travel agencies. Besides, tourists cannot join a guided tour without a reservation, which limits the flexibility of tourists. Simplifying the system is now under consideration.

There is also no system for raising tax revenue to be used to promote the tourism industry and maintain tourism attraction sites; for example, there is no hotel tax in Lao PDR. According to the Tourism Department, the budget deficit of the tourism industry is one of its challenges. In

Luang Prabang, a local committee founded the Heritage Fund five to six years ago, which gathered taxes from hotels, guesthouses, restaurant, and other tourism facilities as a financial resource for preserving the World Heritage at Luang Prabang. It collected USD 800,000 in the following two to three years, but the fund's operation was stopped because the central government decided to centralize tax collection and forbade local tax collection.

The central government has been discussing a "Tourism Promotion Fund" for six or seven years. This fund would collect, for example, USD 2 from foreign visitors for promoting tourism. This concept was approved and enacted as the Decree on Tourism Fund during the Parliamentary session in November 2016.

#### **4) Related Ministries**

Related ministries include the Ministry of Information, Culture and Tourism (MICT) within the central government, which oversees the Tourism Marketing Department, Tourism Development Department, and Institute of Mass Media, Culture and Tourism. However, according to the Tourism Marketing Department, it has only 41 staff, which are not sufficient for appropriate tourism marketing.

Each province has a local department of MICT. For example, in Luang Prabang, the MICT local department has 194 staff: 87 in the Information Department (Radio, TV, Newspapers), 90 in the Cultural Department (Culture, Children Cultural Center, Museums, Art), and 17 in the Tourism Department (Marketing, Tourism Development, Tourism Management). According to the local department, the number of staff in the Tourism Department is less than the other departments and its capacity is insufficient.

#### **5) Related System of National Qualifications**

There is a license system for tour guides as a national qualifications system. It has two types of license: one is a non-permanent license, and the other is a permanent license. The non-permanent license is licensed by private travel agencies, which have their own examinations and make applications to the government. The permanent license is licensed by the government to those who participate in the guide license training course and pass a government examination.

The Institute of Mass Media, Culture and Tourism of MICT manages the guide license training course (45 days), and a license is issued by the Tourist Management Department. MICT has nine course trainers, but according to the Institute of Mass Media, Culture and Tourism, that is not enough. There is a need to raise the quality of the training course. Since 2014, each province has been conducting courses and the central government has been sending trainers to the provinces, but the courses are mainly conducted through non-interactive classroom learning

and there is practical training for guides. The curriculum follows the ASEAN Standard (Guideline Technique).

The following is an example of the guide license training curriculum and examination.

**Table 3-7 Example of Guide License Training Curriculum and Examination**

№	Date	AM	PM
		Subject	Subject
1	2016/7/7(Thu)	Opening Ceremony	Human relationships and how to welcome tourists
2	2016/7/8(Fri)	Human relationships and how to welcome tourists (exam)	Security of tourism industry
3	2016/7/9(Sat)	History of Buddhism and Buddha statues	History of Buddhism and Buddha statues
4	2016/7/11(Mon)	Geography of Lao PDR	Geography of Lao PDR
5	2016/7/12(Tue)	Geography of Lao PDR	Geography of Lao PDR (exam)
6	2016/7/13(Wed)	Art of Lao PDR	Art of Lao PDR
7	2016/7/14(Thu)	Art of Lao PDR (practice and exam)	Art of Lao PDR (practice and exam)
8	2016/7/15(Fri)	Development of humanity	Traditions of Lao PDR
9	2016/7/16(Sat)	Traditions of Lao PDR	Traditions of Lao PDR
10	2016/7/18(Mon)	Traditions of Lao PDR	Traditions of Lao PDR (exam)
11	2016/7/19(Tue)	holiday	
12	2016/7/20(Wed)	History of North/Middle/South attraction sites	History of North/Middle/South attraction sites (exam)
13	2016/7/21(Thu)	History of North/Middle/South attraction sites	History of North/Middle/South attraction sites
14	2016/7/22(Fri)	History of North/Middle/South attraction sites	History of North/Middle/South attraction sites
15	2016/7/23(Sat)	History of North/Middle/South attraction sites	History of North/Middle/South attraction sites
16	2016/7/25(Mon)	holiday	
17	2016/7/26(Tue)	Music and art of Lao PDR	Music and art of Lao PDR
18	2016/7/27(Wed)	History of tourist sites of Luang Prabang	History of tourist sites of Luang Prabang
19	2016/7/28(Thu)	History of tourist sites of Luang Prabang (practice and exam)	History of tourist sites of Luang Prabang (practice and exam)



		AM	PM
20	2016/7/29(Fri)	Folklore	Folklore
21	2016/7/30(Sat)	Folklore	Folklore
22	2016/8/1(Mon)	Folklore (exam)	Knowledge about protecting bears at Kuang Si Falls
23	2016/8/2(Tue)	Management of tourism	Management of tourism
24	2016/8/3(Wed)	General knowledge about the World Heritage Site of Luang Prabang	General knowledge about the World Heritage Site of Luang Prabang
25	2016/8/4(Thu)	First aid	First aid
26	2016/8/5(Fri)	First aid	First aid (exam)
27	2016/8/6(Sat)	Typical souvenirs	Typical souvenirs
28	2016/8/8(Mon)	Basic knowledge about tourism and protecting tourism	Basic knowledge about tourism and protecting tourism
29	2016/8/9(Tue)	Basic knowledge about tourism and protecting tourism	Basic knowledge about tourism and protecting tourism
30	2016/8/10(Wed)	Basic knowledge about tourism and protecting tourism (exam)	Cooking Lao food
31	2016/8/11(Thu)	Skills to speak in front of people	Skills to speak in front of people
32	2016/8/12(Fri)	Skills to speak in front of people	Skills to speak in front of people
33	2016/8/13(Sat)	Extracurricular activities	
34	2016/8/15(Mon)	Skills to speak in front of people (exam)	Skills to speak in front of people (exam)
35	2016/8/16(Tue)	Basic knowledge about ASEAN tourism	Basic knowledge about ASEAN tourism
36	2016/8/17(Wed)	Basic knowledge about ASEAN tourism	Basic knowledge about ASEAN tourism (exam)
37	2016/8/18(Thu)	Guiding techniques	Guiding techniques
38	2016/8/19(Fri)	Guiding techniques	Guiding techniques
39	2016/8/20(Sat)	Guiding techniques (practice)	Guiding techniques (practice)
40	2016/8/22(Mon)	Guiding techniques (practice)	Guiding techniques (practice)
41	2016/8/23(Tue)	Guiding techniques (practice and exam)	Guiding techniques (practice and exam)
42	2016/8/24(Wed)	Conflict resolution, efficient ways to work with colleagues and customers	Conflict resolution, efficient ways to work with colleagues and customers
43	2016/8/25(Thu)	Food and beverages	Food and beverages

		AM	PM
44	2016/8/26(Fri)	Appropriate preservation of food to protect health and security	Promotion of non-smoking
45	2016/8/27(Sat)	Knowledge on political governance	-
46	2016/8/29(Mon)	Official closing session	

Source: MRI, based on MICT document

The training course was started in 1990. So far, the central government has conducted it 25 times (1,630 participants) and the provincial government conducted it six times (more than 200 participants). The pass rate of the examination of the central government is more than 50%, and almost everybody can pass the exam by the second attempt. The pass rate of the examination of the provincial governments is almost 100% for the first exam. The license needs to be updated, and at present 217 holders of a valid license. There are 10 languages (English, German, French, Italy, Spanish, Japanese, Chinese, Korean, Thai, and Lao)<sup>4</sup> covered by the license. The majority of those held are Thai and English, with other languages not being so popular. There are 237 holders of a valid non-permanent license.

Participants of the training course need to pay LAK 1,600,000 to join the course and obtain a license. They have to be under 70 years old and have graduated at least from a university or college.

The Lao PDR government is now considering establishing the “Association of Tour Guides” under the Tourism Department. Currently, illegal tour guides without licenses are becoming a problem, and the government needs to monitor all tour guides through that kind of association.

The Institute of Mass Media, Culture and Tourism has been conducting a hospitality training course for hotels, guesthouses, and restaurants since 1995. This course does not provide a license, but a certificate of participation in training. So far, 8,085 (5,036 are women) have been trained. There are four courses: front desk, serving food and beverage, housekeeping, and cooking; all provide seven days of training.

Listed below are organizations we visited for interviews during the first field survey.

**Table 3-8 Organizations Covered by Interview Survey (Tourism)**

Organizations	Location
Ministry of Information, Culture and Tourism (MICT)	Vientiane
Institute of Mass Media, Culture and Tourism	Vientiane
Hotel Restaurant Association	Vientiane
The Lao Association of Travel Agents (LATA)	Vientiane

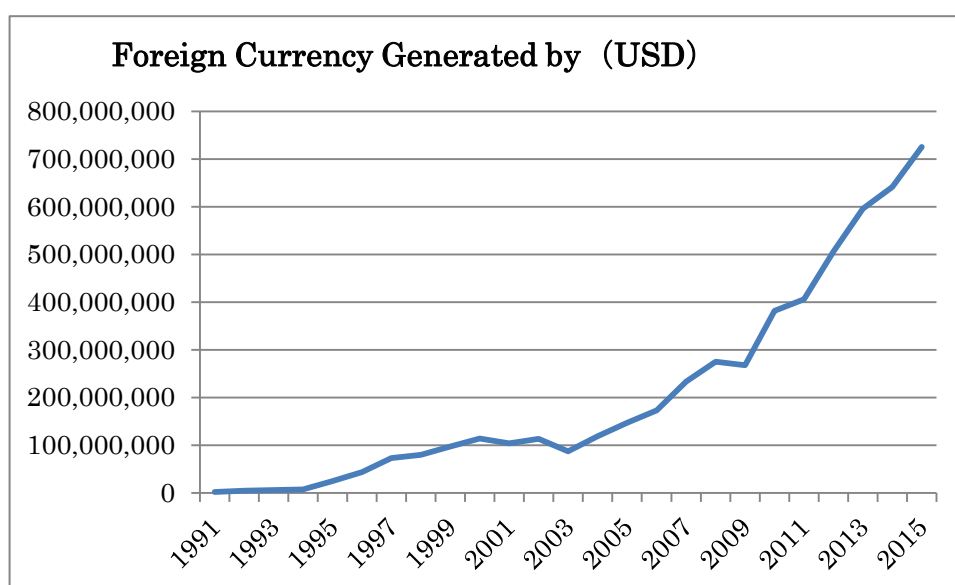
<sup>4</sup> There were 95 participants at the guide License training program held in Luang Prabang Province in 2016. Breakdown by language: one Korean, two Japanese, two German, two Russian, nine Thai, 13 French, 15 Chinese, and 51 English.

Organizations	Location
Luangprabang Province Department of Information, Culture and Tourism	Luang Prabang
World Heritage Office	Luang Prabang

## (2) Industrial Structure

### 1) Production Output, Total Sales, Value, and Added Price

Lao PDR had more than four million visitors in 2014, generating more than USD 600 million. The amount of foreign currency generated by tourism is increasing, making tourism an important industry.



Source: 2015 Statistical Report on Tourism in Laos

**Figure 3-5 Foreign Currency Acquired from Tourism**

### 2) Number of Companies

There are 368 travel agents, 524 hotels, 1,907 guesthouses, and 1,744 restaurants in Lao PDR. Companies are small; for example, the biggest hotel in Vientiane has less than 150 rooms. There are no data on the number of companies by size.

Recently, the numbers of Chinese and Korean hotels and restaurants have been increasing, while there are no data for the number of foreign-owned companies. There many Lao-owned hotels, restaurants, and travel agents on paper, but they are actually foreign-managed.

### 3) Number of Employees

There is no information on the number of employees. There are human resource development

organizations such as national universities and six TVETs, which have tourism departments, and LANITH, which is developing staff for hotels, restaurants, and travel agents. However, according to the interview survey, there is a lack of human resources comprising tourism experts in industry, government, and academia.

#### 4) Average Salaries

According to the interview survey, the average salary in the hotel industry is 500 to 600 USD/month for managers and 100 USD/month for staff.

Tour guides get high salaries. They earn more than 70 USD/day, while the tour guides in neighboring countries earn 40 to 50 USD/day. However, the salary is not stable because of seasonal variations.

The salaries of staff of the provincial department of the MICT are about 300 USD/month, and there are volunteer staff those who earn 30 USD/month.

#### 5) Exports and Imports

No related information was collected.

#### 6) Investment

No related information was collected.

### (3) Institutions Supporting Industrial Development

We visited organizations of institutions supporting the industrial development of tourism.

**Table 3-9 Organizations Covered by Interview Survey (Tourism)**

Organizations	Location
LANITH (Lao National Institute of Tourism & Hospitality)	Vientiane
EU Office Vientiane	Vientiane

Supporting institutions are developing, such as the foundation of LANITH<sup>5</sup> (Lao National Institute of Tourism & Hospitality) supported by Luxembourg for the human development of tourism service staff. Below are overviews of the institutions.

#### 1) LANITH

##### A) Outline of Organization

LANITH was established with support from Luxembourg in 2008, in order to improve the quality of service industries in Lao PDR. This was the first support provided for the tourism

<sup>5</sup> <http://www.lanith.com/>

industry by Luxembourg. LANITH was previously managed by the tourism association, but it is now under the Ministry of Education and Sports as an education organization that can issue a Bachelor's degree.

LANITH has 23 staff, and teachers also do administrative tasks. Next year, the number of teachers will increase to 46. The vision of LANITH is to improve the quality of tourism and the hospitality industry through education, training, innovation, communication, and cooperation. The careers of graduates are described below.

- About 37.2% : Hospitality service business
- About 25.6% : Other business (companies/shops)
- About 25.6% : Educational sector (work for schools/study at schools)
- About 4.6% : Operate own business as a manager
- About 7% : Not decided yet (Some travel, some consider higher education, some study English abroad)

#### B) Outline of Services

There are two programs: (LANITH Diploma) for Bachelor's degree; two-year/four-year program. LANITH also issues the LANITH Certificate, which is an international certificate for tourism and hospitality. The LANITH Diploma has the following four courses.

- Food production
- Food and beverage service
- Accommodation operations
- Travel and tourism operations

Participants need to graduate at least from high school to attend the course for the LANITH Diploma. Graduates of courses are likely to work for the government with a stable salary and status.

There are three training programs: Passport to Success, Executive Training Program, and Pheun Than Heng A Sip.

#### Passport to Success:

It was launched in 2011, and is supported by ADB. The book (passport) explains training items, and the hosts of training (hotels/restaurants) give stamps for items after training. The program is completed after participants receive stamps for all items.

#### Executive Training Program:

It is conducted in cooperation with GIZ. It aims to develop manager-level human resources in the tourism/hospitality industry. LANITH constructed this government and academia framework directly supported by GIZ. This enables both scholarships for students of LANITH and education for staff of private companies under the program.

#### Pheun Than Heng A Sip (“Career Foundations”):

It aims to develop the careers of human resources in rural areas. Only rural students can join the program. It provides a one-hour training course, such as on how to make coffee or how to make a bed, so that at minimum they can host tourists.

#### C) Quality of Service

The career path to the manager class in the hotel/hospitality industry is not so well-known, because many employees in the industry are limited term employees, and there is an image of cleaning jobs with low wages. So, LANITH teachers explain to parents that graduates’ career options are much wider than their expectations.

LANITH provides a high-level education; for example, the “Passport to Success” is receiving a good reputation among companies. Students cannot graduate from the program if they do not attend the course faultlessly, so graduates are considered to be qualified human resources.

LANITH has been receiving scholarships for its students from the Pacific Asia Travel Association (PATA) since it earned a commendation from PATA in 2012. LANITH also earned a commendation under “Tourism for Tomorrow” of the World Travel & Tourism Council.

#### D) Outreach

A bachelor’s degree can be issued only at LANITH Vientiane, but the LANITH certificate and Passport to Success can be issued in other provinces such as Luang Prabang and Oudomxay Province. Pheun Than Heng A Sip is covered as a distant province.

#### E) Challenges

The biggest challenge is the lack of a stable budget. It received financial support from Luxemburg for two years, but now PATA is its only donor. It cannot send LANITH teachers to local TVET schools without financial support, so they are considering retaining LANITH teachers who are now teaching at local schools so that education for local students will be continued. In addition, it is trying to increase revenue for LANITH from sources besides tuition; for example, it is using equipment for the Food & Beverage training course as a bar.

It wants to hire foreign teachers so that students get used to communicating with foreign

tourists after graduation, but this is difficult because of their high salaries (typical foreign teachers earn a higher salary than the Director of LANITH).

Coordinating donors is also one of challenges they face, because LANITH has been emphasizing industry-academia cooperation and cooperating with GIZ, Switzerland, ADB, etc. since its foundation in 2008.

## **2) EU Office Vientiane**

### **A) Outline of Organization**

It was established by the EU. It has 26 to 27 staff. Eight or nine are Lao, and the other experts are from Belgium, France, Poland, and Ireland. There are no data on the total budget of the EU Office, but the budget for trade is five million Euro/five years.

### **B) Outline of Service**

The core sectors of the EU office up to 2020 are governance, nutrition, education, and health. Regarding tourism, it started a three-year project to promote tourism in Luang Prabang from May 2016. The EU is providing 1.6 million Euro to GIZ for the project, and GIZ received two million Euro as a project fund.

### **C) Quality of Service**

The tourism project mentioned is the Behavior Changing Project. It aims not only to increase the number of tourists, but also to develop sustainable tourism consumer products, and provide organic products to hotels. In the background, there is the problem that only high-end hotels and restaurants benefit from the tourism industry, and local companies do not. Besides, there are not enough local products for tourists. The key point is to improve value-chains and encourage Lao local products, such as cloth bags, instead of importing plastic bags from Thailand.

### **D) Outreach**

It is partnering with LATA and the Hotel Restaurant Association. It is also cooperating with the Lao National Chamber of Commerce and Industry.

### **E) Challenges**

The challenge is tourism management. For example, travel agencies face difficulties making tour-packages because tourist sites are sometimes operated arbitrarily and they require a higher entrance fee for tourists from Western countries.

The big challenges for Lao PDR's tourism are a lack of branding and promotion, and coordinated support from donor countries because of the lack of capacity of the Lao

government.

**(4) Current Situation and Challenges of Private Companies**

**1) Current Situation of Private Companies**

There are 368 travel agencies and 54 related companies in Lao PDR, according to the 8th NSEDP. There are 542 hotels with 21,597 rooms, which is more than the national target (300 hotels by 2015). There are 1,907 guesthouses with 26,791 rooms. Besides, there are 1,744 restaurants, which is more than the national target (850 restaurants by 2015). There are 283 entertainment facilities.

As mentioned, there are many Lao-owned hotels, restaurants, and travel agencies in name, but they are actually foreign-managed. It is pointed out that only these companies benefit from tourism and local companies in Lao PDR do not.

We interviewed the private companies in the tourism industry listed below.

**Table 3-10 Organizations Covered by Interview Survey (Tourism)**

Nationality	Name of the company	Location
Lao Company	Lao Plaza Hotel	Vientiane
	Green Discovery	Vientiane
	Lao National Chamber of Commerce and Industry	Vientiane
	Lao Outdoor	Luang Prabang
	Chamber of Commerce and Industry, Luang Prabang Province	Luang Prabang
Japanese Company	Jumping Tour	Vientiane
	HIS	Vientiane

**2) Challenges of Private Companies**

The biggest challenge is that there is not enough cooperation with other companies or the government, because there are many small companies. For example, promotion and marketing are conducted by each company separately, as is national branding.

What is more, human resource development and a low retention rate are challenges for hotels, restaurants, and travel agencies. Their incentives to train employees are not increased and employees can be headhunted after training. In addition, there are insufficient manager-level human resources, and there are many cases of Thai managers, while the staff are Lao.

Among human resource development agencies, 45-day tour guide training courses are offered by the government, LANITH, and colleges and universities' tourism departments. However, according to local companies, for practical human resource development, they want their staff to be trained to a certain level before starting to work at a hotel or restaurant.

Luang Prabang is called the "City of Tourism," because tourism centered on its world heritage site is the most developed in Lao PDR. However, the local economy does not benefit enough from tourism. Although many tourists visit, food and beverages and hotel amenities are



mainly imported. Developing tourism products is one of the biggest issues, because textiles and furniture are the only successful local products. The food self-sufficiency rate is low, because the harvest is concentrated in the rainy season and food has to be imported for almost half of the year.

As pointed out in the JICA Luang Prabang regional development data collecting survey, there are other issues, such as improving major infrastructure, maintaining buildings in the historical heritage protection area, and conserving culture, customs, and natural environment, for private companies to develop a sustainable tourism industry.

The report suggested four disadvantages of tourism in Luang Prabang, namely limited tourism products, short duration of tourists' visits, shortage of accommodation capacity in the high season, and comparatively high cost of tourism.

Eco-tourism has big potential for the Lao PDR tourism industry, but it has the following three challenges.

- Administrative procedures

They need to apply to the tourism department, forest department, and eco-tourism police, and procedures are not stated clearly and are subject to change.

- Unclear zoning

There are concerns that development zones for the hydro-electric generation and mining industries, which are important in Lao PDR, might overlap with eco-tourism areas. The zoning of development zones is not clear, which increases investment risk for eco-tourism.

- Lack of human resources

Cooperation with villagers in each area for investigating and implementing eco-tourism is necessary. But, human resource development at a management level for those who manage various people including minorities, develop eco-guides, and enlighten villagers who host tourists are challenges.

### **3.3 Service Industries (IT Services)**

#### **(1) Industrial Policies and Systems**

##### **1) Position of IT Service Industry in the National Plan**

In Lao PDR, ICT is positioned as a national priority, and its importance has been increasing in recent years. The 7th NSEDP aims at “Expanding postal and telecommunication infrastructure, and high-speed Internet connections for facilitating socioeconomic development; and to become an important area for connecting the region to the world.”

In addition, the 8th NSEDP has the following goals: Promoting regional innovation based on information science studies; promoting development of basic infrastructure such as telecommunication and electronic information; supporting modernization of the service sector through timely and high-quality services; and, facilitating e-trading and strengthening the economy and society. The IT service sector is considered to be a driving force for strengthening other industries rather than as an industry to be strengthened itself.

##### **2) Development Strategy for IT Service Industry**

Regarding the IT policy, the "National Information and Communication Technology Policy" was approved by a Prime Minister's decree in 2009. This policy sets new applications for information and communications technologies, and aims to “offer access to telecommunication services for people in remote places and disabled people: improving the environment to facilitate investment by IT companies; establishing a security system to protect information; and spreading content in Lao PDR.” With regard to the Internet, the Lao government established Lao National Information Center (LANIC) in 2011, and proposed a policy to manage connections between domestic Internet service providers (ISP) and international lines collectively. This policy makes it possible to purchase international channel bands used by multiple ISPs in bulk, thereby applying volume discounts.<sup>6</sup>

A new data center is currently under construction.<sup>7</sup>

##### **3) Current Situation of Related Legal System**

There are cyber-laws (e.g. Laws to prohibit unauthorized computer access, and laws for electronic signatures) titled “Law on Telecommunication,” enacted by Prime Minister's decree in 2001 and revised in January 2012, and “Law on Electronic Transactions,” enacted in December 2012 with the assistance of the United States as part of accession to the WTO. No other laws have been enacted.

Although the security issue had been neglected for years, the government established the

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<sup>6</sup> JICA Laos Office “Development Issues in Laos” JICA Laos Office “Development Issues in Laos”

<sup>7</sup> A project of New Energy and Industrial Technology Development Organization (NEDO)

national Computer Emergency Response Team (Lao CERT)<sup>8</sup> in 2012 and started to work on this issue as the last of the ASEAN member countries to do so.

#### 4) Related Ministries

The government agencies for the IT service industry are the Ministry of Post and Telecommunication (MPT) and the Ministry of Science and Technology (MST), which were established when reorganization of the government was approved<sup>9</sup> at the 7<sup>th</sup> term, first meeting of the National Assembly. Generally, the MST is a policy-making body and the MPT is an implementing body. The Ministry of Culture and Tourism maintains websites for sightseeing and has few ties to them.

#### 5) Related National Qualifications System

There are no IT-related national qualifications similar to information-processing examinations administered in Japan. Currently, no plans exist for arranging national qualifications. The approval and authorization certificate issued for each company by the Ministry of Commerce and Industry is the only related qualification.

On the other hand, some qualifications issued by foreign private IT companies, such as Microsoft, are used to prove skills and techniques. However, the business benefits of having these qualifications are very limited because they are poorly recognized.

An interview survey was conducted with organizations at the first site investigation as described in Table 3-11.

**Table 3-11 Organizations Covered by Interview Survey (IT Services)**

Organizations	Locations
Ministry of Post and Telecommunication (MPT)	Vientiane
Ministry of Science and Technology (MST)	Vientiane
Lao ICT Commerce Association (LICA)	Vientiane

#### (2) Industrial Structure

Although environmental improvements for ICT are not yet sufficient, 3G services for mobile phones have been available since 2008, and a LTE/4G service has been available since 2011. These improvements clearly reflect the introduction of new technologies for mobile communications in Lao PDR. However, actual communication speeds often fall short of LTE/4G, indicating bottlenecks in the network.

<sup>8</sup> An organization belonging to the Ministry of Post and Telecommunications (MPT)

<sup>9</sup> Reorganization of National Authority of Science and Technology (NAST)

Although there are no statistics, from 2012 to 2013, smartphones spread explosively among young people in the capital city, and now they have spread among men and women of all ages regardless of income level. The major Internet service is ADSL. Although users had been limited to companies, governmental organizations, and educational facilities until 2012, they have expanded greatly as smartphone penetration rate rose. As of 2015, 30% of cellular phone contractors used data communication services via 3G/4G network.<sup>10</sup>

The penetration rates of each service as of 2015 are:

- Landline phones, cellular phones: 85%
- Internet: 25%<sup>11</sup>

### **1) Production Output, Total Sales, Value and Added price**

Currently, the IT service industry is still at the first stage of its development, and the market is small compared to neighboring countries. Most IT devices are imported from Thailand and China, and only a few are made in Lao PDR.

The actual production output is unclear because there is a lot of pirated software (e.g. Pirated copies of the Office software) on the market.

IT service companies in Lao PDR do not specialize in a particular field, as in Japan, and tend to manage a wide range of IT-related works, except for manufacturing and hardware trunk line communication networks.<sup>12</sup> It is difficult to know the actual breakdown of the whole industry, because total sales of hardware production and IT services are inseparable in many cases.

As of 2012, it is estimated that hardware sales accounted for almost half of total sales of IT service companies (USD 118 million). The market for IT services is estimated to be worth approximately USD 60 million.<sup>13</sup>

Details of the value added prices are not known.

### **2) Number of Companies**

Only a few companies exclusively offer IT services, while most companies focus primarily on service systems incidental to hardware. According to an interview survey conducted on related ministries, business groups, and private companies, there are about 10 IT service provider-companies<sup>14</sup> with around 100 workers and about smaller 100 companies. The total number of IT-related companies is about 500 if equipment sales companies are included.

The number of foreign companies is unclear but sales agents from Thailand, China, and Korea

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<sup>10</sup> Website of Highlight Progress of Cyber Security Development in Laos by Ministry of Post and Telecommunication

<sup>11</sup> Same as above

<sup>12</sup> JICA Laos Office: "Development Issues in Laos"

<sup>13</sup> Lao ICT commerce Association: "Lao IT Service Market 2012"

<sup>14</sup> Service companies working on programming, network and database construction, and website content creation.

are increasing, creating a competitive market.

A lot of content is written in Thai because many Thai companies are advanced in creating content. On the other hand, the number of digital content development companies is increasing in Lao PDR and some domestic content corresponding to Lao input is starting to appear on the market as well.

### **3) Number of Employees**

Although no statistics are currently available, the number of IT workers in Lao PDR was 5,500 as of 2014. It is estimated that this number consists of 1,400 IT staff of IT provider companies,<sup>15</sup> and 4,100 IT staff of IT user companies.<sup>16</sup> Although the latest data as of 2016 are not available, according to an interview survey conducted on related ministries, business groups, and private companies, the number of IT staff is around 1,000 at IT service provider companies, and has grown to 10,000 at IT user companies.

### **4) Average Salaries**

Generally, salaries at IT service provider companies are lower than the average salary level. However, IT staff who work for major IT user companies are relatively well paid. Therefore, people want to change jobs from IT service provider companies to IT user companies and competent students want to get jobs at IT user companies.<sup>17</sup>

### **5) Exports and Imports**

The IT service industry has almost no exports. Only a limited number of companies have experience in small-scale overseas businesses.

Although imports are unclear, they are on an upward trend. Foreign-made packages are often copied and used illegally. Foreign traders tend to get contracts for large-scale system introduction.

### **6) Investment**

The actual investment is not clear, but it is on an upward trend.

## **(3) Institutions Supporting Industrial Development**

The institution in Table 3-12 was visited as the only institution supporting industrial development related to the IT service sector.

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<sup>15</sup> Government agency and company in Finance, Energy, Mineral and Telecommunication

<sup>16</sup> Lao ICT commerce Association: "Lao IT Service Market 2012"

<sup>17</sup> "Challenges of Development in LAOS" (JICA)

**Table 3-12 Organizations Covered by Interview Survey (IT Services)**

Organization	Location
Lao ICT Commerce Association (LICA)	Vientiane

**1) Lao ICT Commerce Association (LICA)**

A) Outline of Organization

LICA was established under the supervision of the Lao National Chamber of Commerce and Industry (LNCCI) in 2005. It is controlled by MPT. The following businesses are undertaken by LICA: Telephone Company, Internet service provider, IT hardware/software vendor, system integrator, ICT consultant, software developer, content and application developer, and ICT associated technology education.

B) Outline of Services

To develop the ICT industry, it hosts domestic exhibitions, attends overseas meetings and seminars, joins JICA's human resource development projects (preparation of marketing research reports, revision of IT educational curriculum of the Faculty of Engineering), exchanges information with other countries, and has dialogs with the government.

C) Quality of Service

LICA supports policy studies, but does not assist with corporate human resources development.

D) Outreach

LICA has 20 corporate members.

E) Challenges

There are not enough investment funds to support human resource development at IT service providers and user companies.

**(4) Current Situation and Challenges of Private Companies**

**1) Current Situation of Private Companies**

There were about 150 IT service companies in 2012. These have now increased to about 500. But, most are small companies with less than 20 workers. Only 30% offer IT services beyond selling hardware, while the others sell personal computers/telephones and manage Internet cafés as side businesses. Most of the companies are concentrated in Vientiane, causing price competition.

It is said that people in the IT industry have higher educational levels compared to other

industries because engineers in the IT service sector and IT staff of IT user companies graduate from The National University of Laos, foreign universities, or vocational schools to study IT.

We visited the IT-related private companies listed in Table 3-13.

**Table 3-13 Organizations Covered by Interview Survey (IT Service)**

Category	Companies (tentative)	Locations
Lao	Lao Telecommunication Co., Ltd.	Vientiane
	Datacom Co., Ltd	Vientiane
	DEXTER	Vientiane
	KK IT	Vientiane
	PI TEC	Vientiane
	ATT	Vientiane
	Micro Info	Vientiane
	ACLEDA BANK LAO (IT user)	Vientiane

## 2) Challenges of Private Companies

The levels of IT company engineers are significantly lower than in neighboring countries. Although domestic companies can handle small-scale projects, they are not capable of handling large-scale ICT system development projects, because they lack IT skills and experience. Therefore, they need to contract out those projects to other countries such as Thailand and Vietnam.

In addition, it is also an issue that although they develop software for specific clients that is difficult for others to use, they are reluctant to develop software for general users because copyrights are not protected in Lao PDR and this can cause lost profits.

Leading IT user companies such as major banks try to corral capable engineers in their companies by offering better pay. Therefore, graduates in the IT field tend to get jobs at user companies rather than vendors.

On the other hand, it is also an issue that many workers in other industries lack IT literacy and do not even know how to use Office software such as Excel. Although IT is useful for promoting work efficiency and adding value to companies, even in other industries, the lack of human resources with basic IT knowledge hampers development.

According to an interview survey conducted with private companies, because graduates from domestic educational institutes including the Engineering Department of The National University of Laos do not have sufficient IT skills, they need to be trained through OJT in their companies or sent overseas for training. Overseas training programs are usually conducted by IT device manufacturers to advertise their own devices. In Lao PDR, human resources training systems (e.g.

definitions of IT skills and occupational categories, educational curriculums, and examination systems) have not been established yet.

Companies train workers in a haphazard, random way because they cannot get official support, such as training based on a systematic curriculum offered by a designated educational institution. Educational institutions fail to develop human resources reflecting the needs of companies. The Government does not grasp the current situation because of a lack of cooperation with companies and educational institutions.

Because of these factors, the labor market lacks experienced self-starters and business expansion is limited.



### **3.4 Service Industries (Logistics)**

#### **(1) Industrial Policies and Systems**

##### **1) Position of Logistics Industry in the National Plan**

In the current 8th NSEDP, the logistics sector is positioned as a service sector that contributes to securing consistent and comprehensive economic growth. It is expected to play an important role in integrating regional and international cooperation in the future as well. The service sector as a whole, including logistics services, aims to contribute 40.5% of GDP by 2020.<sup>18</sup>

##### **2) Development Strategy of Logistics Industry**

To secure consistent and comprehensive economic growth, the current 8th NSEDP prioritizes the following activities:<sup>19</sup>

- Continue to qualitatively develop cargo transportation systems, to become smooth and rapid transportation systems and sub-regional inland transit business enters.
- Improve and construct standard roads to ensure cargo transportation services and to link them to neighboring countries.
- Build facilities along highways such as stops and parking lots, cargo warehouses, and vehicle stations, and build four logistics parks: Nateuay, Savannakhet, Vientiane Capital, and Champassak.
- Improve entry and exit check points up to international standards along transit service corridors to the borders, in order to facilitate smooth and rapid services.

In the 8th NSEDP, the 7th NSEDP progress report shows that road development is essential for smooth logistics as described below:

As road construction has developed, the transportation network has expanded from 39,584.50 km to 51,597.03 km during the period from 2010 to 2014. National routes have been improving and connecting neighboring countries along economic corridors such as the North-South corridor and the East-West corridor. About 81% of the Five-year Plan has been completed with local trunk roads constructed that connect hub areas.

In the River Embankment Project, 85.42 km have been completed including 26.73 km of the riverbank of the Mekong River through the Heuang River. There are other development projects in Vientiane and Ton Pheung, and between Phonsy Village and Thanalang, which were planned to be completed by 2015.

Airport development projects focus on constructing new airports and expanding existing

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<sup>18</sup> The 8th NSEDP (English version)

<sup>19</sup> The 8th NSEDP (English version)

airports to accommodate Boeing 747 aircraft. So far, Luan Prabang airport can accommodate the Boeing 747, and Attapue and Luangnamtha airports, Pakse airport, Xiengkhouang airport, Samneua airport, Oudomxay airport and Huay Xai and Sayaboury airport have been repaired. The following airports are under construction: Nong Khang airport in Houaphanh Province, Seno airport in Savannakhet Province, Ton Pheung airport in Bokeo Province, and Thong Haihin airport in Xiengkhouang Province. The Five-year Plan of the Public Works and Transport Communications sector was established in 2015 to achieve the goals of the 8th NSEDP. This plan sets future goals from 2016 to 2020 based on possible development and issues. Expected development projects are described below:

- Creating the Asian Economic Community at the end of 2015 will make Asia a production base and a unique market
- Air transport link allows an Open Sky space; various countries can increase their rights to fly in and out.
- Air transport links will create opportunities to make Lao transport companies have more opportunities in the country
- Rapid economic development within the Asian region and new opportunities from the links will stimulate the creation of new forms of commerce.
- The linking of comfortable, rapid, and safe communication and transport is the main factor behind the decision to invest in developing production, commerce, tourism, and transport.
- Availability of communication and transport and modern logistics infrastructure in the process of regional integration will support towns located along economic corridors to be developed at the same time.

On the other hand, the following issues are also indicated.

- The communication and transport infrastructure of the country does not comply yet with the standards of the sub-region.
- Traffic is increasing at some road sections where road expansion and improvements are required.
- Roads providing all-year access are not yet available to all village clusters
- Insufficient budget for maintaining existing infrastructure results in damage to some infrastructure before expiration of usable life
- The country is at risk from natural disasters each year due to global warming, which could cause great damage to the road network and require large funding.

- Currently, only 22% of the total road network is sealed, and the remainder comprises only gravel and laterite roads.
- Development of human resources with extensive experience does not yet match the development, duties, and responsibilities of sector requirements.
- The coordination mechanism, planning method, and monitoring process between central and local agencies are not yet well integrated.
- Although a signatory of international treaties, and regional and sub-regional treaties, and many legal documents have been issued, they have not yet all been widely disseminated .
- Open Sky and linkages expanding land transport are challenges for airlines and domestic entrepreneurs.

Taking these factors into account, the following five goals are set out in the Five-year Plan.

- Maintaining existing infrastructure for regular use
- Implementing extended projects
- Constructing and improving communication and transport infrastructure
- Developing transport system and communication and transport services
- Strengthening capacity of public works and transport sector

The budget plan for the public works and transport communications section is shown below:

**Table 3-14 Budget Plan for Public Works and Transport Communications Sector**

(Unit: LAK bn)

Budget source	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	Total
1. Domestic (Managed by Ministry)	574.20	631.62	694.78	764.26	840.69	<b>3,505.55</b>
2. Domestic (Managed by Province)	428.76	471.64	518.80	570.68	627.75	<b>2,617.63</b>
3. Foreign Budget	2,134.25	2,347.68	2,582.44	2,840.69	3,124.76	<b>13,029.81</b>
Total	<b>3,137.21</b>	<b>3,450.93</b>	<b>3,796.03</b>	<b>4,175.63</b>	<b>4,593.19</b>	<b><u>19,152.99</u></b>

Source: 5 years plan of Public Works and Transport (2016-2020)

### 3) Current Situation of Related Legal System

The present state and issues of related legal system are as follows.

- Cross Border Transportation Agreement (CBTA)<sup>20</sup>

CBTA is a multilateral agreement for smoothing cross-border transportation in the Mekong region. It includes articles about single-stop/single-window customs procedures, cross-border movements of workers in the transportation industry, exemption requirements for quarantine and other inspections, requirements for cross-border vehicles, transit cargos, design criteria for roads and bridges, and road signs and signals. The related legal system includes cross-border passenger traffic, criteria for cross-border vehicles, and infrastructure standards. With support from ADB<sup>21</sup>, five countries in the Mekong region (Vietnam, Cambodia, Lao PDR, Thailand, Myanmar) and China signed this agreement in 2003. CBTA consists of 17 accompanying documents and three protocols. Lao PDR, Vietnam, Cambodia, and China have finished ratifying the whole agreement, while Thailand and Myanmar have ratified most of it.

- Agreement on one-stop service system<sup>22</sup>

In 2005, the Lao PDR government and the Vietnamese government agreed to start a one-stop service system, which allows all procedures necessary for cross-border cargo inspections to be completed at one window. Customs clearance takes only 40 minutes due to this system. The Lao PDR and Thai governments have concluded a bilateral memorandum on one-stop cross-border (Mukdahan-Savannakhet) customs clearance as well. Thailand, Lao PDR, and Vietnamese governments are currently working on using the East-West economic corridor including this one-stop service system.

- Asia Cargo Highway<sup>23</sup>

The Asia Cargo Highway is a concept to promote regional cooperation and integration through the facilitation of cross-border flows of goods. It was proposed by the Japanese government at the annual meeting of the Asian Development Bank in May 2011, setting trade facilitation as a common goal in Asia. To achieve seamless flows of goods between Asian countries and Japan, it is necessary to establish a single window system, develop an AEO program under mutual recognition, and modernize customs administrations.

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<sup>20</sup> Hitachi Research Institute website: <http://www.hitachi-hri.com/keyword/k084.html>

<sup>21</sup> A Passage Across Borders (JICA)

<sup>22</sup> Business/Investment guide (Laos Japan Research and Consulting)

<sup>23</sup> JICA's Regional Cooperation in ASEAN

#### **4) Related Ministries**

The governing agency of logistics services is the Ministry of Public Works and Transport Communications, while logistics-related divisions are governed by the Department of Transport.

The Department of Transport is a medium-scale organization consists of about 80 personnel and it deals with motor vehicle administration, traffic safety, and logistics (including people and goods).

The Aviation Administration and the Customs Department of the Ministry of Finance are in charge of airfreight and international trade tariffs, respectively. The Ministry of Agriculture and Forestry or the Ministry of Commerce deals with exports of agricultural products.

Each local agency has customs posts at borders, in addition to the Department of Public Works and Transport Communications. Customs posts located at Savannakhet and Dansavanh on the East-West corridor are major ones.

#### **5) Related National Qualifications System**

According to the Ministry of Public Works and Transport Communications, there are no national qualifications for competent personnel with specialized knowledge of logistics, such as Certified Logistics Masters in Japan, except for the most basic national qualifications, such as a driver's licenses.

Furthermore, although two different licenses (a rigid vehicle license and a towing license) are required for operating a large vehicle such as an E-type trailer, there are only training schools for rigid vehicles in Lao PDR, and people need to go to Thailand to get both licenses needed for E-Type vehicles.

#### **6) Current Situation and Challenges of the Policy**

##### **A) Current status of the policy**

The present state of the logistics sector is outlined below from the perspective of infrastructure improvement.

Despite the fact that Lao PDR is located in the central part of the East-West corridor, transportation infrastructure development has been hampered because of a lack of seaports and mountainous landforms. Only 15% of roads are paved and 98.6% are two-lane. No street lights are installed even on major trunk lines, except for urban city areas. According to the Department of planned Investment in Savannakhet province, the central government is planning to construct a logistics park near SEZ. Lao PDR is a land-locked country and 85-90% of transportation depends on road transportation. Advanced logistics makes it convenient for SEZ companies to export products to Vietnam and China. China is constructing a new railway that connects Boten, Luang Phabang, Vientiane, and Bangkok, investing USD \$60 million. Part of the railway (the Laos

North-South route) runs for 430 km between Boten and Vientiane, and will be used for transporting both cargo and passengers. Although construction has not started in Lao PDR, because a financing agreement has not been concluded yet, if this plan is implemented, it will be the largest infrastructure development ever. A groundbreaking ceremony was held in December 2015 and the China railway is expected to start operation by 2020.<sup>24</sup> Under these circumstances, Japan Bank of International Cooperation and the Asian Development Bank have supported infrastructure development to promote smooth logistics including that for the Mekong Bridge, national highways Route 9 and 13, and service areas. Since October 2015, a pilot project to construct a distribution network connecting the three cities of Hanoi, Bangkok, and Vientiane with Savannakhet as a hub, has been carried out with the cooperation of the Ministry of Land, Transport and Infrastructure of the Japanese government.

#### B) Challenges of the policy

There are a number of challenges to be overcome in the distribution industry related to the East-West economic corridor<sup>25</sup> and the North-South economic corridor<sup>26</sup>. Each has been addressed depending on its category, such as organization, human resources, goods, and money as follows.

An organizational issue is inefficient customs procedures. For cross-border customs, the original document of an import permit is required to complete the procedure, but it has to be delivered to the customs after an application has been filed in Vientiane<sup>27</sup>. According to the Savannakhet Investment Planning Department, customs procedures take much longer compared to other countries because no personnel work on simplifying the whole procedure and make it efficient. Besides, there is not enough cooperation between central ministries. For example, according to LIFFA, the Ministry of Industry is in charge of issuing licenses for forwarders, while the Public Works and Transport Communications issues licenses for truck drivers, but there is no cooperation between the two ministries. The distribution staff in the government lack technical knowledge and need to be trained to a certain level.

An issue related to human resources is a lack of people who can manage the whole supply-chain and optimize distribution. As a result, the current cost of physical distribution is relatively high. Although Luangprabang Technical College and Savannakhet University have a new training course for studying distribution, the overall number of academic institutions that offer technical knowledge on distribution is very limited. Furthermore, there is no qualification

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<sup>24</sup> Nikkei Newspaper (12/3/1015)

<sup>25</sup> It starts from Mawlamyint in Myanmar and ends at Da Nang in Vietnam. It goes through Savannakhet and Dansavan in Lao PDR.

<sup>26</sup> The route connects Nanning in China, Bangkok, and Leam Chabang by way of Hanoi and Vientiane.

<sup>27</sup> Investigation on improving customs clearance services for facilitating distribution in the Mekong region (JICA)

such as Certified Logistics Masters<sup>28</sup> or International Logistics Masters<sup>29</sup> to ensure the quality of employees. A lack of specialists who have the ability to plan new policies, considering the whole distribution industry, is a problem as well. According to LIFFA, although the government approves the international legal framework related to efficient distribution, the country falls behind neighboring countries because it only has a shallow understanding about the importance of distribution.

A goods-related issue is the lack of a system to set standards for motor vehicles. According to the Ministry of Public Works and Transport Communications, a number of low-quality vehicles are imported into Lao from China because there are no standards or conformity assessment system, and the government fails to control this situation. It is also an issue that domestic road standards do not match those of neighboring countries. For example, the maximum allowable axle load<sup>30</sup> is 11 t in a neighboring country while it is 9.1 t in Lao PDR, except for Route 9 of the East-West corridor and part of Route 12 of the North-South corridor.

A money-related issue is that the cost of road transportation is much higher than that of marine transportation. For example, the road transportation route between Bangkok and Hanoi, which is one of the major routes of the East-West corridor, has been underused because of its high cost.<sup>31</sup> This issue needs to be tackled with the integrated solutions mentioned above.

The candidate organization for interview in the first field survey are listed below.

**Table 3-15 Organization Covered by Interview Survey (Logistics)**

Organization	Location
Ministry of Public Works and Transport	Vientiane

## (2) Industrial Structure<sup>32</sup>

### 1) Production Output, Total sales, Value and Added Price

The road transportation service is on the upward trend. Cargo transportation was 3,820,000 tons in 2011 and increased to 4,780,000 tons in 2014, which is a 25% increase over three years. Passenger transportation also increased 30% (37,610,000 to 48,960,000) during the same period.

During the period from 2010 to 2014, river transportation services increased 53% (from 1,088,000 tons to 1,668,000 tons). In addition, passenger transportation by river also increased by

<sup>28</sup> A qualification granted by Japan Institute of Logistics Systems to individuals who have had comprehensive and systematic training and gained a broad knowledge of logistics management activities as a distribution manager or technician

<sup>29</sup> A qualification granted by the Japan Institute of Logistics Systems to individuals who have had comprehensive and systematic training and gained broad specialized knowledge as an international distribution officer.

<sup>30</sup> The total weight borne by the axle.

<sup>31</sup> Investigation on improving customs clearance services for facilitating distribution in the Mekong region (JICA)

<sup>32</sup> The 8<sup>th</sup> NSEDP (English version)

37% (from 2,053,000 to 2,868,000 persons) during the same period.

Air transportation services are growing quickly, mostly due to the expansion of large airports and new airport construction. For example, Luang Prabang Airport can accommodate Boeing 747s due to expansion and reconstruction work underway at Pakse Airport and Xiengkhouang Airport. The total number of domestic and international flights was 15,312 in 2012, an increase of 16% compared to 2010. Lao Airlines has purchased six new aircraft and a new airline company named Phongsavanh Airlines has commenced operation.<sup>33</sup> There were 794,388 passengers in 2012, an increase of 23.5% compared to 2010.

Railway transportation services carry 3,000 to 3,500 passengers a month. The number of domestic tourists was 15,302 in FY 2011-2012, decreasing 8.6% from FY 2010-2011. The number of overseas travelers (16,739 during FY 2011-2012) also decreased 7.7% compared to FY 2010-2011.

Total sales and value added price is not clear.

## **2) Number of Companies**

According to LIFFA, 80% of logistics companies in Lao are local and 20% are foreign affiliates. Eighty percent of local logistics companies are micro, small, and medium-sized enterprises, and 10% are bus companies. Foreign-affiliated firms have constructed representative offices, but they do not work on actual logistics-related projects in Lao PDR. DST, Lao Freight Forwarders, and SMT are the big local logistics enterprises in Lao.

The number of foreign companies is unknown.

## **3) Number of Employees**

No related information was collected.

## **4) Average Salaries**

No related information was collected.

## **5) Exports and Imports**

No related information was collected.

## **6) Investment**

Details are unknown, but investment by the logistics sector of the government is shown in Table 3-14.

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<sup>33</sup> Phongsavanh Airlines changed its corporate name to Lao Central Airlines and is no longer in operation



### (3) Institutions Supporting Industrial Development

We visited supporting institutions related to the logistics industry shown below.

**Table 3-16 Organizations Covered by Interview Survey (Logistics)**

<b>Organizations</b>	<b>Locations</b>
Chamber of Commerce and Industry	Savannakhet
Chamber of Commerce and Industry	Champassak
Ministry of Commerce and Industry	Vientiane
LIFFA	Vientiane

#### A) Outline of Organization

The Chamber of Commerce and Industry (CCI) acts as a bridge between government policy and business sectors. It fills gaps between the two sectors by giving consultations on legal matters.

The CCI of Savannakhet has seven committee members, including one chairperson and six vice-chairpersons. Among 168 companies that belong to the CCI, 17 are foreign companies and 151 are domestic. There are nine office staff and 15 advisors.

#### B) Outline of Services

It offers necessary information and consultations when a problem occurs. It carries out training and educational seminars as well.

#### C) Quality of Service

At the Savannakhet CCI, 90% of enterprises are small and medium sized. There are five associations categorized by industry type: logistics, transportation, wood material exporting, livestock exporting and farming, and handicraft. Many are export companies. In addition to these five associations, there are nine groups consisting of importers/exporters, construction, hotels/restaurants, tourism, rice milling, food/medicine/medical care, construction gravel, electric system, and private education.

#### D) Outreach

The CCI in Savannakhet supports 168 enterprises, and 90% of them are small and medium sized. There are five associations categorized by industry type: logistics, transportation, wood material exporting, livestock exporting and farming, and handicraft. Many of them are export companies. In addition to these five associations, there are nine groups consisting of importers/exporters, construction, hotels/restaurants, tourism, rice milling, food/medicine/medical care, construction gravel, electric systems, and private education.

#### (4) Current Situation and Challenges of Private Companies

##### 1) Current Situation of Private Companies

We visited the logistics-related private companies listed in Table 3-17.

**Table 3-17 Organizations Covered by Interview Survey (Logistics)**

Categories	Organizations (tentative)	Locations
Lao	SOCIETE MIXTE DE TRANSPORT of Laos	Vientiane
	Profreight	Vientiane
	LIFFA	Vientiane
	Lao Logistics Group	Vientiane
Japanese companies	Koyo Lao Co., Ltd. (import agency)	Vientiane
	Lao Nissin SMT CO., Ltd. (international ground transport, customs brokerage)	Vientiane

Most Lao private enterprises are small and medium sized, and none take part in managing the whole supply chain of a logistics system including export, processing, warehouse management, and import, because each enterprise works separately in each process. In addition, it is rare to have a logistics specialist in a company, because the importance has not been recognized.<sup>34</sup>

To improve this situation, LIFFA<sup>35</sup>, which has 46 affiliated organizations, including forwarders, truck transporters, warehouse proprietors, and bonded warehouse proprietors, designs an education curriculum to train logistics specialists. LIFFA is an organization of the logistics industry established in 2003. It is affiliated with the Chamber of Commerce and Industry. The Minister of Public Works and Transport Communications is the competent authority of LIFFA. Recently, LIFFA has been working on revising the article so that foreign companies can participate as associate members. The LIFFA curriculum is based on 15 models created by JIFFA<sup>36</sup> and ASEAN countries. This curriculum offers systematic knowledge of cargo handling, logistics management methods, and traffic agreements with other countries by inviting teachers from logistics companies in Thailand and Vietnam. In addition, five members of LIFFA have received logistics training three times in Thailand. LIFFA is planning to give four education courses for members of affiliated companies and the logistics industry. The training facility is approved by the Ministry of Public Works and Transport Communications (not by the Ministry of Education and Sports) and is equipped with desks and chairs. JETRO and LIFFA are working together to train logistics specialists by holding workshops (e.g. improving qualifications system of drivers).

<sup>34</sup> In Japan, there are qualifications such as Certified Logistics Masters or International Logistics Masters.

<sup>35</sup> Lao International Freight Forwarders Association

<sup>36</sup> Japan International Freight Forwarders Association

## **2) Challenges of Private Companies**

In the Lao logistics industry, a lack of human resources, high costs caused by one-way transport, and languages are major issues.

Many companies lack logistics specialists, even though they are very important for efficient business activities. Current distribution costs are very high and account for up to 20% of production costs. Optimizing the whole supply chain if managed by a specialist can largely reduce these costs. However, each Lao logistics company only manages a single process of the supply chain, and the optimization process does not go beyond that. LIFFA recognizes the importance of developing human resources to solve this problem and offers training opportunities, but the number of participants is small due to a lack of understanding.

In Lao PDR, distribution costs are high because most transport is one-way. The Lao logistics industry depends mostly on import and export trade with neighboring countries, because Lao is a land-locked country. Five neighboring countries surround Lao and it is in a strategic location having major cities along its the border. However, the export cargo volume is almost non-existent compared to import cargo volume because there are few domestic industries. As a result of one-way transport, distribution costs are high.

Few people can speak English, even though the ability is required in the logistics industry. English education starts at 3rd grade in Lao PDR, and continues to junior and high schools. But, proficiency in English is not sufficient, probably because it is not needed for college entrance examinations.

### **3.5 Construction Industry**

#### **(1) Industrial Policy and Institution**

##### **1) Position in the National Development Plan and Its Prospects**

The industrial promotion policy and plan for infrastructure and construction industry are mentioned as one of priority areas mainly in the following three plans.

- 8th NSDEP
- Ten-year Socio-economic development strategy (2016-2025)
- Vision 2030

In terms of the future prospects of the construction industry, the emphasis on continuing investment in transportation infrastructure is mentioned in the article “Results and Challenges” of PART I: 7th NSDEP(2011-2015) of Achievement and Lessons Learned in the 8th NSDEP. Because of high socio-economic effects of the investment in road construction, in particular, it is regarded as one of priority policy items. 55% of villages in mountainous areas of Lao PDR are not accessible by roads. For the poverty reduction purpose, Provinces of Sekong, Phongsaly, Houaphanh, in particular, are the priority areas for road construction.

##### **2) Development Strategy and Implementation Plan of Construction Industry**

###### **i) 8<sup>th</sup> NSDEP**

OUTCOME 1, OUTPUT 1: Ensuring Sustained and Inclusive Economic Growth describes the plan as followings:

- Upgrading the following 5 routes connecting with neighboring countries:
  - ✧ Mekong Sub-region Corridors (GMS), Asian Highway, East-West Corridor, North-South Economic Corridor, The Railway Boten - Vientiane
- Development of comprehensive distribution system focusing on the following 4 areas:
  - ✧ Natoei, Savannakhet, Vientiane, Champasak
- Upgrading domestic airports to meet the international standard for provision of internationally competitive services, and expansion of domestic and international flight routes.
- Pursuit of Privatization: In case of Nampapa, facilities and advice on pricing were provided by the government. Further pursuit of effective and competitive privatization is envisaged.
- The INFRASTRUCTURE SECTOR WORKING GROUP (ISWG) was established in 2008, as the organization for promotion of NSEDP implementation. They hold regular meetings chaired by the Minister of Public Works and Transport (hereinafter called as MPWT), and co-chaired by the Laotian Ambassador to Japan. Other ISWG members are staff of relevant offices of MPWT, Japanese embassy, JICA, ADB, and World Bank. ISWG, divided into 3

sub-groups of infrastructure development, distribution system development, and water & sanitation development, discusses consistency and progress of their projects. (Source: 8th INFRASTRUCTURE SECTOR WORKING GROUP (ISWG) MEETING REPORT, 2015, MPWT)

ii) Ten-year socio-economic development strategy (2016-2025)

The 10-year plan (2016-2025) stipulates that bearing in mind the “graduation” of LDC status in 2020, and setting the period up to 2025 as the transition period from LDG “graduation”, they make efforts to progress the basic infrastructure development up to the equivalent level of middle-income countries.

They plan to pursue the basic infrastructure development, which is integrated regionally and internationally, in order to enhance their domestic competitiveness, and make their communications and services far more efficient. For their agricultural development, they advance the agricultural infrastructure development including irrigation and water supply facilities, as well as local goods and products distribution. For this purpose, development of hydro-power generation, etc. is also strengthened.

Manufacturing industry for cement, steel bars, blocks, and wooden furniture as well as parts assembly and processing also has to be developed.

For socio-economic development, in terms of basic infrastructure development, particular focus should be given to the following items.

- Construction and repair of roads, railways, and airport runways for promotion of inter-county, inter-provincial, and international communications.
- Power sector development indispensable for industrialization and modernization.
- Water supply development to meet the needs of agriculture, industry and domestic consumption.
- Establishment of service sector necessary for harmonized development of capital market, financial market, securities market, products market, retail market, and labor market.

iii) Vision 2030

Based on characteristics, situation, international environment and national development priorities of Lao PDR, the Vision 2030, the long-term vision up to 2030, specifies the aims of political stability, security, environment protection, human resources development, integration of domestic affairs with international situation. As one of challenges for fulfilling the aims, establishment of solid basic infrastructure system is mentioned in the Vision.

### **3) Situation and Challenges of Relevant Legislation**

In terms of legislation related to the construction industry, although the regulation for construction permission was enacted in 1991, there existed no Construction Code in Lao PDR. Therefore, as there was no authoritative national legislation concerning design of buildings, design works were based on studies in schools, knowledges of experienced architects and engineers, and laws of the US, France and Russia, etc. Due to the Law on Urban Planning which was enacted in 1999, construction of buildings came into under control in the urban masterplan preparation. However, legislation of Construction Code which stipulates design control, standards, technical specifications, unit price, standard specifications of buildings and building materials, etc. has been expected for many years. (Source: Building Sector and Housing Situation in Laos, 1999)

The Law on Urban Planning, which was enacted in April, 1999, stipulates the outline of regulations of land use and building management, and relevant legal actions in Lao PDR. It depicts the aim of safe, healthy and sustainable urban development, and promotion of implementation of policies and legislation for protection of national heritage, architecture, culture, environment and nature. It also describes the intention of attaching much importance, in development processes, to participatory bottom-up approaches and integration with local development plans.

The Law on Construction was enacted in 2009.

While the Law on Investment Promotion, enacted in 2009, requires construction-related works to be signed and certified by local enterprises, foreign-affiliate companies (many of them are Chinese-affiliated) do not necessarily comply with the regulation.

After the inauguration of AEC (ASEAN Economic Community) at the end of 2015, Chinese and Vietnamese-affiliated enterprises advanced into Lao PDR one after another. However, since the legal control of construction businesses has not been in good order in Lao PDR, less competitive local construction companies are deprived of lion's share.

### **4) Capacity of Relevant Ministries, Local Offices and Executing Agencies**

The responsible ministry for construction industry in Lao PDR is MPWT.

According to the results of interviews to local businesses in this survey, challenges of the capacity of the government were pointed out as described below.

(Methods of Entrusted Implementation of Government Projects)

As for the construction projects entrusted by the government, challenges are customary nomination of local construction companies by the project owner ministries, and absence of serious oversight of construction processes.

Normally, if foreign companies construct buildings in Lao PDR, they have to go through the

following processes.

- i) Submission of reports of site survey and subsurface investigation to MPWT;
- ii) Submission of construction concept design (design drawings, budget outline, technical specification) to MPWT;
- iii) Detailed design of construction (design drawings, budget outline, technical specification) to MPWT;
- iv) Issuance of construction permission by MPWT;
- v) Bidding;
- vi) Construction inauguration;
- vii) Examination after construction completion.

In case of government-ordered construction projects, the above-mentioned i) to iii) are stapled into one process, and contractors are required to submit documents only once. In addition, in terms of the content of documents, although the bill of quantities (BOQ) of buildings to be constructed are examined, design drawings and other detailed information are exempted from inspection. It means there are cases where construction permissions are issued even though the construction details are not in harmony with the budget. Significant number of projects seem to have been stagnant because of budget overrun. (Source: Interview survey to local companies) Although the performance-based contracts (PBC) have been introduced on trial basis, they are yet to be in full implementation. Overhaul of ways of implementation of government-sponsored projects as well as capacity improvement of the government side are required.

(Ensuring the transparency of bidding and implementation of government-sponsored projects)

While every construction work is given the grade, the grade setting standard is not clear. Also, due to obscure taxation standards, there are companies which do not pay taxes.

In addition, the government-sponsored projects are accompanied by discouraging factors for construction companies such as i) cumbersome procedures, ii) taking too much time to get permission, iii) low service fee between 2 to 5%, iv) delayed payment, and v) construction of roads and other infrastructure in advance with the cost born by the private sector on the government's behalf to be reimbursed by the government later.

Because of the frequent delayed payment by the government, public works projects often seek finances from local banks for shortage of funds. However, interest rates of Laotian domestic banks are high, and they lend funds equivalent to only 50 to 60% of mortgage of land, etc. Furthermore, significant volume and varieties of documents are required for the procedure. This is the background of heavy burden for small and medium-sized enterprises which received orders of public works projects with high tendency of delayed payment.

## 5) National Qualifications of Skills and Techniques required for Construction Industry

No national qualifications like registered architects exist in Laotian construction industry. Therefore, job-seeking students show only bachelor's degree certificates for interviews. Instead, the certification system authorized by the Association of Lao Architects and Civil Engineers (ALACE) plays a major role. ALACE system is based on experience and achievement in the construction industry, and 100 to 150 new members are authorized every year. However, no certificates are issued. ALACE is currently requesting MPWT to authorize ALACE system as the official qualification within the year 2016. (See 3-5.(3) 2))

Based on Mutual Recognition Agreements (MRA), architects and engineers of MRA member countries are now able to work in all member countries. Although Thailand, Singapore, Malaysia and the Philippines are members, Lao PDR and Cambodia have not yet joined.

### (2) Industrial structure

#### 1) Output, Sales Amount and Value Added

##### i) GDP

Out of real term GDP of Lao PDR, the construction industry shared about 7% in 2014. Due to its recent robust needs for infrastructure development, the industry's growth rate has been as high as 11.8% in 2013, and 11.9% in 2014 maintaining the tendency of expansion in the share in GDP.

**Table 3-18 Lao PDR's Real Term GDP by Sector (2002),  
Composition Ratio, Comparison with the Previous Year**

Sector	2013			2014		
	GDP (100LAK)	composition ratio	year on year	GDP (100LAK)	composition ratio	year on year
Agriculture	10,225,126	25.79	3.5	10,591,865	24.84	3.59
Crops, animal raising, and hunting	8,520,187	21.49	4.91	8,957,280	21.00	5.13
Forestry	474,226	1.20	-19.16	345,603	0.81	-27.12
Fishing	1,230,714	3.10	5.04	1,288,982	3.02	4.73
Industry	11,424,678	28.82	9.74	12,262,178	28.75	7.33
Mining and quarrying	2,786,444	7.03	8.71	2,956,414	6.93	6.10
Manufacturing	3,958,364	9.98	5.97	4,275,033	10.02	8.00
Electricity and water	1,927,475	4.86	16.74	1,950,801	4.57	1.21
<b>Construction</b>	<b>2,752,394</b>	<b>6.94</b>	<b>11.81</b>	<b>3,079,929</b>	<b>7.22</b>	<b>11.90</b>
Services	15,534,278	39.18	9.7	16,991,095	39.84	9.38
Wholesale and retail trade, repairs	7,782,818	19.63	7.26	8,334,513	19.54	7.09
Hotels and restaurants	286,576	0.72	8.83	298,530	0.70	4.17
Transport, post and communication	1,835,028	4.63	6.05	2,095,877	4.91	14.21
Financial intermediation	1,528,872	3.86	13.2	1,721,509	4.04	12.60
Real estate and business services	1,185,909	2.99	8.1	1,318,731	3.09	11.20
Community, social and personal services	637,901	1.61	6.9	671,710	1.58	5.30
Private households with employed persons	255,169	0.64	4.46	266,549	0.63	4.46
Producers of government services	3,330,307	8.40	19.9	3,733,274	8.75	12.10
Financial intermediation services indirectly measured	-1308301	-3.30	13.86	-1449598	-3.40	10.80
All industries at basic prices	37,184,082	93.79	7.9	39,845,138	93.43	7.16
Taxes on products and Import duties, net	2,463,772	6.21	8.8	2,801,309	6.57	13.70
GDP at market prices	39,647,854	100.00	8.02	42,646,447	100.00	7.56

(Source) Economic Statistics Office, National Statistics Bureau  
(Corrected with CPI increase compared with the price in 2002)



ii) Procurement of building materials

Because of the under-development of component and parts-supply industry of Lao PDR, it is hard to purchase local building materials. 95% of the required building materials are imported from foreign suppliers. Influenced by the deflation, the exchange rate fluctuation has been prevalent for the past 4 to 5 years. In 2015 in particular, this affected some firms, which fell into financial deficit due to the failure of procurement of building materials. The followings are excerpts of examples obtained from our interview survey.

- 70% of the total materials are imported from Thailand. The price-competitive and high quality sanitary earthenware, electrical goods and furnitures in particular are imported from Thailand. The remaining 30%, such as cement, sand and stone, steel-bars, etc. are locally procured.
- We use Laotian-made steel bars. High quality materials are imported from Thailand or Vietnam. As for asphalt, it is 100% imported from Thailand.
- Cement used for dam construction is all imported from foreign countries. Laotian cement is of low quality compared to its price. We do not use it. As for earth and sand, we sometimes use locally available one.

iii) Trend of infrastructure development

The following is the situation of infrastructure development of Lao PDR broken down into roads, bridges, railways, river, and others.

iv) Roads & bridges

For landlocked Lao PDR, roads are the most important infrastructure for supporting the transport of goods and passengers. In 2009, the share of road transport in the domestic total freight traffic volume and passenger transportation volume was 81% and 84% each.

The total road distance of Lao PDR has been increasing in parallel with its economic growth. Around 2,200 km (National Road No.9) was developed in the fiscal 2014-2015, which expanded the total road distance up to 49,380 km as of December 2014. This is about 3.2 times of 12,223 km of 1980, and about 4.0 times of 39,586km of 2010.

**Table 3-19 Total Road Distance of Lao PDR (as of Dec. 2013, Dec. 2014)**

Road Type	Dec 2013	Dec 2014	rate of 2014 total
National	7,378 km	7,448 km	15.08%
Provincial	8,209 km	8,377 km	16.96%
District	5,642 km	6,403 km	12.97%

Road Type	Dec 2013	Dec 2014	rate of 2014 total
Urban	2,215km	2,720 km	5.51%
Rural	20,258 km	23,838 km	48.27%
Special	2,122 km	594 km	1.20%
Total	45,824 km	49,380 km	100.00%
	<b>Increased</b>	<b>3,556 km</b>	

(Source) 8th Infrastructure Sector Working Group (ISWG) Meeting Report, 2015, MPWT

The road pavement rate of Lao PDR as of 2009 was 14% which has been almost unchanged for the past 30 years. Compared with the rate 95% of Thailand, 81% of Malaysia, etc., this is extremely low among ASEAN countries, and only comparable with 22% of Myanmar, and 9% of Cambodia.

As for bridges, construction of the following 3 new bridges over the Mekon River was completed in the fiscal 2014-2015. (Source: 8th Infrastructure Sector Working Group (ISWG) Meeting Report, 2015, MPWT)

- Lao-Thai Friendship Bridge 3 (Khammuan-Nakhon Phanom)
- Lao-Thai Friendship Bridge 4 (Huaixay-Xiengkhong)
- Lao-Myanmar Friendship Bridge

According to the 2016-2020 plan, the construction of 6 roads and 3 bridges are planned.

Challenges in the area of road and bridge construction in Lao PDR are i) shortage of funds for construction and maintenance, ii) fragility of unpaved roads in wet season, iii) damages to roads by over-loading vehicles, etc.

#### v) Railways

The railways of Lao PDR was inaugurated in 1924 when it was under the rule of France, and a 14 km railway was constructed to be connected with the ship transportation on the Mekon River in order to detour the point which is close to the border with Cambodia, and hard to navigate due to the rapid stream caused by a waterfall. The railway was then used for about 20 years, and decommissioned when the French troops withdrew. Since then there existed no railways in Lao PDR for 60 years. In 2009, a 3.5 km railway connecting Nong Khai (Thailand) and Thanaleng (Lao PDR, 10 km southwest of Vientiane) was constructed with the assistance of Thailand, and has been in operation.

Following 5 railway projects are currently planned.

1. Lao-Thai Railway Construction Project Phase 2
2. Vientiane – Thakhek – Mu Gia Railway Project (450 km)
3. Savannakhet - Laobao Railway Project (220 km)

4. Lao – China Railway Project from Boten – Luang Prabang - Vientiane (417 km)
5. Thakhek – Savannakhet – Pakse (324 km) Vangtau/Chong Mek (Lao-Thai Border)

vi) River

Although Lao PDR do not face the sea, 1,900 km out of the Mekon River which is the largest in Southeast Asia with the length of about 4,800 km is situated in Lao PDR or running along the border between Lao PDR and its neighboring countries. About 80% of the Lao PDR's total land and 90% of its population belong to the Mekon River basin.

In terms of rivers, donors including Japan, China, ADB, Korea, World Bank, etc. have been extending assistance for masterplan development, port construction, flood control, etc.

vii) Other infrastructure

- Hydropower generation: Investment shortage in hydropower generation is particularly prominent. In spite of its huge growth potential, hydropower generation has never been provided finances from banks. The reasons for this are supposed to be low quality of feasibility studies of hydropower projects, inadequate risk analysis by banks (inappropriate loan application screening capacity of bank staff). (Source: interview survey to LNCA)
- Schools & hospitals: The quality of school and hospital buildings is extremely low in Lao PDR. The government expects the assistance from donors in the area of education and public health.
- Airports: The priority is given to the development of inter-provincial road network rather than the airport construction in every province. (Source: 8th Infrastructure Sector Working Group (ISWG) Meeting Report, 2015, MPWT)

## 2) Number of enterprises

Before 1991, the only institutions in charge of construction works in Lao PDR were public corporations. However, after the change of regime, and the introduction of open door policy to the private sector, the participation of private companies in the construction works became possible.<sup>37</sup>

As not many foreign construction businesses advanced to Lao PDR from 1998 to 2014, the competition among businesses was not fierce. As of 2014, the number of registered construction companies were around 300, and other small and medium-sized enterprises engaged in construction works were about 1,000. (Source: INTERNATIONAL DEVELOPMENT GROUP, 2014, Laos Country Report – Focus on Construction Sector).

While there existed about 250 contractors in Vientiane as of 2015, the number decreased to

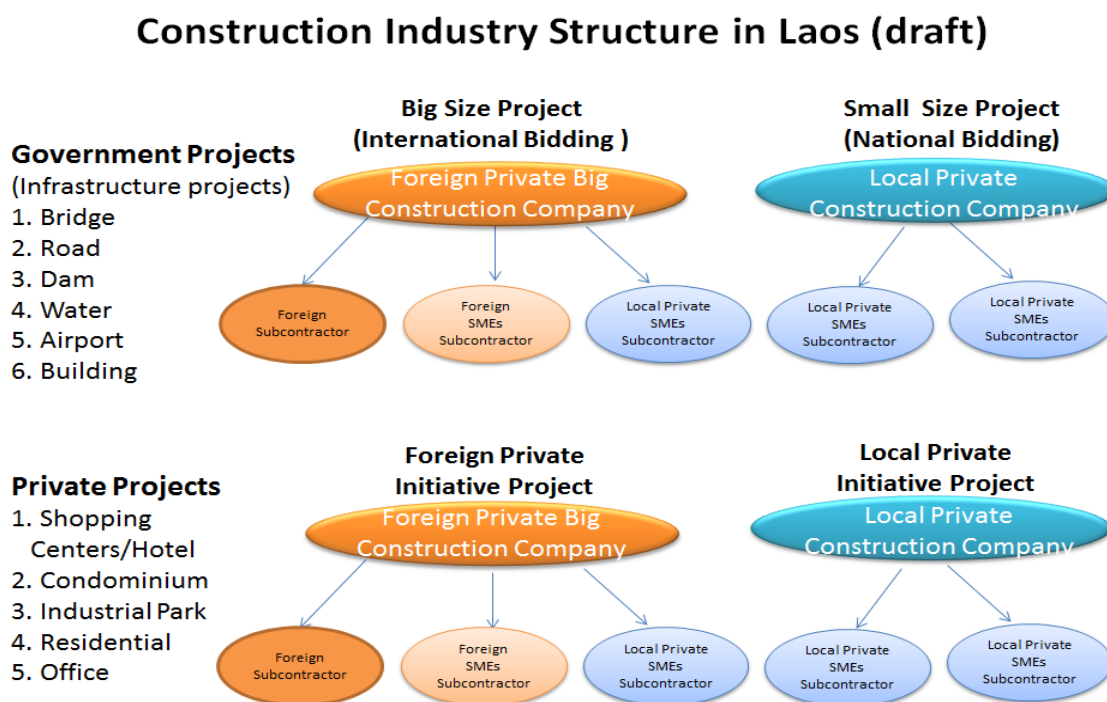
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<sup>37</sup> When the communist regime took power in 1975 in Lao PDR, engineers, design technicians, etc. emigrated to foreign countries (mainly the US and France) in fear of the new regime.

some 150 in 2016. The background of the diminution of contractors seems to be the government’s financial difficulties and the resultant discontinuance of business of many companies. (Source: Interview survey to local companies)

According to the interview survey, there exist more than 60 architect offices in Vientiane, out of which less than 10 are major companies. The definition of major company is the one with more than 20 staff.

Figure 3-6 shows the construction industry structure of Lao PDR.



**Figure 3-6 Construction Industry Structure in Lao PDR**

The following is the description of structure of i) government-sponsored projects, ii) projects sponsored by the private sector. The ratio of the former to the latter is roughly 7:3.

i) Government-sponsored projects

The mainstay of government-sponsored projects are infrastructure such as bridges, roads, dams, water, airports, buildings, etc., and out of which 90% are large, and 10% are small scale projects.

Since the government of Lao PDR does not have sufficient budget, 90% of large scale projects seem to be international projects with international bidding.

As for government-sponsored large scale projects with international bidding, while prime contractors are foreign-affiliated large scale firms, sub-contractors are foreign-affiliated large and medium-sized firms as well as local small and medium-sized firms.

The majority of government-sponsored small scale projects are with local bidding. Many of such projects are executed by local large and medium-sized firms as prime contractors, and local small and medium-sized firms as sub-contractors.

ii) Projects sponsored by the private sector

Projects sponsored by the private sector are to construct shopping centers, hotels, condominiums, industrial estates, housing, offices, etc. They seem to be roughly broken down into projects with foreign capital (80%), and projects with local finance (20%).

Most of the private sector projects financed by foreign capital are usually executed by foreign-affiliated large scale companies as prime contractors, and foreign-affiliated and local small and medium-sized companies as sub-contractors.

On the other hand, most of the locally funded private sector projects are usually executed by local large and medium-sized firms as prime contractors, and local small and medium-sized firms as sub-contractors.

### 3) Number of employees

According to the data of Lao National Construction Association (LNCA), the number of employees in the construction industry of Lao PDR was about 120,000 as of 2013. The labor force in the construction industry has been expanding by 55,000 people annually, which constitutes the annual growth rate of 2.5% according to the Ministry of Labour Social Welfare (MoLSW) of Lao PDR. The total number of foreign laborers, mostly from China, Thailand and Vietnam, is about 100,000 (the total of authorized and unauthorized employees). (Source: INTERNATIONAL DEVELOPMENT GROUP, 2014, Laos Country Report – Focus on Construction Sector)

Summing up the challenges of the supply side of employment issues of the construction industry, there are challenges of i) shortage of engineers in the whole of Lao PDR, and absolute shortage of construction workers, ii) inadequate quality of university education, and iii) lack of collaboration between industry and education as well as slow improvement of university education.

i) Shortage of engineers in the whole of Lao PDR, and absolute shortage of construction workers

In Lao PDR, the labor force population from the aged 18 to 60 shares almost half of the total population of 6.69 million. However, 80% of the total labor force is engaged in agriculture, and the remaining 20% is shared by all of the non-agricultural sectors. Therefore, the number of employees in the construction industry is extremely small from the outset. According to the results of our interview survey to the construction businesses, the number of engineering course graduates from universities is about 1,000 per year which is too small compared to the share of the

construction industry in GDP. In addition, there are many cases of dropout due to inability to continue to pay school expenses up to graduation.

Another challenge is parents' attitude. As many parents tend to wish their children to get jobs in banks, etc., students tend to avoid engineering courses.

ii) Inadequate quality of university education

Our interview survey revealed following points with regard to inadequacy of university education.

- Compared to the international standard or to those who studied in Vietnam, China and Korea, etc., graduates from engineering courses of National University of Laos (NUOL) quite often lack basic knowledge.
- Graduates from NUOL are unsatisfactory. Out of those recruited as new graduates, those who are ready to work on their feet are only 20%, but they are quite often those who studied in foreign countries.
- Almost half of those recruited as new graduates require re-training from basic affairs.
- Those who experienced working as interns or other practical training while studying in universities or those holding master's degree from foreign countries are comparatively easy to become capable workers soon.
- The engineering department of NUOL is equipped with obsolete facilities and limited library book collection, and is not in desirable education environment.
- We are afraid that many of teaching staff of NUOL are without practical experiences in the private sector, and are not able to teach enough knowledge and skills required in the real world to students.

iii) Lack of collaboration between industry and education as well as slow improvement of university education

Because of insufficient collaboration between industry and education in the construction industry, the human resources suppliers including universities are not quite familiar with the requirements of the construction industry.

While the Association of Lao Architects and Civil Engineers (ALACE) urges NUOL to consider the promotion of collaboration between industry and education, NUOL side is not active on the reason of lack of readiness. The associations of construction businesses in foreign countries such as Korea Institute of Registered Architects (KIRA) and the Association of Siamese Architects (ASA) with which ALACE has been promoting ties are also considering the

collaboration with educational institutions in Lao PDR in a forward-looking and cooperative manner. The realization, however, is not optimistic so far since it takes time to get approval from the Education Ministry, and NUOL is inactive on the reason of its resource constraints. It may be necessary to create a system in which Laotian universities and donors can directly conclude MOU and promote collaboration. (Source: interview survey to ALACE)

#### 4) Average salary

The average salary of the construction industry of Lao PDR is 400-500 US\$/month. (Source: INTERNATIONAL DEVELOPMENT GROUP, 2014, Laos Country Report – Focus on Construction Sector)

The cost of Laotian construction companies are said to be higher than that of foreign-affiliated counterparts. However, the labor productivity of the former is lower than the latter.

Table 3-20 shows the comparison of Lao PDR and Thailand in terms of productivity of laborer per hour (price of 2002) broken down by type of industries. While the Thai productivity of construction and services combined was 78,197Kip in 2011, that of Lao PDR in 2013 was 22,472Kip or merely 28.7% of Thai figure. The aggregate productivity of Lao PDR in 2013 was 32% of that of Thailand in 2011. The productivity of construction and services combined of Lao PDR is particularly low together with manufacturing when compared with other industries.

**Table 3-20 Comparison of Labor-Capital Intensity of Lao PDR and Thailand (2003, 2008, 2013) <sup>38</sup> (2002 Price)**

	Lao PDR			Thailand			
	2003	2008	2013	1986	1996	2006	2011
Agriculture	7,202	7,619	8,746	2,702	5,243	10,276	11,853
Manufacturing	16,466	12,277	12,619	35,282	67,060	66,791	81,742
Mining, electricity, water & gas	1,028,278	705,030	780,384	326,704	745,772	1,259,037	1,117,369
Construction & services	18,475	15,291	22,472	51,872	81,500	79,390	78,197
Aggregate	<b>13,289</b>	<b>13,746</b>	<b>19,126</b>	<b>18,635</b>	<b>44,742</b>	<b>56,445</b>	<b>59,832</b>

(Source) Lao Development Report, 2015, World Bank

#### 5) Amount of import and export

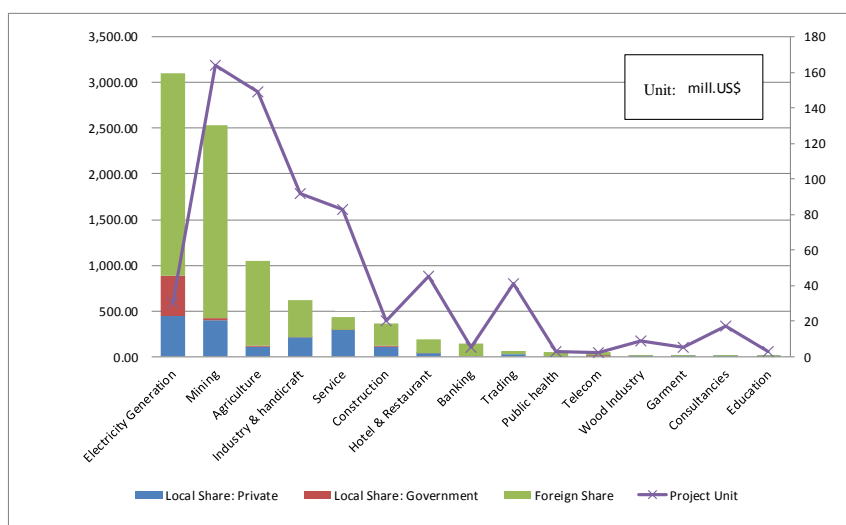
The total amount of import for 4 years of 2011-2015 of Lao PDR was 17,411.04 million US\$ with average annual increase rate of 8.4%. The share of the construction-related materials were 15.52%, which was the third largest, behind cars and auto-parts 22.75%, and oil and gas

<sup>38</sup> Calculated based on the data of National Statistical Center of Lao PDR and National Statistical Office of Thailand.

17.91%. (Source: 8<sup>th</sup> NSEDP) The total amount of export in the same period was 15,070 million US\$, out of which the share of timber and wood products was 4%.

### 6) Investment amount

The accumulated investment amount in the construction industry of Lao PDR in the period of Jan. 2011 to Dec. 2015 was 356.9 million US\$, which was the fifth largest, behind power generation, mining, industry & handicrafts, and services, and shared 4.2% of the total investment amount. The number of the construction-related projects was 20.

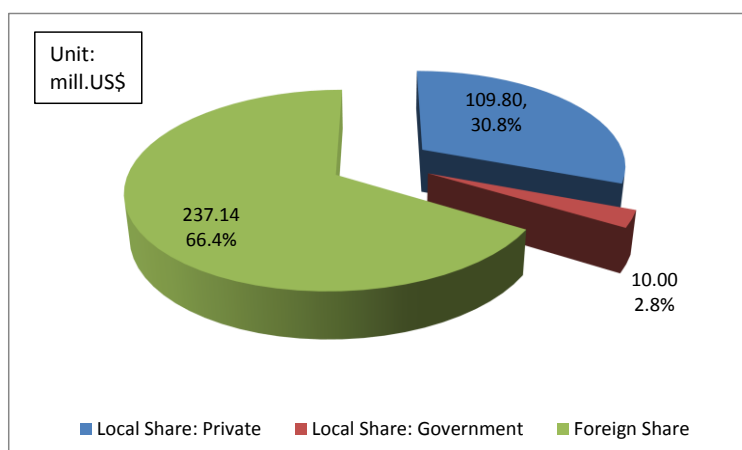


(Source) Statistics of the Ministry of Planning and Investment

**Figure 3-7 Accumulated Investment Amount and Number of Projects of Lao PDR broken down by Sector in the Period of Jan. 2011 to Dec. 2015**

Among projects of the construction industry of Lao PDR, the investment amount from foreign countries in 2015 totaled 237.14 million US\$ was the largest (66.4%), followed by the amount invested by the domestic private sector totaled 109.8 million US\$ (30.8%). The investment by the Laotian government was 10 million US\$, and its share was as low as 2.8%.





(Source) Statistics of the Ministry of Planning and Investment

**Figure 3-8 Investment Amount in the Construction Industry in 2015  
broken down by Investor Type (USD)**

#### 7) Number of foreign-affiliated companies

Although foreign-affiliated companies including those from Japan, China, Vietnam and Thailand, etc. are engaged in the construction business, their accurate number is unknown.

#### (3) Organizations to support industry promotion

There exist no government-sponsored organizations to support promotion of the construction industry in Lao PDR. However, there are two organizations related to the construction industry, namely Lao National Construction Association with 84 member firms, and Association of Lao Architects and Civil Engineers (ALACE) with 1,216 members.

#### Lao National Construction Association (LNCA)

##### 1) Outline

Appointed its chairman by the Deputy Prime Minister, LNCA was established in 2010 as the first association in the construction industry of Lao PDR. Executive staff of the Association are composed of 1 Chairman, 4 Vice Chairmen, and 11 committee members. Formulating the strong bond among member firms, the purpose of the Association's activities is to foster the international competitiveness to be able to receive orders of large scale projects.

##### 2) Outline of service

Member firms hold monthly meetings to exchange views on business situation, strength and weakness of the industry.

### 3) Quality of service

New member firms have been continuously increasing. The quality of the service of LNCA is good.

### 4) Outreach

The number of initial members at the time of the inauguration of LNCA was only 18, while it is now 84, all of which are Laotian local firms. Most of them are located in Vientiane. Members include dealers of construction materials, construction companies and architect studios.

**Table 3-21 Breakdown of Number of Staff of LNCA's 84 Member Firms and Number of Years after Their Foundation (as of July 15, 2016)**

Number of Staff

More than 1,000	1,000 - 500	500 - 100	100 - 50	50 - 20	Less than 20	n.a.
1	0	6	2	21	15	39

Number of Years after Foundation

More than 20 years	20 – 10 years	Less than 10 years	n.a.
8	21	15	50

According to the categorization by the number of staff of each member firm, the number of companies with less than 50 staff is overwhelmingly as large as 36 except those of companies with the data unavailable. In terms the number of years after foundation, the longest 2 firms with 26 years were established in 1991 at the time of introduction of open door policy. The figure shows the continuous increase of newly registered firms. (Source: Documents provided by LNCA)

### 5) Challenges

LNCA is considering opening up its membership even to foreign-affiliated companies in future.

LNCA aims to strengthen the collaboration among member firms, and bring up the Laotian construction technology level to the international standard by increasing contracted projects and benefit. After its establishment, LNCA explored the collaboration with contractors and construction associations of China, Vietnam, Thailand, Singapore, etc. to pursue the bottom-up of Laotian construction industry. It has been exploring the possibility of building up ties with China International Construction Association.

## The Association of Lao Architects and Civil Engineers (ALACE)

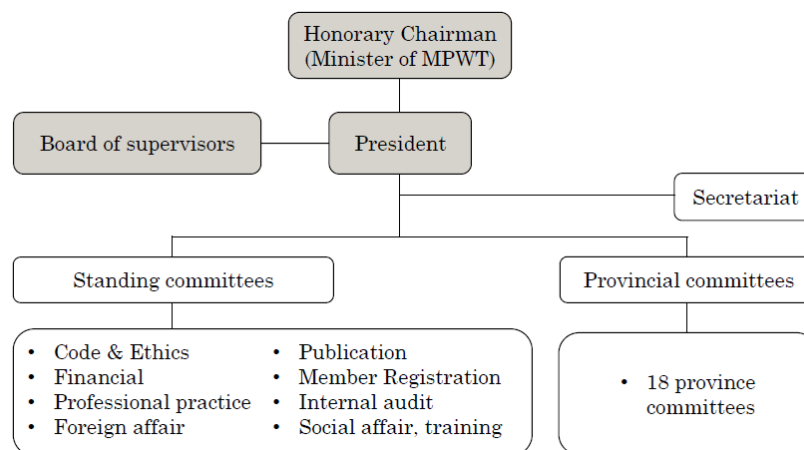
### 1) Outline

ALACE is an organization officially established under the Ministry of Public Works and Transport (MPWT) in 2006 based on the Law of Science, Technology and Environment Committee No 303/STEA, which was enacted in 2003.

The purposes of the establishment of ALACE are the following three. (Source: Engineering Professional Practice in LAO PDR, Documents submitted to the 84th ASEAN Coordinating Committee on Services, 2016, ALACE)

- i) Strengthening of human resources by gathering all the architects and civil engineers, and integrating and sharing their knowledge and experiences.
- ii) Bringing architects and civil engineers together for mutual support among professionals.
- iii) Contribution to the development of the nation and the improvement of society in the framework of the policy of Lao PDR by making use of professional expertise.

ALACE is headed by the Minister of MPWT as its Honorary Chairman, and under the President there are standing committees of Code & Ethics, Financial, Professional Practice, Foreign Affairs, Publication, Member Registration, Internal Audit, Social Affairs, and Training. Each of 18 Provinces have their own Provincial Committee.



(Source) Engineering Professional Practice in LAO PDR, Documents submitted to the 84th ASEAN Coordinating Committee on Services, 2016, ALACE

**Figure 3-9 ALACE Organization Chart**

### 2) Outline of service

ALACE provides member firms with services including recognition of engineers related to the construction industry based on applicants' experience and achievements in the industry. Although

ALACE does not issue certificates, it recognizes 100 to 150 applicants as engineers annually.

As a part of other services, ALACE issues the ALACE magazine for publication of its activities. In addition, as ALACE is a registered member of Architects Regional Council Asia (ARCASIA) which is organized by architects' associations of 17 countries of Asia, and the International Union of Architects (UIA), based in France, which brings together eminent architects of the whole world.

ALACE expects varied support from these organizations.

### **3) Quality of service**

Since there exist no national qualification systems of the construction industry in Lao PDR, ALACE's recognition system of engineers plays a key role for ensuring the quality of engineers working in the construction industry.

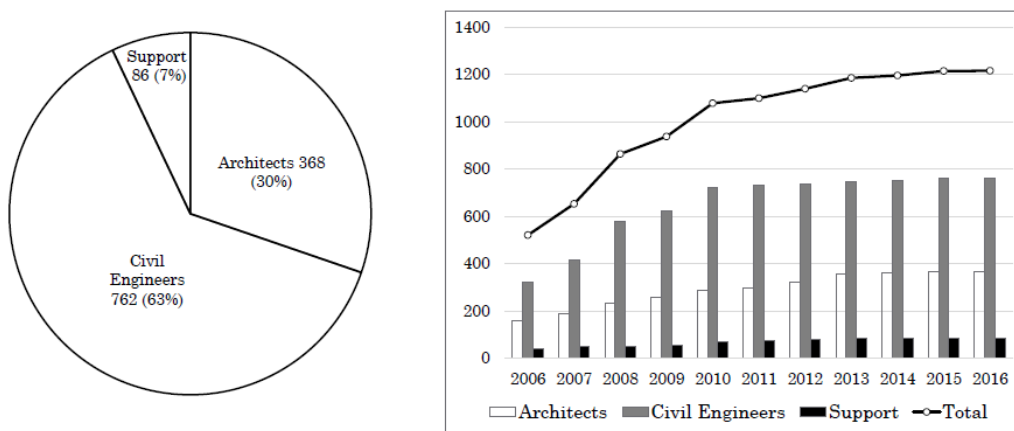
A requirement at the time of establishing an engineering company in Lao PDR is the presence of at least 1 engineer registered in the Ministry of Industry and Commerce. For starting up a consulting firm, it is indispensable for the entrepreneur to possess at least 2 ALACE certified engineers for acquiring the approval of the provincial public works and transportation department. This shows how the ALACE recognition system plays an important role in the government's administration.

### **4) Outreach**

ALACE's membership has steadily expanded from the initial some 500 in 2006 to 1,216 in 2016.

There are 3 types of membership, i) regular member, ii) supporting member, and iii) honorary member. The breakdown of ALACE's membership in 2016 is 762 civil engineers (63%), 368 architects (30%), and 86 supporting members (7%, mainly staff of dealers of construction materials), while the number of registered firms (architecture, construction, sales of materials) is 158.

The qualifications of membership registration are : i) regular member: Laotian national or permanent resident; bachelor's degree holder in architecture or civil engineering; possessing practical experience; ii) supporting member: Laotian national or permanent resident; possessing practical experience; iii) honorary member: those who made contribution to socio-economic development in the field of architecture or civil engineering; or those who made significant support to ALACE or architecture or civil engineering. The registration fee of ALACE is 50 US\$ annually.



(Source) Engineering Professional Practice in LAO PDR, Documents submitted to the 84th ASEAN Coordinating Committee on Services, 2016, ALACE

**Figure 3-10 Breakdown of ALACE Membership (2016) and Transition of Number of Members (2006 – 2016)**

## 5) Challenges

Because of its nature as a private sector organization, ALACE does not have compelling force but limited influence. Since there exist no official Council responsible for the construction industry to be administered by the government, ALACE has been requesting MPWT to set up the Council of Lao Architects and Civil Engineers, for which MPWT has sent the petition to the Prime Minister.

If the Council is established, it is also required to institutionalize the national qualification system for architects, etc.

Currently steps for oversight and report are absent in the processes up to the construction completion in the case of government-entrusted projects. (See 3-5 (1) 4)) If the Council is established, a series of processes where ALACE oversees the construction, and reports the results to the Council can be introduced. This would not only prevent defects in construction projects, but may effectively address the issue of quality assurance of construction works or construction delay aggravated by inadequate coordination among relevant government offices.

### (4) Situation and challenges of the private sector

#### 1) Situation of the private sector

##### i) Situation of the private sector: Japanese-affiliated companies

Out of Japanese-affiliated construction companies, Hazama Ando Corporation, Nishimatsu Construction Co., Ltd., Obayashi Corporation, Kubota Construction Co., Ltd., Taisei Corporation, etc. have advanced to Lao PDR.

In this survey, we interviewed 2 of them. The following is the outline of the results of our interview survey.

Company A	<ul style="list-style-type: none"> <li>● Our first encounter with Laos was when we started dam construction in 1968.</li> <li>● Currently we have 9 Japanese staff. Permanently employed Laotian staff are 2 engineers, 1 driver, 1 clerical staff. In addition, we have project-based engineers.</li> <li>● Our present major works are JICA's ODA projects including Roads No. 9 and 13, waste disposal, airport, mini-hydro, water supply, Vientiane Airport expansion. ADB projects are also implemented.</li> <li>● Our office is located in Pakse-Japan SME SEZ.</li> </ul>
Company B	<ul style="list-style-type: none"> <li>● After we got the permission of setting up the local office in Mar. 2015, we opened it in June 2015.</li> <li>● We have our office in the Savan-Seno SEZ Authority.</li> <li>● Our current construction works are based on the design prepared in Thailand, and are being constructed under the supervision of Thai managers.</li> <li>● 5 Thai managers and a couple of Laotian quality control engineers are supervising the Laotian sub-contractors. Thai and Vietnamese workers are more reliable than Laotians. We have shortage of accountant staff.</li> </ul>

ii) Situation of foreign-affiliated companies: other foreign-affiliated companies

Except Japanese-affiliated companies, Chinese companies such as CAMCE Investment (Lao) Co.Ltd, and Vietnamese companies including Viet-Lao Construction Company have advanced into Lao PDR. In the private sector projects, cases of mutually contracted projects by Chinese companies, or consortium type contracts by all-Vietnamese companies are noticeable.

Since getting the construction permission is easier if local firms apply rather than foreign firms, Chinese firms usually contract with local firms for construction permission application only in the initial stage, and after the construction permission is granted, and the actual construction works begin, the works are shifted to Chinese contractors. This is recognized as an important issue.

It is also widely said that Chinese contractors bring in everything from China including workers and construction materials such as cement which is better to purchase locally. It is necessary to ask them to change the practice as far as locally available materials are concerned.<sup>39</sup>

iii) Situation of local companies

We made interview survey to 7 local firms. The following is the outline of the survey results.

5 Construction companies	<ul style="list-style-type: none"> <li>● Established: 1 in 1989, 3 in 90s, 1 in 2000s</li> <li>● Number of staff: 1 with less than 20, 1 with 20-50, 1 with 50-100, 1 with 300, 1 n.a. All of them see seasonal fluctuation of staff number.</li> </ul>
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<sup>39</sup> However, 80% of local cement plants are operated by Chinese-affiliated companies.

	<ul style="list-style-type: none"> <li>● Business contents: Buildings such as offices, power generation infrastructure, dams for irrigation, water supply, railways, interiors, etc. Some do other business such as goods distribution, tourism, etc.</li> <li>● One company which was transformed from foreign-affiliated to local company possesses clients like donors and foreign assistance agencies. Other 4 companies are majoring in small and medium-sized projects entrusted by the Laotian government.</li> <li>● Construction materials are imported from neighboring countries except sand and earth.</li> <li>● All of the 5 companies suffer from the shortage of engineers. They have no internal training programs.</li> </ul>
1 Consulting firm	<ul style="list-style-type: none"> <li>● Established after introduction of the open door policy in 1991. In those days, the consulting business (design, construction, supervision) primarily led by the private sector was an absolutely new business. The current number of staff is 13. 5 out of them are engineers, 3 are architects, 3 are supervisors. All of them are Lao national.</li> <li>● Receive orders mainly from foreign assistance agencies, foreign governments, Laotian government-related enterprises, and local large businesses (Lao Telecom, Bank of Lao PDR, etc.). 80% of the projects contracted are by international bidding, while remaining 20% are contracted with public corporations and local large scale companies.</li> <li>● Since Laotian government-entrusted projects have a number of problems such as unattractive service fee as low as 2 to 5%, cumbersome procedures, delayed payment, time consuming process to get approval, etc., they have no intention to seek contract for such projects.</li> </ul>
1 Design & engineering firm	<ul style="list-style-type: none"> <li>● Established in 2010. The largest design &amp; engineering consulting firm in the private sector of Lao PDR. More than 100 permanent staff with breakdown of 70% engineers, 20% architects, and 10% clerical staff. In addition to Lao nationals, Thai, German (hydro-power engineer), and Australians are employed.</li> <li>● Implemented more than 100 projects in the past 5 years, out of which 10% are government-entrusted projects (Parliament building, designing of roads, etc.), and 90% are the private sector projects</li> </ul>

	<p>(from Japan, companies of ASEAN countries).</p> <ul style="list-style-type: none"> <li>● Under the management philosophy of “90% of the factors of the business success are from the excellent internal human resources”, strong emphasis on the training of the internal human resources. Has already provided scholarships to universities, and is planning to establish the academy in 2018 for internal research and development.</li> </ul>
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The following is the description of examples of sources of human resources securement for local companies, which is based on the results of our interview survey.

**Design Company A:** We recruit about 5 new staff every year from NUOL, etc. Although they are too young and less experienced, we consider it important to educate new graduates in our internal training and OJT.

We accept 30 to 50 local students for our internship program every year. We also have an international internship program to accommodate about 5 students from abroad such as France, Thailand (Chulalongkorn and Chiang Mai Universities), and Malaysia for 1 to 3 months every year.

This company is rather special. Most of other companies employ only Lao nationals.

## 2) Challenges of the private sector

We can enumerate a number of challenges for the construction industry, particularly local firms, of Lao PDR. They are i) limited experiences of large scale projects, ii) relatively high wages and low productivity of Lao technicians, iii) limited employment opportunities for new graduates, iv) lack of recognition of importance of companies’ internal education effective for addressing high turnover rate, etc. As the result, these factors are responsible for local firms’ inferior competitiveness vis-a-vis foreign-affiliated companies.

The followings are details of the challenges revealed as the result of our interview survey.

### i) Limited experiences of large scale projects

Due to the limited experiences of large scale projects for local firms, they are quite often disqualified for contracting large scale projects. This is the background for foreign-affiliated firms with abundant achievement to easily make successful bids in the international bidding. Local firms should essentially participate in these projects and accumulate experiences, but they are not able to do so.

To make matters worse, local firms’ lack of knowledge and skills of bidding documents preparation is another issue. Sometimes they are unable to correctly calculate in the cost



estimation. For example, in cases of large scale projects, the designation of specific materials by the orderers are quite common. If the said materials are available only from foreign countries, Laotian local firms are often unable to correctly estimate the cost.

With regard to human resources, since local firms have experiences of only small scale projects, they tend to be less conscious of the importance of team works. As local firms are not able to continuously succeed in bidding, project members are usually different every time. This is the reason why local firms' workers tend to be less team-conscious, and to concentrate only on the work at hand. This is the constraint on the development of organizational capacity.

Being less exposed to a variety of projects makes hard for local firms' workers to continuously accumulate experiences, and their experience value and achievement thus remain insufficient.

At this moment, measures to enhance experience value of local firms' workers in the construction industry of Lao PDR seem to be more effective than the establishment of engineers' national qualification. (Source: Interview survey to Japanese-affiliated companies)

#### ii) Relatively high wages and low productivity of Lao technicians

Wages of Laotian technicians are relatively high. The lowest in the region is Vietnam, and wages are higher in the order of Cambodia, Lao PDR, and Thailand. However, Laotian technicians' skill level is generally lower than that of those countries. This makes Lao PDR less competitive.

Laotian local big enterprises sympathetically consider the utilization of local firms. However, due to quality constraints of local firms, big enterprises adopt foreign-affiliated firms in critical areas such as high level quality requirement, and construction supervision. Local firms tend to be utilized in less important areas.

Although it was possible to hire Laotian technicians with lower wages than Thai technicians 10 years ago, Laotian wages are now at the same level of the Thai.

Because of the limited employment opportunities in Lao PDR, Lao technicians with enough skills move to the northern Thailand, and do not remain in Lao PDR. In spite of low skill level and low productivity of Lao technicians, their wages remain high. Unless Laotian wage level is lowered, Laotian construction industry cannot be competitive. (Source: Interview survey to Japanese-affiliated companies)

One expert indication is that because of Laotian technicians' low productivity and weak enthusiasm for work, the productivity of 3 Laotians is equivalent to that of one foreign counterpart. Laotian workers' weak work ethics is also pointed out as an issue. Generally, as many Laotians have no other experiences than agriculture, they are not trained to work in the industry other than agriculture. There are many cases where they quit jobs whenever festivities or holidays come, and seek jobs whenever they run out of money. Furthermore, another expert indication is that the Laotian's strong preference of office work is one of constraints on the promotion of jobs

in construction sites.

iii) Limited employment opportunities for new graduates

The fact that limited employment opportunities in the local construction industry constrain the utilization of what new graduates learned in the higher education system and prevent them from further experiencing practical affairs of construction works is another challenge. Although there are cases where big enterprises employ new graduates who experienced their internship program, it is normally difficult for new graduates to find jobs in the construction industry, and opportunities to earn practical experiences in the construction industry is extremely limited.

iv) Lack of recognition of importance of companies' internal education effective for addressing high turnover rate

Whereas some foreign-affiliated firms conduct effective internal education/training programs, local firms<sup>40</sup> rarely do. One reason is that due to lower wages of Laotian construction workers compared to Thai counterparts, they tend to move to Thailand, which makes the turnover rate high, and the local firms' management naturally do not recognize the necessity of internal training. There is a case in a local firm where after a project with 200 staff started, 60 workers and a few number of engineers quitted within 3 months. While technicians can be replenished, it is difficult to replenish engineers. More capable the engineers are, more likely they are headhunted for higher remuneration.

v) Contrast of success of foreign-affiliated firms on one hand, and stagnant progress of local firms on the other

90% of government-entrusted infrastructure projects are contracted or led by foreign-affiliated companies. In urban areas, the private sector projects (commercial complexes, collective housing, industrial estates, etc.) have been rapidly progressed by the initiative of foreign-affiliated firms, many of which utilize foreign-affiliated sub-contractors rather than local sub-contractors. Most of local firms are small or medium-sized, and are characterized by the absence of internal training schemes, low technological capability and poor cost competitiveness. Deprived of opportunities of nurturing local enterprises, they are stuck in the vicious circle of weak competitiveness.

For the capacity development of Laotian small and medium-sized enterprises, it may be necessary, at the time of international bidding for donor-funded large scale projects in Lao PDR, to take measures to establish and apply regulations as a part of the government-led policy to include local content clauses which specify the requirements of use of local firms and human

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<sup>40</sup> There is an example in which a local big design firm considers the internal training as important. They have a plan to establish their academy in 2018 for their internal research and development.

resources up to 20-30 % of the total amount.<sup>41</sup> While this may increase the cost as a whole, merits of activation of the local construction business market of Lao PDR can be expected.

LNCA views that the present monopoly of large scale construction projects by foreign-affiliated companies derives from the absence of the government's appropriate support to local construction firms. LNCA is considering to request the government to subdue the further advancement of foreign general contractors. (Source: Interview survey to LNCA)

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<sup>41</sup> There is an example in Indonesia which specified the regulations to obligate the establishment of joint venture with local firms.

### **3.6 Agribusiness Industry**

#### **(1) Industrial Policies and Systems**

##### **1) Position of Agribusiness Industry in the National Plan**

The 8th NSEDP states that the goal of the agribusiness sector is to secure consistent and comprehensive economic growth. To achieve constant and solid economic growth, industrialization and modernization are top-priority issues. It is considered that a new economic structure is needed for the agriculture-forestry sector, the industry sector, and the service sector to reach 19% of GDP, 34.3% of GDP, and 40.5% of GDP, respectively<sup>42</sup>.

Besides the 8th NSEDP, the Lao Ministry of agriculture and forestry has established strategies and visions for agriculture and forestry administration. The Department of agriculture and forestry in Savannakhet and Vientiane has its own plans based on the national development plan.

##### **2) Development Strategy of Agribusiness Industry**

To achieve consistent and comprehensive economic growth, the 8th NSEDP will focus on the following activities<sup>43</sup>:

- Developing solid and sustainable agriculture and forestry sectors
- Continuing to allocate land for agriculture and production, in order to secure food and commercial production
- Increasing potential agricultural production of each locality using clean and organic agriculture, and promoting intensive agriculture using modern, high-quality techniques.
- Improving farming productivity by establishing farm production, production groups, enterprises, and family models using modern techniques and technologies in production to ensure supplies of agricultural products as inputs to processing industries and services quantitatively and qualitatively, in order to add value to products
- Continuing to focus on sustainable recovery, management, protection of forests and forestry resources to ensure that Lao PDR is green and developed sustainably

Prioritized activities are as follows.

- Promoting clean and organic agriculture in each local area to meet domestic market demand and exporting to foreign markets
- Promoting production along with marketing and processing
- Converting the population's natural livestock production to farming using modern

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<sup>42</sup> The 8th NSEDP (English version)

<sup>43</sup> The 8th NSEDP (English version)

scientific techniques to boost productivity.

- Concentrating on improving and upgrading irrigation to permanent and robust systems with effective management
- Upgrading existing agriculture extension and development centers to become comprehensive centers capable of demonstrating techniques of agricultural production and providing grain seeds to the people
- Focusing on agriculture and forestry according to local potential and geographic characteristics

### **3) Current Situation of Related Legal System**

The present state and issues of the agribusiness sector confirmed by administrative agencies are as follows:

#### **A) Current situation of the policy**

The present state of the agribusiness sector is categorized into three groups (technical support, producer group, and college education) and is as follows:

Central government and Department of Agriculture and Forestry of each province and district are in charge of giving technical support to farmers. Some agricultural experimental stations also offer technical support to district officers and farmers' groups. According to the Agriculture Popularizing Union, when a new technique is introduced, the central government gives Training on Trainers (TOT) of the popularizing department of the prefectural office first. As the next step, the popularizing department gives TOT to the agriculture and forestry office of each district and, finally, agricultural school-graduated advisors in each district office teach the new technique to farmers. The number of district agricultural advisors is 365, and that of provincial agricultural advisors is 250 for the whole country.

According to the Agriculture Popularizing Union, some producers purchase raw materials and sell produce as a group in the same way as the Agricultural cooperative association in Japan. Each producer group needs to have more than seven members.

According to the Savannakhet junior college of agriculture and forestry, to obtain up-to-date knowledge, teachers are sent to other institutions either within the country or overseas to receive training for a short period every year. Sometimes they are sent to the research center in Vientiane. Teachers are allowed to participate in TOT to learn new techniques such as the Clean Agriculture Policy stated in the 8th NSEDP.

#### **B) Current situation of the policy**

Issues in the agribusiness sector are categorized into four groups (processing techniques,

technical support, producer groups, and college education), and are as follows:

An issue related to processing techniques is that even basic processing is not done inside the country. The Agriculture Popularizing Union aims to establish a system to complete basic processing within the country (e.g. rice milling and packaging processes for exporting rice). Processing techniques are more advanced in Thailand and Vietnam.

An issue related to technical support is a lack of knowledge among agricultural advisors. Private companies report that very few farmers are conscious of the importance of market access from a marketing viewpoint. District and Province advisors are expected to have a marketing perspective but, in fact, they lack it. The Agriculture Popularizing Union considers that these issues are caused by various factors such as a lack of agribusiness know-how, a lack of recognition within the government organization, a lack of communication with the Ministry of Commerce and Industry, and a lack of accumulated information caused by personnel reshuffles between different sections. In addition, farmers lack incentives to get technical support from advisors. Although they are willing to get services such as certificate issuance or livestock vaccination, and even pay for these, they seem to be reluctant to get support from agricultural advisors. Apart from the above-mentioned TOT, agriculture extension officers themselves, however, are not necessarily familiar with on-farm techniques and agricultural machinery. In addition, farmers tend to practice farming based on their experience without paying much attention to guidance from extension officers who only have theoretical knowledge. This general tendency of disregarding extension officers by farmers was pointed out in the course of our interviews at the Agricultural Ministry.

Furthermore, the TOT system has not been used much due to budget limitations.

An issue in the producer group is that it is difficult to motivate farmers to participate in the group. According to the Agriculture Popularizing Union, it is very difficult to have them understand the merits of being in the group. In addition, the operator does not have enough knowledge to manage the group. In Japan, stable production of farm produce is possible because an agricultural cooperative association with many member farmers manages the whole supply chain including production, processing, distribution, and sales. In Lao PDR, the number of producer groups is very limited and they are not capable of managing the whole agricultural supply chain.

An issue in college education is a lack of human resources with specialized knowledge in specific fields such as plant diseases, selective breeding, agricultural economics, and agricultural machinery, according to the Savannakhet agricultural junior college. There are schools that teach general economics, but no schools teach agricultural economics.

Policies and laws implemented in the 8th NSEDP are as follows.

- Developing and managing agricultural land for rice crops, vegetables, and livestock: land registration and prohibit conversion of irrigated rice fields into other purposes; land allocation survey and evaluation of soil quality for rice farming; complete the issuance of agricultural land titles to farmer families in priority areas no later than 2020. Clearly allocate land for planting vegetables, rearing large animals, poultry, and fishery as appropriate.
- Promoting production and processing of products focusing on building modern rice mills and ensuring products meet international standards and factories for processing agriculture and forestry products.
- Creating an enabling environment for sustainable and productive agriculture by supporting farmers' organizations with access to relevant information, practical and quality education, and appropriate technologies with emphasis on intensification for yield growth as a major source of increased productivity rather than expansion of land area.
- Applying financial and banking policies that support producers, manufacturers, and entrepreneurs with access to finance on a rational basis and building synchronized production chains between big business enterprises and SMEs.
- Applying policies for clean and organic agriculture.
- Applying energy policies that ensure stable energy supplies to mills and processing factories.
- Applying policies for market expansion, price controls, taxation, and investment associated with agricultural products.
- Applying labor policies that ensure the provision of labor to the agriculture and forestry sector with specialized skills and meeting international standards.
- Applying policies for intellectual property rights, standards, and measures to build trust in products and ensure there are no violations of trademarks, while protecting agriculture and forestry products of Lao PDR.
- Applying policies for research and promoting seedlings of unique, environmental friendly species from Lao PDR.
- Applying policies for transport facilitation services, both domestically and internationally.
- Applying policies for rural development that closely link commercial agricultural production and sustainable food security.
- Applying policies for promoting private investment, both domestic and foreign direct investment, focusing especially on shifting to irrigated agriculture.

#### **4) Related Ministries**

The Ministry of Agriculture and Forestry is in charge of Agriculture industry. The number of workers in each department of the Ministry of Agriculture and Forestry as of 2014 is listed in Table 3-22.

The department of Agriculture and Forestry in each province works as local agency. The number of workers in local agencies as of 2014 is listed in Table 3-23.



**Table 3-22 Number of Workers in the Department of the Ministry of Agriculture and Forestry**

<u>Department</u>	<u>Number</u>		<u>Total</u>
	<u>Female</u>	<u>Male</u>	
Permanent Secretary Office	31	53	84
Department of Organisation and Personnel	29	20	49
Department of Agriculture	54	85	139
Department of Livestock and Fisheries	53	91	144
Department of Forestry	38	108	146
Department of Irrigation	32	111	143
National Agriculture & Forestry Research	97	235	332
Department of Planning	43	75	118
Department of Inspection	7	20	27
Department of Agriculture & Forestry Extension Service	51	108	159
Department of Inspection Forestry	15	39	54
Department of Land Management and Development	27	65	92
<b>Subtotal</b>	<b>477</b>	<b>1010</b>	<b>1487</b>
Agriculture College of Northern Region	30	34	64
Agriculture College of Borikhamxay Province	40	36	76
Agriculture College of Champasack Province	32	29	61
Agriculture College of Savannakhet Province	21	37	58
Irrigation College of Thagnon	28	63	91
<b>Subtotal</b>	<b>151</b>	<b>199</b>	<b>350</b>
<b>Huay sone-Huay Sua Development and Agricultural Service Center</b>	<b>8</b>	<b>18</b>	<b>26</b>
<b>Total</b>	<b>636</b>	<b>1227</b>	<b>1863</b>

Source: Agricultural Statistics, Ministry of Agriculture and Forestry (2014)

**Table 3-23 Number of Workers in Provincial Agriculture and Forestry Office**

<u>Provincial Agriculture and Forestry Offices (PAFO)</u>	<u>Number</u>		<u>Total</u>
	<u>Female</u>	<u>Male</u>	
Vientiane Capital PAFO	131	356	487
Phongsaly PAFO	108	219	327
Luangnamtha PAFO	90	217	307
Oudomxay PAFO	64	287	351
Bokeo PAFO	69	236	305
Luangprabang PAFO	109	394	503
Huaphanh PAFO	115	280	395
Xayabury PAFO	104	441	545
Xiengkhuang PAFO	91	306	397
Vientiane PAFO	135	453	588
Borikhamxay PAFO	137	333	470
Khammuane PAFO	165	420	585
Savannakhet PAFO	254	627	881
Xaysomboun PAFO	16	119	135
Saravan PAFO	105	368	473
Sekong PAFO	70	211	281
Champasack PAFO	143	488	631
Attapeu PAFO	64	277	341
<b>Total</b>	<b>1970</b>	<b>6032</b>	<b>8002</b>

Source: Agricultural Statistics, Ministry of Agriculture and Forestry (2014)

The provincial Agriculture and Forestry Office formulate plans based on the 8th NSEDP.

## 5) Related National Qualifications System

According to the Savannakhet Provincial Agriculture and Forestry Office, there is no national qualification related to agribusiness skills and technologies. However, there is a certification system for organic farming. To obtain certification, an application is submitted to the ministry of Agriculture and Forestry through the Provincial Agriculture and Forestry Office, and a certificate is issued. In addition, there is a GAP certification system based on ASEAN GAP for farm management.

**Table 3-24 Organizations Covered by Interview Survey (Agribusiness)**

Organizations (tentative)	Locations
Dept. of Agriculture (DoA), Ministry of Agriculture and Forestry (MAF)	Vientiane
Provincial Agricultural and Forestry Office (PAFO), Savannakhet Province	Savannakhet Province
Industry and Commerce Office, Savannakhet Province	Savannakhet Province
Department of Planning, Savannakhet agricultural junior college and Investment (DPI), Savannakhet Province	Savannakhet Province
Savannakhet agricultural junior college	Savannakhet Province
Provincial Agricultural and Forestry Office (PAFO), Champasak Province	Champassak Province
Industry and Commerce Office, Champasak Province	Champassak Province

## (2) Industrial Structure <sup>44</sup>

### 1) Production Output, Total Sales, Value and Added Price

Rice production has basically succeeded in meeting domestic demand. Average rice production during the past four years was three million tons a year. In FY2010-2011, rice production was 3.06 million tons, and in FY2013-2014, it was four million tons, which is 95.23% of the target value set in the 7th NSEDP (target value is 4.2 million tons).

Cultivation of food crops continued to grow moderately.

Stockbreeding and fisheries have greatly expanded due to the adoption of new techniques, such as supplying production materials, technical training on rearing animals, storing fodder and growing feed crops, and vaccinating to prevent diseases. As a result, stockbreeding has achieved a 5% annual growth rate (target growth rate is 4-6% a year)

Total sales are unknown.

Regarding value added price, the GDP of the agriculture sector was LAK 21,889,300 million in 2014.

<sup>44</sup> The 8th NSEDP (English version)

## **2) Number of Companies**

We could not collect information about the number of companies by size, but most of them are family-owned farms and there are not many agribusiness enterprises. Most farmers and agribusiness enterprises engage in primary industries. Few workers engage in secondary industries such as food processing. According to the Agriculture Popularizing Union, although the Lao government invests heavily in agriculture, the majority of primary farm products are exported to neighboring countries such as Thailand and Vietnam, and are processed there. For example, most of the rice produced for export is purchased by Thai brokers, with value added by processing in Thailand, and then it is sold elsewhere.

No information about the number of foreign enterprises was collected.

## **3) Number of Employees**

The number of employees was 1,461 thousand (72.2% of the total employees) in 2010. Both the number and the ratio of employees in agribusinesses have decreased since 2005 (2,739 thousand, 76.3%).<sup>45 46</sup>

## **4) Average Salaries**

No data on average salaries in the agribusiness sector has been obtained, but GDP per capita was LAK 1,498 thousand in 2014.<sup>47</sup>

## **5) Exports and Imports<sup>48</sup>**

Agricultural exports accounted for about 30% of total exports in 2015 (USD 3,434 million). The three largest exported agricultural products were “Wood, wood products, and charcoal” (USD 596 million (17.3%)), “Fertilizers” (USD 123 million (3.6%)) and “Cereals” (USD 94 million (2.7%)). Agricultural imports accounted for about 10% of total imports in 2015. The three largest imported agricultural products were “Meat and edible viscera” (USD 154 million (2.5%)), “Livestock” (USD 113 million (1.9%)), “Cereal, flour, starch, dairy products” (USD 88.4 million (1.5%)).

## **6) Investment**

During the period from 2011 to 2015, direct investment in the agriculture industry totaled USD 1.048 million. This was the third largest ever and accounted for 12.2% of the total.

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<sup>45</sup> Source: Lao Statistics Bureau (LSB)

<sup>46</sup> Data for 2005 are from the Lao Statistics Bureau, data for 2010 are from LSB Official communication

<sup>47</sup> The number of employees in the agribusiness sector is of 2010

<sup>48</sup> Calculated based on WTO, International Trade Center Database

**Table 3-25 Direct Investment Classified by Industry (2011-2015)**

(Unit: USD 1,000)

Sectors	Cases	Direct Investment	Foreign Investment	Rate of Foreign Investment
Electric Power Generation	30	3,097,276	2,218,526	72%
Mining	164	2,539,077	2,123,423	84%
Agriculture	149	1,047,668	935,040	89%
Handicraft	92	613,775	399,219	65%
Service	83	426,161	137,375	32%
Construction	20	356,932	237,136	66%
Hotel & Restaurant	45	186,785	146,258	78%
Banking	5	140,483	140,483	100%
Trading	41	58,395	35,184	60%
Public Health	3	49,689	42,529	86%
Telecom	2	45,620	35,621	78%
Wood Industry	9	19,056	16,579	87%
Clothing	5	9,165	8,140	89%
Consulting Service	17	7,264	5,296	73%
Education	3	2,011	1,120	56%

Source: Statistics, Ministry of Planning and Investment, Laos

[http://www.investlaos.gov.la/images/Statistics/rpt\\_Invest\\_Summary\\_Sector1A\\_2011-2015.pdf](http://www.investlaos.gov.la/images/Statistics/rpt_Invest_Summary_Sector1A_2011-2015.pdf)**(3) Institutions Supporting Industrial Development**

We visited supporting institutions related to the agriculture industry listed in Table 3-26.

Data on the Agricultural Promotion Bank are shown below.

**Table 3-26 Organizations Covered by Interview Survey (Agribusiness)**

Organizations	Locations
Agricultural Promotion Bank	Champassak
Coffee Research Institute	Champassak
Fish Husbandry Station	Champassak
Rice Multiple Center	Champassak
Cattle Breeding Center	Champassak

**A) Outline of Organization**

The Agricultural Promotion Bank was established in 1993 in accordance with a Prime

Minister's Decree. Its operation was based on the Decree on Commercial Banks until 2006. It offered low-interest loans to programs and projects of the government. In 2007, it became an independent commercial bank based on the following vision: "Leading bank providing rural financial services with sustainable, financially autonomous, and market-oriented operation for long-term contributions to poverty alleviation, economic growth, and prosperity of Lao PDR." It has 17 branches and 92 service units across the country. It has 1,393 employees. The Prime Minister's Decree issued in 2016 ordered it to act as an agricultural bank.

The Fish Husbandry Station was established during the period 1962-65 with assistance from Japanese grant-aid. It is a government agency that belongs to the Life Stock and Fishery of PAFO. It grows fry and adult fish from fish eggs in its research laboratory. It previously belonged to the Forestry Department when established, but was transferred in 1974. It has three staff and four volunteers.

The Coffee Research Institute has been providing seedlings to coffee farmers. It previously belonged to the Ministry of Agriculture and Forestry, but subsequently became the National Agriculture and Forestry Research Institute (NAFRI). There are 18 regular staff and seven volunteers.

The Rice Multiple Center was established in 1985 with assistance from Switzerland. It became the Laos branch of the International Rice Research Institute (IRRI) in 1992. It has 13 staff and two volunteers.

The Cattle Breeding Center was established in 1978. It belongs to PAFO. It has seven staff and three volunteers.

## B) Outline of Services

The Agricultural Promotion Bank is one of four national commercial banks. The other three banks are Laos Development Bank (LDB), which finances small and medium-sized companies; BCEL, which finances major customers; and, Nayobay Bank, which finances the poverty reduction sector.

The Fish and Husbandry Station gives training on fish farming to villagers when there is a farming project assisted by foreign countries. It offers practical training to students of Champassak College and Champassak Agricultural Junior College as well. It breeds five species of fish and sells more than 1.3 million.

The Coffee Research Institute focuses on providing seedlings to farmers. It provides not only coffee seedlings but also seedlings of macadamia nuts and avocados. In addition, it offers opportunities for students and companies to receive practical training and seminars.

The Rice Multiple Centers provides seedlings of rice and trees. Tree seedlings are not for industrial natural rubber but for afforestation. It handles seven or eight varieties of rice seed.

The Cattle Breeding Center provides cattle and pastures. It owns 27 breeding cows and transfers or exchanges 17-18 cows a year with farmers. Pastures are provided from 20 ha of farmland. It offers training to students as well. Four students from TVET participate in training every year and learn how to grow pasture, how to give injections, and how to treat sick cows.

#### C) Quality of Service

The Agricultural Promotion Bank previously dealt with all customers (personal or corporate), whether related to agriculture or not. Now, it finances only farmers, agricultural producer groups, and brokers. All funds are provided from deposits. The interest rate on a three-year time deposit is 12% and less than 6% per annum. A high procurement cost is an issue. The maximum amount of finance is LAK 10 million per capita, for six months to one year. The deposit rate varies depending on payments by the user: 9.65% for AA-ranked users who make regular payments for more than five years, 10.65% for A-ranked users who have only a moderate delay in making payments, and 12.65% for B-ranked users (new clients). It makes loans for purchasing seeds, fertilizers, and agricultural machines.

The Fish Husbandry Station, Coffee Research Institute, Rice Multiple Center, and Cattle Breeding Center support general farmers and agricultural schools.

#### D) Outreach

The Agricultural Promotion Bank previously dealt with all customers (personal or corporate), whether related to agriculture or not. Now, it finances only farmers, agricultural producer groups, and brokers. All funds are provided from deposits. The interest rate on a three-year time deposit is 12% and less than 6% per annum. A high procurement cost is an issue. The maximum amount of finance is LAK 10 million per capita, for six months to one year. The deposit rate varies depending on payments by the user: 9.65% for AA-ranked users who make regular payments for more than five years, 10.65% for A-ranked users who have only a moderate delay in making payments, and 12.65% for B-ranked users (new clients). It makes loans for purchasing seeds, fertilizers, and agricultural machines.

The Fish Husbandry Station, Coffee Research Institute, Rice Multiple Center, and Cattle Breeding Center support general farmers and agricultural schools.

#### E) Challenges

Issues of the Agricultural Promotion Bank are that it only makes short-term loans, and it is difficult to obtain loans because of strict loan conditions.

An issue of the Fish Husbandry Station is that it has an insufficient budget. Students who participate in training need to pay for their food expenses and participation fees on their own.

because colleges and research facilities do not have enough budget to cover those fees. Aging facilities are a problem as well. All 17 culture ponds built in 1962 need to be dredged. It lacks modern facilities such as machinery to supply water to the culture pond.

An issue of the Coffee Research Institute is that there are not enough test facilities such as machinery to study coffee.

An issue in the Rice Multiple Industry is insufficient budget. Due to this problem, there have not been enough investigations to assess market demand for volumes and varieties of rice. It needs to travel long distances to sell rice because the rice-producing center is in a southern area, but it cannot afford the cost of fuel. In addition, although it has a budget for purchasing fertilizers, it cannot cover the transportation costs to distribute them.

#### **(4) Current Situation and Challenges of Private Companies**

##### **1) Current Situation of Private Companies**

The present state of local companies in the agribusiness sector is as follows.

The majority of participants are individual farmers, while there is a limited number of private companies. Individual farmers usually grow rice, corns, cassavas, coffee, and cabbages. In Champassak, where we conducted an interview survey, some farmers grow organic farm products on the Bolaven Plateau and export them. Coffee-producing companies such as Sinouk and Dao-Heuang Group are major local companies in the agribusiness sector. The farmland area that is filled with water differs according to the season, as most farmland is not irrigated. As of 2014, the rice-producing area filled with water during the dry season was 181,587 ha, while that during the rainy season was 273,564 ha.<sup>49</sup>

People who come from peasant families and have studied agriculture at vocational school or college tend to want to become public officials. According to the Department of agriculture and forestry, agricultural workers face an aging crisis because the younger generations find work outside the agriculture industry.

According to private companies, Japanese companies have started implementing agricultural programs because they can control land directly without contract farming to local farmers, and because they can hire Lao workers at low cost. They hire Lao agricultural workers, while Japanese managers oversee the whole system by giving technical support. In some cases, they hire Thai managers and have them manage accounts or teach local people because the Lao language is similar to Thai.

We tried to make appointments with foreign companies as well, but they would not take part in the interview survey.

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<sup>49</sup> Year Book 2014 “Agricultural Statistics”

We visited the private companies related to agribusiness listed in Table 3-27.

**Table 3-27 Organizations Covered by Interview Survey (Agribusiness)**

Categories	Organizations (tentative)	Locations
Lao	Dao-Heuang Group	Vientiane
	SINOUK	Vientiane
	Lao Agro Processing Association	Vientiane
	Paksong Organic Tea Production Group	Champassak
Japanese	Oji Lao Plantation Forest Company Ltd.	Saravan
	Maehata Sangyo	Vientiane
	Advance Agriculture	Khammouane
	Nissin Toa	Champassak
	IC-Net	Vientiane

## 2) Challenges of Private Companies

There are three major issues: language problem, lack of human resources in organization management, and professional working mindset.

The issue in language is that almost no workers can speak either Japanese or English. Therefore, it is difficult for Japanese staff to give instructions to local agricultural workers or other workers engaging in personnel management or finance. Some Japanese companies find a solution by hiring Lao who can speak Japanese, but the labor cost is very high because these people are scarce in the labor market.

An issue in human resources is that there are not enough personnel who have the knowledge necessary to manage an organization, such as personnel management or finance. For example, they cannot analyze accounting information and find solutions to control rising manufacturing costs on their own. Therefore, either Japanese or Thai staff need to be posted and take responsibility, which also leads to high labor costs.

The last issue is that Lao lacks the basic professional working mindset needed of a company worker. They skip work without notice, quit without giving notice, and do not work according to instructions. Therefore, certain management stabilization measures are needed such as incentive-based management, application of punishment provisions, and schemes for easier farm work.



### **3.7 Analysis of Growth Industrial Sectors**

In this section, a growth industry sector is defined as an industrial sector that is expected to lead the future economic development of Lao PDR. The perspective of a growing industry sector is explained individually after presenting analytical viewpoints in the study.

Lao PDR has maintained steady economic growth as the economy achieved about eight percent GDP growth annually during the 7th NSEDP period. However, that growth is the result of heavy dependence on exports of electricity and natural resources, such as mineral products, as well as external factors such as foreign demand and investment. Recently, the value of imports has risen sharply, and reducing the trade deficit has become an important policy issue. Under these circumstances, the growth potential of the export industry is important when a growing industry sector is analyzed.

In addition, perspectives such as an industry's potential to gain a comparative advantage and impacts of the development of the industry on the economy as a whole are important because Lao PDR is still a least-developed country.

Furthermore, considering the role of industries in building infrastructure is also indispensable because all industries lack maturity.

As described above, growth potential as an export industry, potential for comparative advantage, impact on the economy as a whole, and contribution to building infrastructure are points for analyzing target industries in the study<sup>50</sup>.

#### **(1) Manufacturing**

The 8th NSEDP sets targets the manufacturing sector to achieve 15% annual growth, reduce the trade deficit through export growth by 15%, and take a share of more than 70% of GDP. The sector is expected not only to have growth industries but also have export industries. To achieve these targets, SEZs have been developed under a national policy, and the manufacturing sector is expected to grow in line with the development of SEZs.

In terms of comparative advantage, Lao PDR has gained the position of an investment target in “Thailand+1” or “China + 1” using low-cost labor as a source of competitiveness. On the other hand, its FDI value is smaller than that of neighboring countries such as Bangladesh, Myanmar, and Cambodia, and this fact reveals that the position does not have a strong base.

To achieve development, the manufacturing sector has many challenges such as limited domestic demand due to its small population, underdeveloped logistics, and need to increase added value in the medium and long term. The prospects of the industrial sector, therefore, are not promising in terms of competitiveness with other countries.

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<sup>50</sup> These findings are confirmed by related institutions through On-site Survey II

## **(2) Service Industries (Tourism)**

The number of tourists has steadily increased since the 2000s. The 8th NSEDP sets a target of tourists visiting the country at six million by 2020 (about 4.7 million in 2015), and plans to develop tourism sites and provide services in the tourism sector. Although the GDP share of the hotel and restaurant industry is less than 1% and the impact of the industry on the whole economy is limited, the industry has a unique position and is expected to expand as the number of tourists grows, benefit from various policy supports such as a development plan for Luang Prabang, and expects spillover effects to surrounding industries, and also has growth potential because the industry is still immature.

## **(3) Service Industries (IT Services)**

Developing the IT service industry sector has great potential for contributing to industrial advances and improved productivity in all industrial sectors. However, the industrial sector has severe human resources issues, and it is quite difficult to gain a comparative advantage over neighboring countries such as Thailand and Vietnam in terms of offshore business or export industries. Thus, despite its importance, it is difficult to expect it to be a growth industry. In the sector, development of human resources with IT knowledge in user companies has higher priority at the moment than targeting development of the entire IT service industry.

## **(4) Service Industries (Logistics)**

The logistics service industry is expected to play a fundamental role in industry as a whole and to develop using the geographical advantage of sharing borders with Thailand, Vietnam, and China. With the economic development of Lao PDR and neighboring countries, traffic volume and passenger numbers have dramatically increased in land, river, and air transportation services, although not rail services. However, the high cost of one-way cargo transport caused by an immature export industry means the industry remains a transport industry rather than a logistics service industry. Under such circumstances, the industry should be developed as a growth industry in the medium to long term.

## **(5) Construction Industry**

The construction industry is important in terms of supporting the economy as a whole by developing infrastructure. Although positioned as an important sector in various plans and many projects are expected to be implemented, the industry is immature because many domestic companies are not qualified to tender for large construction projects, and wages are higher compared to Vietnam and Cambodia, despite lower productivity. Thus, the industry has many issues to overcome before being positioned as a growth industry.

**(6) Agribusiness Industry**

Agribusiness is a very important industry because about 70% of the working population in Lao PDR is engaged in the agriculture sector, and agricultural development has a great impact on the development of the economy as a whole. As shown in the 8th NSEDP, development of agribusiness “will expand the production of consumer goods in terms of quality and quantity using agricultural, forestry, and aquaculture products, and increase domestic consumption and exports,” and it will contribute to the development of manufacturing sector, which is expected to grow significantly. The industry still has many issues in shifting from subsistence to commercial agriculture with high value-added products. However, efforts to develop the industry are indispensable because of its important position.

As presented above, the prospects for growth and the needs of each industrial sector have been analyzed, but it is difficult to find promising growth industries with potential in the immature economy of Lao PDR. In summary, the manufacturing industry is expected to be an export industry, and SEZs have been developed with political support, but one cannot be optimistic when comparing the competitiveness of other countries. Agribusiness is expected to develop with an impact on the economy as a whole, while the tourism industry is expected to grow, however, the impacts on the overall economy are limited. IT services, logistics services, and construction industries are fundamentally important for the overall economy, but these industries are not expected to grow due to their current underdeveloped conditions.

## **4. Industrial Human Resource Development**

### **4.1 Current Situation and Challenges of HRD in the Industrial sector<sup>51</sup>**

In this section, the current situation and challenges of HRD, including issues of human resources in private companies described in the previous chapter, are analyzed for each industry sector.

#### **(1) Manufacturing**

Lao PDR is attracting attention as a new production base, and some Japanese companies have also invested in the country, because the country has low-cost labor and electricity compared to neighboring countries, and is implementing investment promotion policies such as development of SEZs. However, based on interviews with Japanese companies that have already invested in Lao PDR, it is pointed out that issues of human resources, such as low scholastic standards, insufficient business abilities, and the lack of a professional working mindset are serious problems. In addition, interviews with companies reveal the current situation and supply and demand issues for human resources in manufacturing sector as follows.

- Demand for technicians and workers is not being satisfied. At present, low wages are the source of competitiveness, while there are strong requests to improve the quality of human resources. Human resource development at the technician and worker level is important in terms of developing the investment environment.
- The role of a middle manager in improving the productivity of technicians and workers is important, but university graduates, who take on that role, do not have skills that meet demands. The unwillingness of university graduates to work in industry is an issue as well.
- Currently, most engineers working in industry are foreign. Demand for engineers is not high, but it is necessary to foster local engineers in terms of quality and quantity, in order to break out of an industrial structure depending on natural resources and low-cost labor.

#### **(2) Service Industry (Tourism)**

In the tourism industry, although the number of visitors to the country is steadily increasing and various political measures have been implemented, interviews with local companies revealed that human resources at the manager level are insufficient. Despite many opportunities to develop human resources for the industry such as tour guide development courses provided by the government, LANITH college, and faculties of tourism at universities, tourism companies regard such practical educational measures as insufficient in terms of quality and

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<sup>51</sup> The portfolio of Industrial Human Resource Development is shown in appendix 3

quantity. Furthermore, interviews with tourism companies reveal the current situation and issues relating to the supply and demand for human resources in the tourism industry as follows.

- The role of central and provincial government officers in developing the tourism industry is important, but educational measures have not yet been fully developed.
- Despite a small supply of human resources from higher education (university and college), graduates cannot start working in the industry.
- The need for middle managers is recognized in the hotel and restaurant industry, but the number of such human resources is insufficient. As a result, foreign workers such as those from Thailand play the role, so it is necessary to foster domestic human resources for future development.

### **(3) Service Industries (IT Services)**

In the IT service industry, there are not enough human resources in terms of quality and quantity for both vendor and user companies. The skills of university graduates are insufficient, and human development in the industry must rely on OJT inside and outside the country. Thus:

- IT systems are basically imported, so it is important to develop human resources who can introduce and use systems in practice at user companies rather than developing human resources at vendors.
- On the other hand, IT systems are not fully used in the workplace, because basic IT literacy is quite low among employees in general.
- In the medium to long term, it is effective to establish an IT human development system including definitions of skills, and develop educational programs and qualification systems based on those definitions.

### **(4) Service Industries (Logistics)**

As economic growth, traffic volume, and number of passengers are increasing, and transforming the transportation industry into a logistics service industry is getting more important, demand for a new type of human resource who can optimize supply chains as a whole is increasing, but this idea is not fully shared across the whole industry. Thus, the demand and supply gap for human resources in the industry is not being closed, despite the necessity. As the industry grows, it will be necessary to develop human resources in both public and private sectors, in part by using human resource development measures taken by LIFFA.

### **(5) Construction Industry**

In the construction sector, many projects are expected to be implemented in the future, but most are currently done by foreign companies, and local companies do not fully absorb human resources. Technicians at construction sites have issues such as low quality and lack of wage competitiveness in comparison with neighboring countries such as Vietnam and Cambodia. Interviews with local and foreign companies confirm that demand for foremen, who can manage technicians, is strong for process management and quality control at construction sites. However, in fact, an educational platform for fostering such human resources is not provided.

#### **(6) Agribusiness Industry**

In the agribusiness industry, most participants are individual farming households and few companies engage in the field. To develop the industry, it is considered important to change the farmers' mindset and have them learn production skills for the purpose of shifting from subsistence agriculture to high value-added commercial agriculture, but this is quite a challenge. The interview survey reveals that agriculture extension officers, who are in charge of instructing farmers, do exist, but they cannot play their roles fully due to budget deficits and insufficient skills. To industrialize the agricultural sector, a comprehensive approach, which is a set of improvements to increase accessibility to markets, logistics, procurement of necessary input materials, as well as human development, is indispensable.

### **4.2 Policies and Systems of Higher Education and TVET**

Source: Compiled by the Mitsubishi Research Institute, Inc. from various sources

Figure 4-1 illustrates the general education system in Lao PDR. After 1-5 years of pre-primary learning opportunities, children have to enroll in primary school for five years and lower secondary school for four years as part of compulsory education. The next stage is divided into three years of upper secondary school and 1-3 years of technical and vocational education and training (TVET), which provide certificates for graduates. Students who graduate from an upper secondary school can progress to higher education composed of undergraduate (four years) and graduate programs. Those who graduate from TVET (certificate level) can continue to study for 1-2 years at a TVET, which provides a diploma and then 1-2 years at a TVET offering a higher diploma. Graduates of TVET (certificate level) are not allowed to enter universities, while students can transit from a TVET (diploma level) to universities and students can also join a TVET (diploma level) after graduating from upper secondary schools.

Standard Age		
18~	University Graduate School	
	University Under Graduate (4 years)	TVET [higher diploma] (1~2 years) TVET [diploma] (1~2 years)
15~17	Upper Secondary (3 years)	TVET [certificate] (1~3 years)
11~14	Lower Secondary (4 years) ※Compulsory	
6~10	Primary (5 years) ※Compulsory	
~5	Pre-Primary (1~5 years)	

Some courses provide 3~4 years' courses through which students can get higher diploma.

Source: Compiled by the Mitsubishi Research Institute, Inc. from various sources

**Figure 4-1 Education System in Lao PDR**

Details of the Qualification Framework for a TVET are shown in Table 4-1. They are classified into five categories, each of which has a specific entry requirement and standard duration of training with predetermined qualifications such as certificate and diploma.

**Table 4-1 TVET Qualification Framework**

Level	Qualification	Entry requirements	Duration of Training
1	Certificate I	Primary education or equivalent and higher	3~6 months
2	Certificate II	Primary education or equivalent and higher	After Certificate I: 6 months Others : 1 year
3	Certificate III	Lower secondary or equivalent and higher	After Certificate II: 1 year After Lower Secondary: Min.2 years
4	Diploma	Lower secondary or equivalent and higher	After Certificate III: Min.1 year After Lower Secondary: Min. 3 years After Upper Secondary: Min. 2 years
5	Higher Diploma	Upper secondary or equivalent or higher or diploma	After Certificate III: Min. 3 years After Diploma: 1-2 years After Upper secondary: 3 years

Source: Materials provided by GIZ.

In the light of the above-mentioned system and framework, we would organize key policies related to higher education and TVET as follows.

**(1) Higher Education**

The 8th National Socio-economic Development Plan (NSED) (2016-2020) advocates higher education as one of the elements of goals in the field of education (Universal Access to Quality Education), and declares that higher education could be a key to promoting competitive entrepreneurs.

The “National Human Resource Development Strategy to 2025 (NHRDS)” is a comprehensive strategy for the human resources issue. In this strategy, efforts, and challenges are summarized and targets and strategic thrusts related to higher education and the TVET sector are shown as below<sup>52</sup>.

**Table 4-2 Target and Strategic Thrusts Related to Higher Education and TVET in NHRDS**

<p>[Develop Basic knowledge and occupational skills]</p> <p>&lt;Targets&gt;</p> <ul style="list-style-type: none"><li>• Increase proportion of upper secondary education graduates transitioning into TVET to 60% and into Higher Education institutions to 20%</li><li>• Increase the proportion of students who continue further studies abroad at different levels, which relate to socio-economic development</li></ul> <p>&lt;Strategic thrusts&gt;</p> <ul style="list-style-type: none"><li>• Cooperation with entrepreneurs, business lines, and educational institutions in the country and region to develop curricula, produce skilled labor that could own businesses, and respond to the needs of the labor markets for socio-economic development.</li><li>• Adjust trends of students to study in-country and abroad to meet the needs of socio-economic development and integration with regional and international communities</li><li>• Support more research on science, innovation, and technical services.</li></ul> <p>[Develop the labor force and increase productivity to respond to the needs of the labor market periodically]</p> <p>&lt;Targets&gt;</p> <ul style="list-style-type: none"><li>• Develop a labor force reaching 24% of the total labor force</li></ul>
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<sup>52</sup> Source: National Human Resource Development Strategy to 2025 (Unofficial Translation)



- Develop skill standards for at least 25 subjects
- Develop labor productivity for an economic structure that enables growth

<Strategic thrusts>

- Improve the system and develop a sufficiently large labor force, a quality of labor force that meets national standards; encourage public and private sectors to participate in producing a skilled labor force that responds to the needs of labor markets; and integrate with regional and international communities
- Develop and improve curricula, training centers, infrastructure, and equipment for producing a skilled labor force to meet standards
- Improve the labor information system to adjust macro-labor and build capacity for employment seeking services for both employers and employees to access services on labor migration in the country and overseas, while balancing demand and supply regarding the labor market and economic structure

The basic principle of the higher education policy in Lao PDR is given in “Higher Education in Lao PDR—Current Status and Vision of Higher Education 2001-2020,” which states that it is essential to develop a quality higher education in Lao PDR, which is currently aiming to create a knowledge-based society. In addition, two related policies, “National Education System Reform Strategy (NESRS) 2006-2015” and “Education Sector Development Plan (ESDP) 2011-2015,” contain more specific goals. Among these, the ESDP has the following three pillars forming the principle direction of sector-wide education policies.

1. Expand equitable access
2. Improve quality and relevance
3. Strengthen planning and management

On the basis of these directions, NESRS and ESDP advocate higher education as an important sector for contributing to future socio-economic development with the following targets.

**Table 4-3 Major Policy Targets for Higher Education**

- Solve the problem of a lack of teachers and instructors and, at minimum, try to supply sufficient numbers of teachers and instructors to meet basic needs
- Train technical staff who are relevant to the socio-economic needs of the country
- Upgrade the five Teacher Training Schools (TTSs) to Teacher Training Colleges (TTCs). Some TTCs can run Bachelor of Education (BEd) programs in cooperation with

the Faculty of Education, National University of Laos

- Improve the quality of teaching and learning at the three universities, aiming to reach regional standards and enabling links with international standards
- 50% female enrolment across higher education and teacher education
- Improved infrastructure at Champasack, Souphanouvong, and Savannakhet Universities
- Percentage of quota students reduced from 50% in 2009 to 30% in 2013 and 20% in 2015, comprising mostly disadvantaged female and ethnic students
- Improved university access to poorer students through scholarships
- Improved autonomous governance of public universities
- ICT-based teaching and learning centers developed
- 20 bachelor degree programs to meet national standard credit-based system requirements by 2012
- Full government support to domestic and international investment on developing private TVET and higher education
- 80 private HEIs assessed and accredited
- Focus on developing science, technology, engineering and mathematics courses to meet national development goals
- Feasibility studies for new universities in Oudomxay and Xiengkhouang
- Strengthen National University of Laos to become a center for coordinating university research and a model for science research
- Increase number of research publications
- Strengthen Champasack University to become a model for agriculture research and teaching
- Strengthen Souphanouvong University to become a model for transportation and tourism research and teaching
- Strengthen Savannakhet University to become a model for economics research and teaching

In “Education and Sports Sector Development Plan (ESDP) 2016-2020” mentions the following targets to be achieved by 2020 in terms of TVET sector and higher education, and establishing a new technology university is part of the higher education sector strategy for strengthening education and research functions in this sector.<sup>53</sup> From an interview with the Department of Higher Education (MOES), it was learned that the Minister of MOES has declared that a committee, managed by the department, will start to conduct a feasibility

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<sup>53</sup> “New infrastructure is established or upgraded in identified priority sectors and locations, particularly the University of Savannakhet and the University of Technology in the Capital Vientiane”

survey to implement the plan for establishing a new technology university<sup>54</sup>.

**Table 4-4 Major Policy Targets and Strategies for TVET and Higher Education sector in ESDP (2016-2020)**

<p>[TVET]</p> <p>&lt;Targets&gt;</p> <ul style="list-style-type: none"><li>• Establish at least one technical centre and vocational school in each province</li><li>• Expand vocational education and training access to reach 60% of students who have completed general education, especially females.</li></ul> <p>&lt;Strategies&gt;</p> <ul style="list-style-type: none"><li>• Construct, improve and expand capacity of vocational education.</li><li>• Encourage social and business agencies to contribute to vocational education and training development.</li><li>• Improve vocational education and training modes.</li><li>• Pre-service, In-service and developing vocational education and training staff.</li><li>• Improve vocational education and training quality.</li><li>• Develop vocational education and training information.</li><li>• Improve management structure of vocational education and training.</li><li>• Develop policy and materials for vocational education and training management.</li></ul> <p>[Higher Education]</p> <p>&lt;Targets&gt;</p> <ul style="list-style-type: none"><li>• 200,000 students study at higher education institutes both public and private (of which at the five universities under the Ministry of Education and Sports expect to have 45,000 students) by 2020.</li><li>• The proportion of females studying at higher education institutes reaches 45% of total students in higher education institutes.</li><li>• The percentage of graduates who get jobs reaches 85%.</li><li>• Build one technology university and one private university.</li><li>• All higher education institutions have quality assurance and implement internal and external assessment.</li><li>• Research papers are published in national and international journals.</li></ul>
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<sup>54</sup> According to an interview with the department of higher education, to manage the committee, there were expectations of technical assistance from a donor, especially JICA

<Strategies>

- Develop higher education to meet the demands of labour market and the National Socio-Economic Development plan.
- Improve the quality of teaching and learning.
- Support science research, technology development and technical services to meet socio-economic development needs.
- Improve higher education quality assurance.
- Improve higher education governance and management.
- Increase internal and external cooperation.

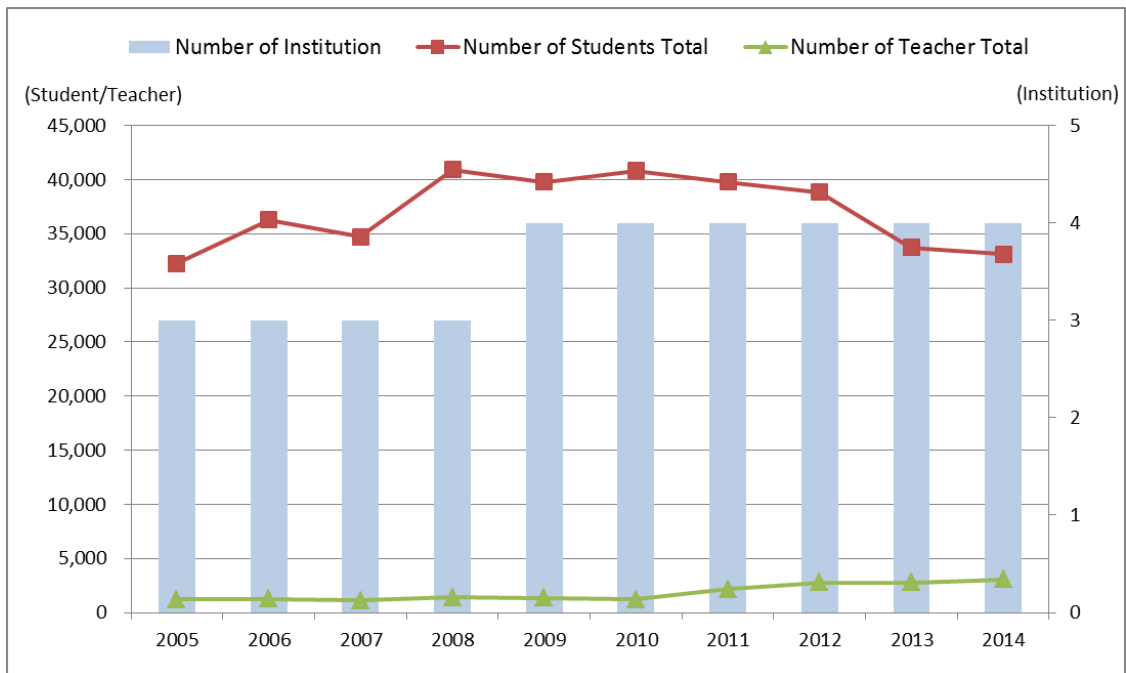
Regarding the relevant legislation, the “Prime Minister’s Decree on Adopting and Implementing National Education System Reforms” plays a pivotal role and declares the intention to promote the introduction of students’ evaluation systems and guidelines on conducting self-evaluations by each higher institution in collaboration with the ASEAN Quality Assurance Network (AQAN), in order to establish a higher education system that meets regional and international standards.

Regarding universities, the “Prime Minister’s Decree on Establishing the National University of Laos” took effect in 1995, integrating ten individual institutions into one university named the National University of Laos (NUOL). In the same way, the NUOL Champasak branch was established in 2002 and became an independent university in 2004, Souphanouvong University was recognized in 2003, and Savannakhet University was recognized in 2009.

In addition, the law on establishing and managing private universities took effect in 1995, followed by a rapid increase in the number of private universities. However these moves were accompanied by a decrease in quality, and eventually private institutions were banned from offering courses with bachelor degrees or higher qualifications in 2013.

Regarding the number of higher education institutions, as can be seen from Source: Compiled by the Mitsubishi Research Institute, Inc. from TVET Statistics 2008-2013 and Statistics 2013-2015

Figure 4-2, it was just three until 2008, rising to four in 2009. In addition, a new university was established in 2014, meaning there are currently five higher education institutions in Lao PDR. The number of students has fluctuated between 30,000 and 40,000. After peaking with 40,923, it gradually decreased to around 33,000 in 2014. During the same period, on the other hand, the number of teachers continued to increase from 1,203 in 2006 to 3,053 in 2014.



Source: Compiled by the Mitsubishi Research Institute, Inc. from TVET Statistics 2008-2013 and Statistics 2013-2015

**Figure 4-2 Numbers of Higher Education Institutions, Students, and Teachers in Lao PDR**  
(Right Axis: Institution, Left Axis: Others)

## (2) TVET

Developing TVETs is also indicated as one of the goals of the education sector, as well as a key measure for developing human resources that can contribute to industrial advancement in the 8th NSEDP, which emphasizes the importance of establishing at least one TVET in each province.

In addition, NESRS and ESDP advocate TVET, as with higher education, as an important sector from the perspective of developing human resources to promote industrial and economic development. The major targets described in those policies are as follows.

**Table 4-5 Major Policy Targets in TVET**

- 40% of TVET students receive scholarships
- New curriculum programs to meet labor market demand
- Focus on skilled vocational education level and technical level in four priority skill areas (Construction and building trades, Mechanical and machinery maintenance and repair, Furniture-making, and Basic business skills)
- An institutional focus on seven TVET institutions and Skilled Development Center
- Minimum of 50,000 students from 2015 with 50% female and 20% from the poorest families

- 300 new TVET graduate instructors and teachers
- Establish three to four vocational training centers in cities where economic development is well established
- Introduce a voucher system for students, targeting girls and ethnic groups from poor families and provide dormitory accommodation to increase enrolments in certificate and diploma courses of TVETs
- Encourage the private education sector to establish vocational training centers and technical schools in the provinces where this is feasible
- Solve the problem of a lack of teachers and instructors and at minimum supply sufficient numbers of teachers and instructors to meet the eight basic needs
- Train technical staff who are relevant to the socio-economic needs of the country

On the basis of the policies, the new key policy “Technical and Vocational Education and Training Development Plan 2016-2020” (TVETDP) was released in 2016 with the following strategies.

1. Build up, Improve, and Expand the TVET Capacities
2. Encourage the Social and Economic Sectors to Involve in TVET Development
3. Improve TVET—Approaches and Training Modes
4. Pre-and in-service Training for TVET Personnel
5. TVET Quality Assurance
6. Development of TVET Information
7. Improve Structure of TVET Administration and Governance
8. Formulate Policy and Regulatory Tools for TVET Management and Governance

In the light of the above strategies, TVETDP set the two over-arching outcomes: “To encourage more students who have completed a general education to enroll in vocational education” and “To ensure that vocational graduates from both public and private sector have skills that can be accepted by employers” with the following targets.

**Table 4-6 Targets Set in TVETDP**

- Establish technical and vocational schools and centers in all provinces and some suitable districts, so that all have at least one school and center.
- Improve and expand the existing technical and vocational school and vocational training centers and labor skill development centers.(\*)
- Upgrade technical and vocational in the provinces with the potential to become colleges

so they can offer training at different levels with many approaches in line with the vocational qualification framework.

- Expand vocational education and training access to reach 65% of students who have completed general education to enroll in vocational education institutes: 25 enroll in MoES vocational institutes and the remaining enroll in private sector and in other vocational institutes.
- At least 10,000 disadvantaged persons receive scholarships for Certificate 1 and 2 courses, and vouchers are offered for 1,000 persons.
- 40% of students enrolled in Certificate 3 and Diploma courses receive scholarships.
- Gender parity ratio in TVETs improved to 50%.
- At least 2,000 students are enrolled in dual training, where part of the training is delivered by companies.
- At least 20 new occupational standards are developed by the Trade Working Groups and endorsed by National Training Council.
- Legislative documents on Lao Vocational Qualification Framework are endorsed.
- Graduate tracer studies are carried out every three years and their results are used to inform TVET course offerings and curriculum upgrades.
- Skills and social competences of the TVET graduates are considered to be adequate by 80% of employers.
- 80-90% of TVET students have access to vocational counselling and guidance services.
- All TVET students complete an entrepreneurship module as a part of their courses.
- TVET institutions per year undergo external assessment in accordance with revised quality assurance indicators.
- Annual targets for upgrading the qualifications of TVET teachers. (\*\*)
- Functioning School Advisory Boards involving local industry members are set up in all TVET institutions.

(\*) Apart from Ministry of Education and Sports and Ministry of Labour and Social Welfare, institutions which provide TVET include Ministry of Public Health, Ministry of Finance, Ministry of Agriculture and Forestry, Ministry of Information and Culture, Ministry of Justice, Bank of Lao, Lao Women's Union, Lao Revolutionary Youth Federation, and Community Learning Centers. (UNESCO, 2013, *Policy Review of TVET in Lao PDR*)

(\*\*) Traditionally, teacher training has been carried out by the Vocational Education Development Institute (VEDI), one of the organizations under the Ministry of Education and Sports, and Department of Vocational Teacher Education (VTE), Faculty of Engineering, NUOL with continuous financial, material, and technical assistance from Germany. VEDI has provided not only pre-service training for the students who belong to TVETs and/or higher education institutions but also in-service training for teachers and administrative officers, as well as curriculum development, research study, and training for unemployed workers. On the other hand, the main targets of VTE are students recommended by each province to enter the Faculty of Engineering, NUOL. Those students are entitled to attend courses offered by VTE, as well as each department of the Faculty of Engineering. In addition, VTE also carries out in-service training in each province.

With regard to legislation, the Prime Minister's Decree on TVETs and Skills Development was recognized in 2010 with the aims of organizing contents and qualifications offered through study courses of various TVET institutions and of establishing a quality assurance system, as well as related funds to enhance the quality and quantity of TVETs.

When it comes to the function of controlling TVETs as a whole, the National Training Council (NTC) was established to play that role, although the number of NTCs was limited as of July 2016. As a result, the Department of Technical and Vocational Education and Training, Ministry of Education and Sports, controls planning and implementation, as well as monitoring. Against this background, the Asian Development Bank (ADB)<sup>55</sup> and other donors have supported strengthening NTC's function, while trying to establish the new "National Vocational Consulting and Labor Skill Development Council" as a conning-tower in the field of TVETs.

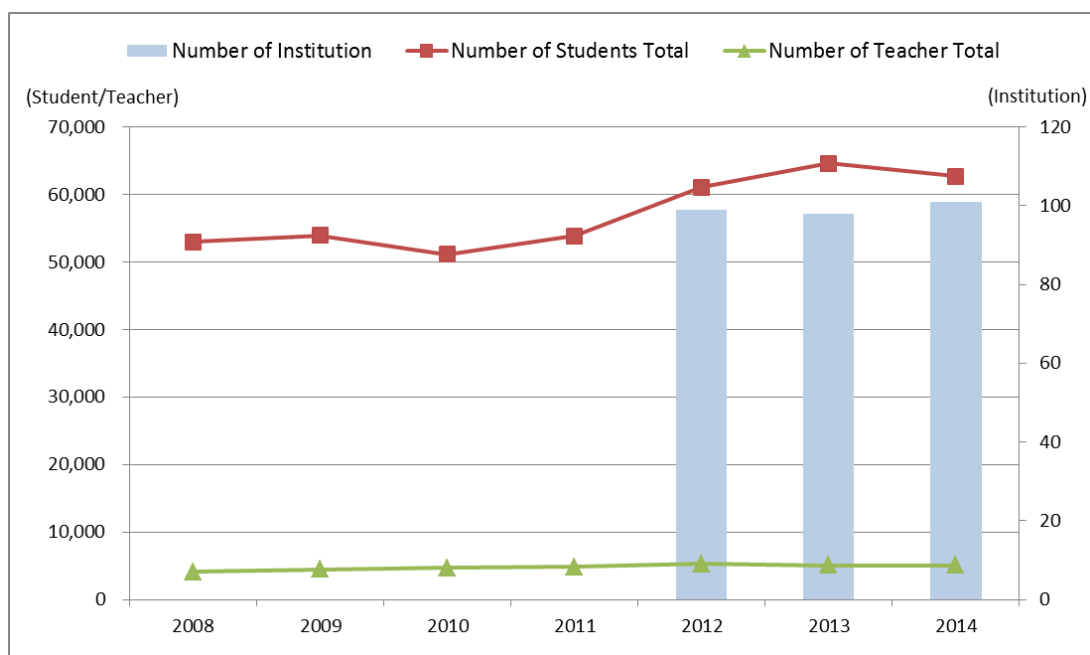
Source: Compiled by the Mitsubishi Research Institute, Inc. from TVET Statistics 2008-2013 and Statistics 2013-2015

Figure 4-3 illustrates the trend of the number of institutions and students, as well as teachers. The number of TVET institutions has been stable at nearly 100 during the three years from 2012 to 2014, while the numbers of students and teachers have been on an upward trend from 52,991 in 2008 to 61,669 in 2014 for students and from 4,065 to 5,038 for teachers during the same period.

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<sup>55</sup> In addition, ADB has a plan to implement the Second Strengthening Project of Technical and Vocational Education and Training (STVET 2) from 2017 to 2020 with an expected outlay of USD 25 million, which envisages improving the educational environment (renovating facilities and supplying equipment), improving education and school management at eight model schools, and extending educational opportunities to disadvantaged students (scholarship provision to 4,700 students).





Source: Compiled by the Mitsubishi Research Institute, Inc. from TVET Statistics 2008-2013 and Statistics 2013-2015

**Figure 4-3 Numbers of TVET Institutions, Students, and Teachers in Lao PDR**

(Right Axis: Institution, Left Axis: Others)

### 4.3 Current Situation and Issues of Higher Education and TVET<sup>56</sup>

#### (1) Current Situation and Issues of National Universities

In Lao PDR, the National University of Laos (NUOL) was established in 1996 and was the only national university until 2002. Since then, several national universities have been established: Champasak University in 2002, Souphanouvong University in 2003, Savannakhet University in 2009, and University of Health Science in 2014. At present, there are a total of five universities in Lao PDR. All national universities, excluding the recently established University of Health Science have been visited and interviewed. The results of the interview survey reveals two main issues: (1) underdeveloped research facilities and equipment, and (2) low quality of teachers and students. Detailed analyses of the issues are provided in the following (regarding current situation, issues, and perspectives of each university, refer to the Appendix).

First, regarding research facilities and equipment, all national universities face chronically insufficient budgets. Thus, facilities and equipment are not appropriate for providing higher education and a research environment. Facilities and equipment of engineering faculties, which

<sup>56</sup> Those findings are confirmed by related institutions through On-site Survey II. In particular, 1) the demand-supply gap between the quality and quantity of graduates, and 2) labor market needs and theory-oriented education were pointed out as big challenges.

were studied in detail during the site survey, are inadequate not only in quality but also in quantity. Even the Faculty of Engineering of the National University of Laos, which is one of the top universities in Lao PDR, does not have enough laboratories, so both graduate and undergraduate students of multiple faculties share the same laboratory. The laboratory seem to be well-equipped, but actual conditions are not good, because some equipment is out of order and many personal computers are not connected to the Internet. Education quality is not so high because the number and quality of experiments students can conduct are very limited due to the insufficient number of laboratories, as well as few working pieces of equipment. For example, at the Water Resources Engineering Department of FoE/NUOL, the laboratory is not well-equipped, so only first and second-year students can take laboratory courses at the university, and the curriculum accordingly is excessively focused on theory. Furthermore, graduate research of the department cannot be done within the university, so students do their experiments using factories and research facilities of companies, which the teachers individually know. When the research environment is improved, not only installing research facilities and equipment but also budget, human resources, and maintenance techniques are required.

Underdeveloped research facilities and equipment adversely affect not only students but also teachers. The research environment of top universities in the country is as described above, so the number of national universities that can offer master's degrees and doctor's degrees is limited. Those who wish to be a researcher and can receive financial assistance generally go on to graduate school in other countries, mainly in neighboring countries such as Thailand. However, when returning to Lao PDR with a master's degree or a Ph.D., they cannot study further because of the poor research facilities and equipment in the national universities. Underdeveloped research facilities and equipment deprive not only students but also teachers of opportunities to carry out experiments and maintain research standards, leading to a deterioration of the quality and quantity of human resources who can provide higher education.

In addition, because of limited opportunities to earn a master's degree and a Ph.D. at national universities, there is a shortage of teachers with good educational and research abilities at all universities, and it is difficult to provide a quality education. In other words, it is considered that the underdeveloped research facilities and equipment limit the quality of education provided by national universities, lower the quality of teachers, and cause the current negative spiral at national universities in Lao PDR.

## **(2) Current Situation and Issues of Private Colleges**

As described above, there are five national universities in Lao PDR. The number of private colleges had been increasing until recently because of policies reflecting growing needs for higher education. As a result, however, it is said the quality of private colleges had deteriorated,

so the government has banned private colleges from offering courses with bachelor degrees or higher qualifications since 2013. Nevertheless, students who had already entered private colleges before 2013 could obtain degrees after completing pre-determined courses. Based on EMIS, 45 private colleges provided degree courses with 1,464 full-time teachers, 1,114 part-time teachers, 460 students in master courses, and 12,736 undergraduate students in 2015. Many private colleges offer only specific courses such as English, accounting, and business management. Some national university students also attend evening classes of private colleges. During the field survey, three private colleges (Comcenter College, Sengsavan College, and Savan Business Administration College), where students had been able to obtain master's and bachelor's degrees, were visited and interviewed. The results of the interview survey reveal that current issues affecting private colleges are the government policy that prohibits them from providing academic degrees and a subsequent decrease in students entering the colleges.

The government banned private colleges having more than half of teachers with temporary status from offering courses with bachelor degrees or higher qualifications. Even among private colleges in the capital, Vientiane, few colleges can meet the standard because it is difficult to retain capable permanent teachers with limited budgets.

The decreasing number of students means a crisis for private colleges because they cannot receive operating budgets from the Ministry of Education and Sport, and rely on tuition fees from students for most of their revenue. Private colleges fall into a vicious circle in that they cannot retain capable permanent teachers due to the lack of operating budgets, and subsequently students do not enter the colleges.

### **(3) Current Situation and Issues of TVETs**

In Lao PDR, technical and vocational training are mainly operated by TVET institutions, under the jurisdiction of the Ministry of Education and Sports (MOES). In addition, a number of institutions under other ministries such as the Ministry of Agriculture and Forestry and Ministry of Labour and Social Welfare, offer human resource development programs in relevant fields. Seven TVETs under MOES (Lao-German Technical School, Polytechnic College, Pakse Technical Vocational College, Vientiane-Hanoi Friendship Vocational College, Luangprabang Technical College, Savannakhet Agriculture and Forestry College, and Vocational Education Development Institute) were visited and interviewed during the field survey. The educational and research environments, as well as the current situations of teachers and students of several TVET institutions, are described as follows.

Regarding facilities and equipment, many TVETs do not have facilities equipped with the latest materials for practical training, because they receive only a small budget from MOES. The quality and quantity of facilities and equipment are insufficient, so the technical level students

can receive is limited. For example, at Luangprabang Technical College, facilities and equipment are overwhelmingly deficient relative to the number of students, so some lectures are delivered in the open air. At Savannakhet Agriculture and Forestry College, an agricultural TVET, students cannot study as planned, because its experimental farm is located on a hill without an irrigation system, and practical training cannot be conducted during the dry season. Even though practical training is conducted indoors, there are many cases of facilities and equipment that are so old that teachers miss opportunities to learn how to use new machinery, and it is difficult to provide a quality education. Furthermore, a shortage of capable teachers is a serious problem, especially in the provinces, where human resources with high levels of skills are scarce.

TVET is an educational institute for fostering industrial human resources with practical knowledge. However, vocational training for high levels of skills cannot be provided in the educational environment described above, so it is difficult for students to learn advanced techniques and skills before graduation. Under these circumstances, a few TVETs are strengthening academic-industrial collaborations with support from foreign donors, as well as receive resources such as machinery from private companies, but these are exceptional cases.

#### **4.4 Policies and Institutions Related to In-house Training and Fostering Entrepreneurs**

Based on the survey items in the operating instructions, policies and instructions related to in-house training and fostering entrepreneur were surveyed.

##### **(1) Position and Implementation of In-house Training and Fostering Entrepreneurs in the 8th NSEDP**

The 8th NSEDP does not clearly mention in-house training and fostering entrepreneurs, but proposes that domestic companies and entrepreneurs gain technical and business capabilities for domestic and international market competition as policy objectives. In addition, the plan sets a series of appropriate policies for the tax system, credit insurance, facility usage, and asset capitalization in rural and poverty-stricken areas to create entrepreneurs there.

##### **(2) Development Strategy, Implementation Plan, Priority Issues Related to In-house Training and Fostering Entrepreneurs**

There is no implementation plan related to in-house training, but the National Small and Medium-sized Enterprise Office of the Ministry of Industry and Commerce formulated the Third Five-year Plan for Small and Medium-sized Enterprise (2016 – 2020) for fostering entrepreneurs. The five-year plan sets policy objectives for creating entrepreneurs by 2020 and

has six action plans to achieve that overall goal.

**Table 4-7 Action Plans in the 3rd Five-year Plan for Small and Medium-sized Enterprises  
(2016 – 2020)**

<ol style="list-style-type: none"><li>(1) Introduction of business startup class at vocational and higher education institutes</li><li>(2) Implementation of various projects and activities for young people considering a career in business</li><li>(3) Creating incubators through business management education provided at the Incubation Center of FoE/NUOL</li><li>(4) Fostering entrepreneurs by supporting the creation of a New Entrepreneur Project</li><li>(5) Supporting the development of female entrepreneurs</li><li>(6) Promoting business franchises for SMEs</li></ol>
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**(3) Implementation and Issues on Related Laws and Regulations**

Institutions for in-house training are still undeveloped. Regarding the fostering of entrepreneurs, the Third Five-year Plan for Small and Medium-sized Enterprises (2016 – 2020) was formulated by the National Small and Medium-sized Enterprise Office, but the action plans are not being carried out due to a lack of budget and investors. The five-year plan points out that action plans (2), (5), and (6) have no personnel in charge. The incubation center of FoE/NUOL described in action plan (3) does not function as an institute for fostering entrepreneurs because there is neither budget nor capable officials.

**(4) Outline of Related Agencies and Institutes for Implementation**

In-house training and fostering entrepreneurs in Lao PDR are mainly conducted through a specialized course for active students and employees to obtain the necessary knowledge and skills. Therefore, implementation agencies for in-house training and fostering entrepreneurs are mainly educational institutes under the jurisdiction of MOES. Both Laos Japan Institute and Incubation Center of FoE are authorized institutes for in-house training and fostering entrepreneurs in Lao PDR, and belong to NUOL.

Those working as teaching staff in Laos-Japan Institute belong to NUOL. The operational budget of LJI is composed of its own internal revenue earned from tuition fees of training programs, JICA project funds, and NUOL's expenditure for personnel and utility expenses.

On the other hand, the Incubation Center of FoE is managed by NUOL and all the teachers and staff are government officials of NUOL. The operating budget of the center is also allocated by NUOL, originated from MOES.

**(5) Policy on Teachers**

A policy on teachers for in-house training and fostering entrepreneurs has not been formulated. There are no qualification or recruitment criteria for teachers engaged in in-house training and fostering entrepreneurs, so implementing institutes train and recruit at their own judgment.

**(6) Establishing, Evaluating, and Monitoring Institutes for In-house Training and Fostering Entrepreneurs**

MOES is in charge of permits for establishing institutes for in-house training and fostering entrepreneurs, but does not have an evaluation and monitoring system for the institutes.

**4.5 Current Situation and Issues of In-house Training and Fostering Entrepreneurs**

As with in-house training, the fostering of entrepreneurs is rarely implemented systematically. Education related to economic and business fields at higher educational institutes is heavily focused on theories of economics and business management, and practical business management and education aiming at creating entrepreneurs are seldom offered.

As shown in Table (1), the Incubation Center of FoE/NUOL is the authorized institute for fostering entrepreneurs, but nobody applies to the program for fostering entrepreneurs provided by the center, and activities to foster entrepreneurs are not actually implemented. According to the center, the lack of applicants reflects the fact that there has never been a single success case from the program. There are multiple applicants for the first year, but most of them misunderstood that they could automatically receive investment funding for a new business if they attended the program, and quit the program when they realized they had to find investors by themselves. Few participants can understand how to set up a new businesses and maintain a high level of motivation. In the past four years, only one company has completed the program. The company received a business license, but is currently not engaged in business. The center has only two staff—one manager and one assistant, and has no specialists who have practical business experience or a deep knowledge of business. So, support for creating new businesses is not sufficient in terms of quality and quantity.

To promote fostering entrepreneurs, in addition to assigning specialists to the institute, it is necessary to provide information aimed at understanding how to create a new business, as well as promote the interests of a large population. However, no organizations including the National Small and Medium-sized Enterprise Office actively publicize creating new businesses.

The National Small and Medium-sized Enterprise Office set creating entrepreneurs as a political objective, and improving the insufficient knowledge of entrepreneurs and the difficulty SMEs have in obtaining bank loans are pointed out as issues in the Third Five-year Plan for

Small and Medium-sized Enterprises (2016 – 2020). Issues related to creating entrepreneurs are mainly caused by a lack of budget and insufficient knowledge of human resources, but an underdeveloped financial environment may also be an obstacle to creating entrepreneurs. For human resources with high levels of expertise obtained through fostering entrepreneur education to start a business, it is necessary to improve the environment, which includes relaxing lending regulations.

(1) Incubation Center/FoE/NUOL

Established	<ul style="list-style-type: none"> <li>• 2012</li> </ul>
Location	<ul style="list-style-type: none"> <li>• Vientiane</li> </ul>
Services offered	<ul style="list-style-type: none"> <li>• Support setting up new businesses through a program to foster entrepreneurs</li> <li>• Business consultation</li> <li>• Technical support</li> <li>• Consultations on scholarships</li> <li>• Support networking with private companies</li> <li>• Facilities provided at low rents</li> </ul>
Service provider (teacher)	<ul style="list-style-type: none"> <li>• 1 person (manager of Incubation Center doubles as a teacher)</li> </ul>
Service user	<ul style="list-style-type: none"> <li>• No participants in the program for fostering entrepreneur since FY2014</li> </ul>
Issues ※based on interview survey	<ul style="list-style-type: none"> <li>• The manager of the center has no business background, and has just received training on fostering entrepreneurs. He, therefore, lacks knowledge and advice on providing business consultation is limited.</li> <li>• The center actually cannot support fostering entrepreneurs, so the number of users has decreased year by year. Since 2014, no applicants have participated in the program.</li> <li>• The center cannot finance operating costs by itself, because of the limited number of service users and extremely low user fee.</li> <li>• Lao students tend to be risk-adverse. They come to the center for consultations and participate in events, but do not actually start new businesses.</li> <li>• The center has no success cases, so students have a negative image of starting a new business. It is necessary to publicize success cases, but there has not even been a single success case.</li> <li>• Students have no basic knowledge of market surveys and do not</li> </ul>

	<p>understand how to sell products and services.</p> <ul style="list-style-type: none"> <li>• Many mistakenly believed that they could receive funds when starting a new business through the program.</li> </ul>
<p>Perspectives ※based on interview survey</p>	<ul style="list-style-type: none"> <li>• “Startup Weekend,” an event for private companies is held in NUOL in support of the center, National Small and Medium-sized Enterprise Office, and US embassy. They will focus on publicizing fostering entrepreneurs by continuing these events in the future.</li> <li>• Lao Young Entrepreneur Association has been established. It plans to hold events building a network between the association and activities of the center.</li> </ul>



## 5. Cooperation Program for Industrial Human Resource Development

### 5.1 Direction of Cooperation

Based on the results of the previous chapter, after presenting an analysis of the current situation and issues of both demand and supply of human resources, this chapter analyzes the direction of cooperation through the Industrial Human Resource Development Program (Plan).

Both private and public sectors have issues regarding the demand side of human resources. In the private sector, improving quality and quantity is an issue for all human resources from the management level, which makes investment decisions on starting, expanding, and upgrading businesses, domestic middle managers and engineers, who replace foreign staff, technicians, and workers on the factory floor, to foremen who manage those technicians and workers.

In the public sector, the role of government officers of leading generally immature industries is important, but their abilities are insufficient. Industrial sectors such as tourism and agribusiness require regional knowledge and experience, so it is important to strengthen provincial and district government officers, but efforts have been insufficient.

In terms of the supply side of human resources, at national universities, even at the highest educational institute such as FoE/NUOL, its educational content and environmental level are not high enough to meet expectations from the demand side<sup>57</sup>. In addition, national universities are also expected to play roles such as providing basic education and academic research, while fostering teachers for the educational base of TVETs, but these roles are rarely fulfilled.

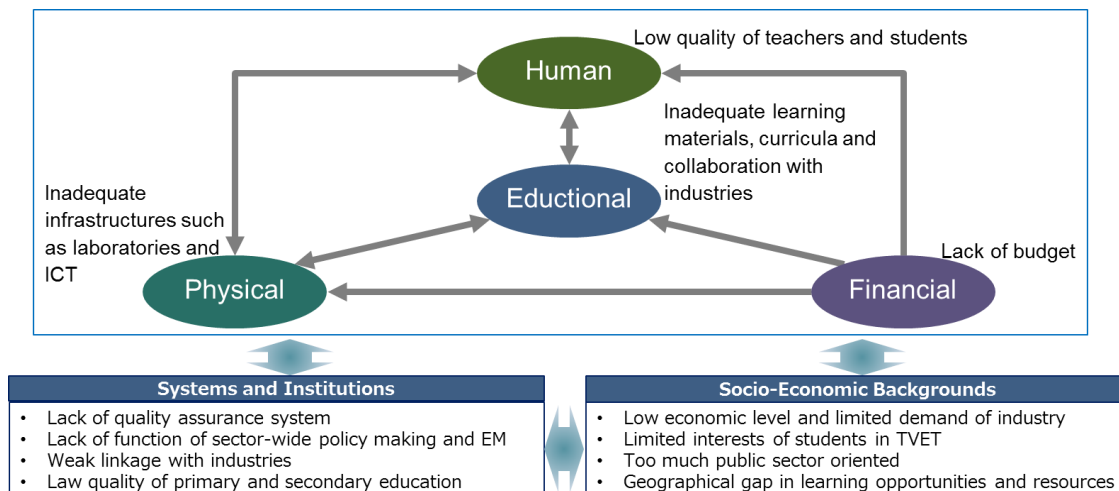
TVETs, regardless of their mission to develop vocational abilities, do not fully provide practical education, academic-industrial collaboration is not sufficient, and education that meets the expectations of business sectors is not implemented. Limited numbers of TVETs provide high-quality education. Most TVETs provide low-quality education, and the relatively high dispersion of educational quality is also an issue.

**In summary, as shown in** Source: Mitsubishi Research Institute, Inc.

Figure 5-1, higher education and TVETs have insufficient physical resources, financial resources, and educational resources, and the interaction of these resource shortages is the cause of the poor quality and quantity of education.

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<sup>57</sup> Through our interviews and site observations at the Faculty of Engineering of NUOL, we confirmed the generally low level of the contents and environment of their education, and the resultant insufficient practical training of students required by the labor market.



Source: Mitsubishi Research Institute, Inc.

**Figure 5-1 Challenges of Higher Education and TVETs**

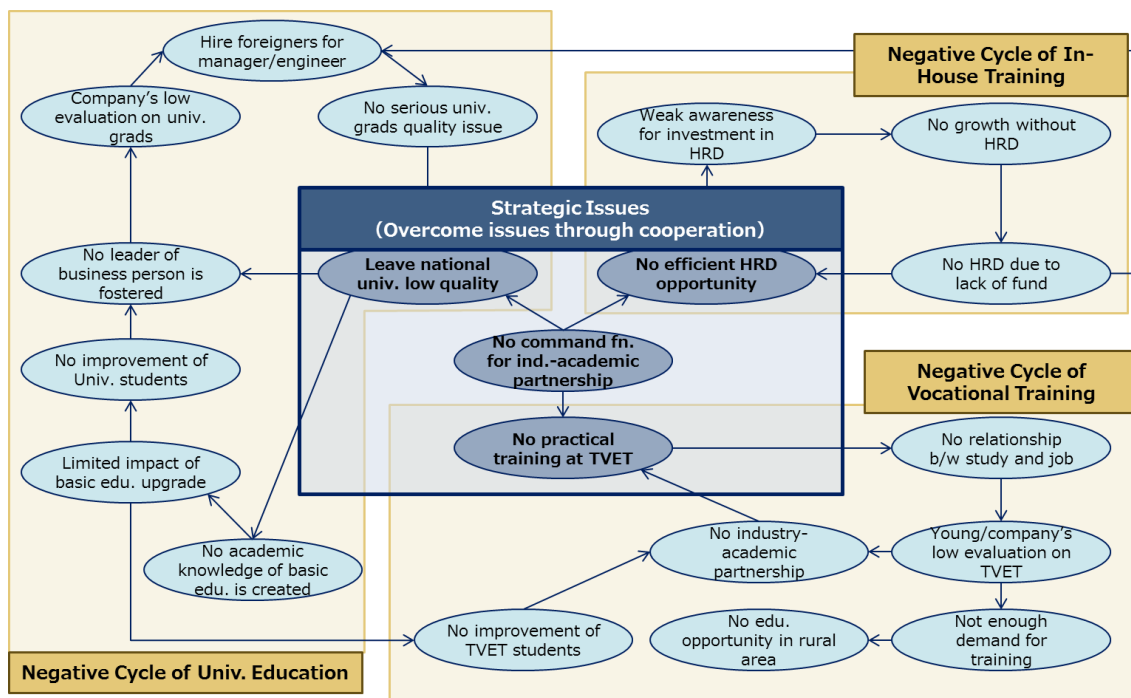
Few companies implement in-house training systematically because of a low awareness of human resources development and limited capabilities to invest.

As discussed above, the demand side of human resources has the issue of insufficient human resources in many industrial sectors and job titles, while the supply side including higher education, vocational education, and in-house training also cannot provide human resources who have the capabilities to meet the expectations of industrial sectors.

In addition to these broad and fundamental issues, it is difficult to specify a growth industry sector as described in 4-6. Analysis of Growth Industrial Sectors. So, as a direction for cooperation, improving the fundamentals of the human resource development system is more effective than supporting human resource development in some specific industrial sectors or job titles, while some attention is still paid to potential growth industrial sectors.

Source: Mitsubishi Research Institute, Inc.

Figure 5-2 shows the negative cycle of industrial human resource development issues in Lao PDR. In terms of improving the fundamentals of the industrial human resource development system, it would be effective to cooperate in reforming core issues of the negative cycle. Those are: “strengthening top-level education at national universities,” “strengthening practical education at TVETs,” “achieving cost-effective adult education,” and “strengthening the command function of academic-industrial cooperation in human resources development” from the perspectives of originality and impacts of cooperation measures.



Source: Mitsubishi Research Institute, Inc.

**Figure 5-2 Strategic Issues Extracted from the Negative Cycle of HRD**

## 5.2 Cooperation Program for Industrial Human Resource Development (Plan)

Taking the direction of cooperation discussed in the previous section into consideration, a detailed plan of the Cooperation Program for Industrial Human Resource Development is formulated as follows.

### (1) Support for Establishing Lao Technology University (LTU)

As a part of “strengthening top-level education at national universities,” supporting the establishment of LTU is considered to be effective. Details of cooperation are as follows.

#### 1) Construction of New Education and Research Buildings and Providing Experimental Equipment

The result of a site survey reveals that the education and research environment level of NUOL is low. To improve the situation, new education and research buildings at LTU, which is planned as a new university in Lao, are to be constructed and experimental equipment provided. The education and research buildings will be equipped with experimental and training rooms, research rooms, lecture rooms, and office.

This is expected to improve the quality of education and research activities at LTU by providing a new education and research environment. Through those activities, core engineers

will be developed in industrial sectors requiring engineering education such as manufacturing, tourism, IT services, logistics services, construction and agribusiness, and research capabilities in those areas will also be strengthened. Cooperation is considered to contribute to human development issues in each industrial sector as follows. The above-mentioned viewpoints need to be kept in mind when providing the support described in 2) to 4) below.

<Contribution to human resources issues in each industrial sector by upgrading the educational environment (example) >

- Manufacturing
  - Developing domestic engineers; positions are currently filled by foreign staff
  - Developing middle managers in the future, and improving productivity
  - Developing engineers, who can meet demands from SEZs.
  - Enhancing job seekers' interest in manufacturing industries
- Tourism
  - Developing human resources required for planning and practicing sustainable regional development.
  - Developing human resources required for planning and implementing tourism promotion measures which fully utilize ICT.
- IT services
  - Generally improving IT literacy through IT education provided across FoE
  - Developing IT engineers at user companies
  - Developing IT engineers to develop service provider businesses in the future
- Logistics
  - Developing human resources required for designing, developing, and operating logistic systems.
- Construction
  - Developing domestic engineers; positions are currently filled by foreign staff
  - Developing human resources of foreman class, who can manage quality and improve on-site productivity
- Agribusiness
  - Developing engineers who will contribute to agribusinesses such as the food-processing industry

The promotion of joint research with private companies as well as securing contracts of experiments and tests, etc. from them making use of the universities' resources including experiment facilities and analytical capabilities could be useful not only for ensuring their

revenue sources, but also for contributing to the public good.

Japan has good achievements and advantages in engineering education at a university level, so cooperation would have great significance.

## **2) Support Designing and Developing Educational Programs**

The results of the site survey shows that educational programs are inadequate, which is an issue for engineering education in NUOL, in addition to the low level of the physical environment. Therefore, designing and developing educational programs at the new university will also be supported. Specifically, designing and developing a department/faculty structure, a common program across a faculty, programs in each department, teaching methodology, admission system, and governance system are to be supported. When designing and developing new programs, Industry-University cooperation and nourishing entrepreneurship are strongly expected to lead to the creation of new businesses and industries in Lao PDR. FoE/NUOL has been receiving assistance from a university in Thailand, and teachers of both universities have close communications. Therefore, it is appropriate to discuss schemes such as south-south cooperation.

## **3) Support Development of Teacher Training Program**

In terms of industrial human resources development, support for higher education and TVETs that directly supply human resources to industrial sectors would be effective in the short term, while it is also important to improve the quality of students entering higher education and TVETs. From this perspective, it is meaningful to strengthen basic education and implement technical cooperation on developing teacher training programs to use the new education and research buildings for training science teachers of primary and secondary schools (especially secondary education). The teacher-training function, in addition to training courses on basic education for teachers, can be applied to teachers at LUT and other universities and colleges, as well as those at TVETs. Because training teachers on basic education is already supported, it is appropriate for cooperation to implement interactions with such existing activities.

## **4) Support Development and Introduction of Engineer Training Program**

In addition to human resource development through the program for degree courses, LUT is expected to provide training for active engineers working in factories because comprehensive in-house training is not provided. Specifically, implementation of engineer training programs using the new education and research buildings, as well as various support for introducing lectures on demand at SEZs including development of training programs, publicity for companies, and program management.

These forms of support could help solidify the foundations for developing the human resources required for industries in the short term, and also have the following outcomes:

- Continuous development of core engineers contribute to industry
- Building new university model produce autonomous management and value for industry
- Strengthening TVET education by utilizing research facility
- Continuous expansion of skilled labour force by adult education for engineers
- Promoting new business development and entrepreneurship by expansion of incubation function

## **(2) Institutional strengthening of LJI**

### **1) Support Development and Introduction of Management Personnel Training Program**

At LJI, a business course is provided for training middle managers and to achieve satisfactory results. On the other hand, the private sector requires top management to make investment decisions on starting up new businesses, as well as expansion and upgrading of existing business. So, it is considered to be efficient to support LJI in providing a training program for upper management levels using the long-term experience of the business course.

Developing SEZs is a pillar of industrial policy in Lao PDR, and it is considered that the training program for company managers in SEZs will be important in the future. Therefore, developing training program for company managers in SEZs and implementing the training program at LJI, as well as providing on-demand lectures at SEZ, will be supported.

### **2) Strengthen Functions of Supporting Industrial Human Resource Development**

To develop industrial human resources effectively, it is necessary to have discussions among industrial circles that need human resources, educational circles that supply human resources, and administrative circles that support political aspects for reaching a common understanding on the necessary human resources, educational programs, and how to use educated human resources, then to cooperate on implementation as a common goal. On the other hand, the command function in industrial human resource development is still immature, so the triangle of cooperation described above is not implemented. When an organization is equipped with a command function, support for various activities will be needed.

For instance, it is expected to strengthen the function of industrial human resource development system by supporting the introduction of “Implementation surveys on industrial

human resource development (human resources demand survey and supply surveys)<sup>58</sup>,” “Implementation of productivity improvements in research and consulting<sup>59</sup>,” “Researching and developing human resource evaluation and matching systems (local HR-Japanese companies, between local-Japanese companies),” “Policy for making and recommending an industrial human resource development plan.”

These forms of support could help solidify the foundations for developing the human resources required for industries in the short term, and also have the following outcomes:

- Establishing a model of systematic management education and its application to faculties of economics and business administration of NUOL and other universities (or in collaboration with them).
- Developing human resources for industries based on continuous, holistic, and evolutionary collaboration among industries, academia, and government, which could be underpinned by the control tower function of their collaboration.
- Presenting a human resources development support model established with the involvement of the Laos-Japan Institute in the above-mentioned affairs to sister Institutes in other countries.

Laos-Japan Institute is an organization with the experience, achievements, and goals as described below. In view of the possibilities of its utilization, it is considered to be the right target for providing support to fulfill the functions mentioned above.

- By implementing JICA projects, LJI has accumulated knowledge, educational resources, and human networks required for business training.
- Acknowledged as an organization of NUOL, LJI is in a good position to enable smooth and sufficient collaboration with the headquarters and the Faculty of Economics and Business Administration of NUOL.
- LJI possesses experience of research, study and consulting services on developing business human resources, improving business management, and improving productivity<sup>60</sup>.

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<sup>58</sup> Although LJI has been conducting demand surveys on program needs, a demand survey of the labor force has not been conducted. This survey would be important for developing human resources in industry.

<sup>59</sup> Although LJI has been providing the management program with company evaluations, there are limitations because of the lack of human resources and budget

<sup>60</sup> Strengthening research and study activities has been confirmed (from interview survey to LJI) as one of priority targets of LJI.

### **(3) Others**

In addition to the Cooperation Plan mentioned above, the following cooperation may be alternatives. However, these are prioritized less for the reasons described in this section. These alternatives can be reflected in various forms of cooperation, which are implemented by individual sector.

#### **1) Developing Human Resource Development Functions in SEZs**

A human resource development center is established inside or beside SEZs for developing human resources in terms of existing and potential employees of companies located in the SEZs, leading to investment being promoted as well as SEZ being strengthened. The training contents are practical education for technicians and professionals in accounting and marketing, which the interviewed manufacturing companies demand from human resources. On the other hand, this cooperation seems to take the form of direct support for private companies, and it is considered that SEZ management companies should implement this by themselves as part of investment promotion<sup>61</sup>.

#### **2) Supporting Quality Improvements of TVETs by Strengthening Model Schools**

There are dozens of TVETs in Lao PDR, but most cannot develop human resources with practical capabilities due to issues related to facilities and equipment for practical training, and the quality of teachers and students. The wide gaps in quality among TVETs create an issue for guaranteeing educational quality. Therefore, TVET quality should be upgraded intensively supporting selected TVETs as model schools by providing equipment, materials, and technical cooperation, and then having this spread to other TVETs. In developing the model school case, knowledge and experience from highly evaluated Japanese industrial education, including its specialized vocational high school system, can be applied. Strengthening TVETs is an area given high priority in human resource development policy in Lao PDR, but it is difficult to provide Japanese cooperation as GIZ has supported the area for a long time.

#### **3) Establishing an Organization for Promoting Tourism and Implementing Training Activities**

Regarding the tourism industry, making a sustainable plan and implementing it continuously can be expected using regional resources in cooperation with government agencies covering tourism, infrastructure, and commerce, business circles such as accommodation, restaurant, and bars, and commercial, transportation and agriculture, as well as local residents. However, the fundamental issue is a weak tourism promotion system including insufficient marketing.

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<sup>61</sup> In Myanmar, a private company runs this kind of human resource development center.



In response, it would be effective to establish a core organization consisting of various stakeholders, and supporting human resource development in the sector as one of the main activities. In the tourism sector, human development by LANITH has been supported by other donors, but original cooperation is possible by developing human resources in combination with establishing a core organization. However, taking the scale of the tourism industry into consideration, the impact may be limited.



## APPENDIX

### 1. Current Situation and Issues in the Higher Education and TVET Sector

#### 1-1. National universities – present situation and challenges

##### (1) National University of Laos

Established	<ul style="list-style-type: none"> <li>• 1996</li> </ul>
Location	<ul style="list-style-type: none"> <li>• Vientiane</li> </ul>
Faculty Composition	<ul style="list-style-type: none"> <li>• The composition of the faculty is as follows:               <ul style="list-style-type: none"> <li>✓ Faculty of Architecture</li> <li>✓ Faculty of Engineering</li> <li>✓ Faculty of Economics and Business Administration</li> <li>✓ Faculty of Environmental Sciences</li> <li>✓ Faculty of Law and Political Sciences</li> <li>✓ Faculty of Agriculture</li> <li>✓ Faculty of Education</li> <li>✓ Faculty of Forestry</li> <li>✓ Faculty of Letters</li> <li>✓ Faculty of Sciences</li> <li>✓ Faculty of Social Sciences</li> </ul> </li> </ul>
Priority Discipline	<ul style="list-style-type: none"> <li>• Science</li> </ul>
Number of Teaching Staff (2015)	<ul style="list-style-type: none"> <li>• Full-time : 1,672</li> <li>• Part-time : 46</li> </ul>
Number of Students (2015)	<ul style="list-style-type: none"> <li>• Doctor's Courses : 7</li> <li>• Master's Courses : 974</li> <li>• Undergraduate Courses : 20,992</li> </ul>
Challenges ※ from Interview Survey	<ul style="list-style-type: none"> <li>• Lack of facilities and equipment required for high-quality education and research.</li> <li>• There are few teaching staff with a doctor's degree, while those with a master's degree are also limited. There are very few human resources with state-of-the-art knowledge.</li> <li>• While they wish to launch human resources development commensurate with the needs of business circles, they do not have means or networks to become familiar with the requirements. No concrete actions have been taken.</li> <li>• Financial resources to solve the above-mentioned issues are also limited.</li> </ul>

	<p>Recruiting competent teaching staff and introducing equipment for high-level education/research and industry-academia collaboration are also financially constrained.</p>
<p>Unique Approach and Future Prospects ※ from Interview Survey</p>	<ul style="list-style-type: none"> <li>• There is a plan to separate the Faculty of Engineering for establishing the Laos Institute of Technology, which has already been approved by the Ministry of Education and Sports. An urgent challenge is securing financial resources, for which the government has been approaching donors.</li> <li>• Considering the importance of faculty development, they also have a plan to encourage their teaching staff to earn a doctor's degree at higher education institutions in other countries making use of schemes such as SEED-Net which is a network project among engineering faculties of the ASEAN region.</li> <li>• Aiming at fulfilling the responsibilities of the support center for TVET, they plan to substantiate training programs for students expected to work as teaching staff in TVET in the future. (However, the prospects are dim due to the inadequacy of facilities and equipment, and the quality of NUOL teaching staff as well as the fragility of financial base.)</li> </ul>

## (2) Savannakhet University

Established	<ul style="list-style-type: none"> <li>• 2009</li> </ul>
Location	<ul style="list-style-type: none"> <li>• Savannakhet</li> </ul>
Faculty Composition	<ul style="list-style-type: none"> <li>• The composition of the faculty is as follows: <ul style="list-style-type: none"> <li>✓ Faculty of Agriculture</li> <li>✓ Faculty of Business Administration</li> <li>✓ Faculty of Linguistics</li> <li>✓ Information Technology Center</li> <li>✓ Faculty of Food Science</li> <li>✓ Faculty of Education</li> <li>✓ Faculty of Natural Science</li> </ul> </li> </ul>
Priority Discipline	<ul style="list-style-type: none"> <li>• Economics</li> </ul>
Number of Teaching Staff (2015)	<ul style="list-style-type: none"> <li>• Full-time : 381</li> </ul>
Number of Students (2015)	<ul style="list-style-type: none"> <li>• Undergraduate Courses : 3,749</li> </ul>
Challenges ※ from	<ul style="list-style-type: none"> <li>• Lack of basic facilities and equipment. Not sufficient for experiments.</li> <li>• Shortage of qualified teaching staff. (Not only a lack of those of doctor's and</li> </ul>

Interview Survey	<p>master's degrees, but also many staff have diplomas at a level lower than undergraduates.)</p> <p>It is difficult to undertake high-quality education and research. International exchanges are difficult due to low linguistic ability.</p> <ul style="list-style-type: none"> <li>• Insufficient support from the local government due to deficient communications between the university and the local government.</li> <li>• Plural ethnic groups live in the same area, and the socio-economic backgrounds of students are diverse. Special consideration including scholarship grants is required from the admission stage.</li> </ul>
<p>Unique Approach &amp; Future Prospects</p> <p>※ from Interview Survey</p>	<ul style="list-style-type: none"> <li>• They have the idea of contributing to developing human resources for activities of the Special Economic Zone, which is close to their location. (While the concrete strategy is still in the air, they plan to expand the existing internship program already established with SEZ.)</li> <li>• They intend to function as a base for developing human resources required for industries not merely sending out graduates.</li> <li>• In view of the traits of Savannakhet, which has the largest population and land area in Lao PDR, they wish to improve their education and research functions by making best use of local resources including local development projects.</li> <li>• On top of emphasis on economics, which was designated by the central government, they are willing to boost education and research in the field of agri-business, which can use the large available area of local land.</li> <li>• In addition to enriching of the university's internal resources, they plan to introduce a mechanism for quality assurance (such as the framework promoted by ASEAN or ISO, etc.) for improving the quality of education and research.</li> </ul>

### (3) Champasak University

Established	<ul style="list-style-type: none"> <li>• 2002 (became independent in 2004)</li> </ul>
Location	<ul style="list-style-type: none"> <li>• Pakse</li> </ul>
Faculty Composition	<ul style="list-style-type: none"> <li>• The composition of the faculty is as follows: <ul style="list-style-type: none"> <li>✓ Faculty of Education</li> <li>✓ Faculty of Agriculture and Forestry</li> <li>✓ Faculty of Economics and Management</li> <li>✓ Faculty of Law and Public Administration</li> <li>✓ Faculty of Engineering</li> <li>✓ Faculty of Natural Science</li> </ul> </li> </ul>
Priority Discipline	<ul style="list-style-type: none"> <li>• Agriculture</li> </ul>

Number of Teaching Staff (2015)	<ul style="list-style-type: none"> <li>• Full-time : 175</li> <li>• Part-time : 23</li> </ul>
Number of Students (2015)	<ul style="list-style-type: none"> <li>• Undergraduate Course : 2,205</li> </ul>
Challenges ※ from Interview Survey	<ul style="list-style-type: none"> <li>• Quality of students is unsatisfactory. At the time of inauguration, the scholastic level of students from rural areas in particular was quite low. There were often cases of those who had never possessed basic knowledge at a high school level in mathematics and science, which prompted the university to conduct supplementary lectures for them prior to entrance. As such cases gradually disappeared, the students' scholastic abilities reached a level, at around 2010, where all the students were able to become involved in university education upon entrance.</li> <li>• Inadequate facilities and equipment. The only faculty possessing a laboratory is the Faculty of Natural Science, and there are no laboratories even in the Faculty of Engineering. There is not a suitable environment for quality education and research. The library's book collection is extremely limited and obsolete. Financial constraints block access to thesis databases, etc. (because it is impossible to purchase a licence). This makes it difficult for teachers and students to become exposed to the latest academic achievement.</li> <li>• Low quality of teaching staff. Their target is to set the portion of teaching staff by type of degree as : doctor 1, master 6, and undergraduate 3. However, the reality is that the majority are undergraduates, and there are even those at diploma level. This makes it extremely difficult to execute high-level education and research with access to the latest academic achievements.</li> </ul>
Unique Approach & Future Prospects ※ from Interview Survey	<ul style="list-style-type: none"> <li>• While no particular academia-industry collaboration (joint research, etc.) has been implemented so far, they operate an internship program in the field of education. Fourth-grade students are entitled to access the program, in which they are expected to experience working in private sector companies and make use of the experience for writing a graduation thesis. However, it is not always accessible for all applicants due to limited slots. Future expansion of the program is envisaged.</li> <li>• Inviting staff of the private sector companies as lecturers based on the images of human resources required for working in the private sector has also been implemented as a supplement for the internship program. This aims at developing the university's curriculum as well as fostering work consciousness</li> </ul>

	<p>among students.</p> <ul style="list-style-type: none"> <li>Supported by international and/or bilateral aid agencies for improving the quality of teaching staff, overseas training of teaching staff (including studies for doctoral degree) has been implemented. Some are implemented within the framework of multilateral assistance programs, while others are undertaken through individual arrangements based on MOUs with specific universities.</li> <li>As with cases in the past, emphasis on the agricultural sector is envisaged. As stipulated in the government's development plan, because of the large proportion of the population in the agricultural sector, it is imperative to develop the human resources required in that sector. This does not merely mean increasing the number of full-time farmers, but building up human resources for contributing to the revitalization of the sector, for example, working in agricultural corporations dealing with activities from production to sales of coffee beans, animal husbandry, and fisheries (including those who wish to start up new businesses). In parallel with quality improvements of teaching staff, the shift from a heavily theory-oriented curriculum to a practical-oriented one similar to the existing internship program is under consideration. In addition, changing the students' mindset from employment in the public sector to the private sector is also envisaged.</li> </ul>
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#### **(4) Souphanouvong University**

Established	<ul style="list-style-type: none"> <li>2003</li> </ul>
Location	<ul style="list-style-type: none"> <li>Luang Prabang</li> </ul>
Faculty Composition	<ul style="list-style-type: none"> <li>The composition of the faculty is as follows: <ul style="list-style-type: none"> <li>✓ Faculty of Economics and Tourism</li> <li>✓ Faculty of Education</li> <li>✓ Faculty of Architecture</li> <li>✓ Faculty of Agriculture</li> <li>✓ Faculty of Engineering</li> <li>✓ Faculty of Letters</li> </ul> </li> </ul>
Priority Discipline	<ul style="list-style-type: none"> <li>Transportation and Tourism</li> </ul>
Number of Teaching Staff (2015)	<ul style="list-style-type: none"> <li>Full-time : 479</li> </ul>
Number of Students (2015)	<ul style="list-style-type: none"> <li>Undergraduate Courses : 3,873</li> </ul>
Challenges	<ul style="list-style-type: none"> <li>Lack of facilities and equipment for high-level education and research. First, the</li> </ul>

※ from Interview Survey	<p>number of class rooms are insufficient.</p> <ul style="list-style-type: none"> <li>• Low level of English proficiency of teaching staff and students from the northern region. (To resolve the issue, English teachers invited from Korea and Australia are providing 30 minutes of free English training in every lunch time to students and teaching staff.)</li> </ul>
Unique Approach & Future Prospects ※ from Interview Survey	<ul style="list-style-type: none"> <li>• Taking advantage of its geographical proximity to Luang Prabang, they are going to continue emphasizing on education and research in the field of tourism. In this connection, they plan to highlight the viewpoint of sustainable development and a green economy. Organizing a workshop for teaching staff and inviting knowledgeable experts is a part of their plan.</li> <li>• From the same viewpoint, they are considering establishing a research fund and a scholarship program in the field of tourism economy.</li> </ul>

## 1-2. Private universities – present situation and challenges

### (1) Comcenter College

Established	<ul style="list-style-type: none"> <li>• 1993</li> </ul>
Location	<ul style="list-style-type: none"> <li>• Vientiane</li> </ul>
Courses	<ul style="list-style-type: none"> <li>• Courses provided are as follows: <ul style="list-style-type: none"> <li>✓ Business English</li> <li>✓ Business Administration</li> <li>✓ Business Law (up until 2013)</li> </ul> </li> <li>• Lectures are provided on weekdays, 8:30 to 11:30 and 17:30 to 20:30.</li> <li>• At week-ends, only paid intensive classes are provided, which solely target under-performing students. The tuition is 200,000 kip for a total of 24 class hours. If days of absence exceed 20% of the required days, a penalty amounting to 300,000 kip is charged to that student.</li> </ul>
Teaching Staff	<ul style="list-style-type: none"> <li>• Full-time Teachers : 5, Full-time Staff : 12</li> <li>• Part-time Teachers : Around 50 (They are mostly staff of public offices or private companies with degrees obtained in foreign countries and with high English proficiency, who wish to pick up a side job.)</li> </ul>
Students	<ul style="list-style-type: none"> <li>• Around 700</li> <li>• They are mostly high-school graduates. Some NUOL students also take part in some evening classes.</li> </ul>
Challenges ※ from Interview	<ul style="list-style-type: none"> <li>• To ensure the quality of students, the number of days attending classes is set as one of the standards to grant credits. However, this strictness influences the high dropout rate, which reaches 10 to 15% annually.</li> </ul>



Survey	<ul style="list-style-type: none"> <li>• While classes continue for eight months including the exam period, most teachers have to come to school even in the vacation period to conduct intensive classes for under-performing students.</li> <li>• According to the government policy, private universities are required to employ full-time teachers accounting for more than half of all teachers in order to grant degrees higher than a bachelor's degree. However, schools in Vientiane scramble for excellent teachers, although the schools themselves are in a financially difficult situation to pay attractive remuneration to teachers, and teachers prefer to work on a non-regular basis, while keeping their main occupation, in order to earn a higher income. This makes it rather difficult to increase the number of teachers for schools.</li> </ul>
<p>Unique Approach &amp; Future Prospects</p> <p>※ from Interview Survey</p>	<ul style="list-style-type: none"> <li>• Scholarship is provided to the top three excellent students, irrespective of their socio-economic background, to make their tuition free for three years. Because of its social meanings, the college wishes to continue or even expand the scholarship program.</li> <li>• For the purpose of skill improvement of part-time teachers, the college president as well as vice president themselves conduct training courses in the area of class management and teaching methods. They plan to make full use of existing part-time teachers by providing them with internal training rather than increasing the number of part-time teachers which gives heavier financial burden to them.</li> <li>• If days of absence exceed 20% of the total required class days, the relevant students are not entitled to get credits. This regulation which intends to ensure the quality of students will be maintained in the future as well.</li> <li>• All the students have to go through a three-month internship program in the final academic year. They have to do practical work related to business administration in public offices or private companies. This approach will also be maintained and promoted from the viewpoint of human resources development required in the business world.</li> </ul>

## (2) Sengsavan College

Established	<ul style="list-style-type: none"> <li>• 1998</li> </ul>
Location	<ul style="list-style-type: none"> <li>• Vientiane</li> </ul>
Courses	<ul style="list-style-type: none"> <li>• Courses provided are as follows: <ul style="list-style-type: none"> <li>✓ Business Administration</li> <li>✓ Professional English, French</li> <li>✓ Japanese</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>✓ Marketing</li> <li>✓ Accounting</li> <li>✓ Finance</li> <li>✓ Project Management</li> <li>✓ Human Resources Management</li> <li>✓ Tourism, Tour Guide</li> <li>✓ Computer Skills</li> </ul>
Teaching Staff	<ul style="list-style-type: none"> <li>• Full-time Teachers : 29, Part-time Teachers : 17</li> <li>• Clerical Staff : 19</li> </ul>
Students	<ul style="list-style-type: none"> <li>• 275</li> </ul>
Challenges ※ from Interview Survey	<ul style="list-style-type: none"> <li>• A common challenge among private colleges is the decreasing number of students. The background of this phenomenon is that private colleges became unable to provide bachelor's degrees to students according to the instruction of the Education Ministry.</li> <li>• While the necessity of capacity building of teachers is a challenge on one hand, preparing the posts for those teachers sent for overseas training and returned to the college is getting ever harder in the circumstances of decreasing number of students.</li> <li>• As many of the students of this college failed in the entrance exam of NUOL, a sense of lower prestige shared among students is another challenge.</li> </ul>
Unique Approach & Future Prospects  ※ from Interview Survey	<ul style="list-style-type: none"> <li>• For capacity building of staff of the college, experts from the Education Ministry are currently invited to internally provide trainings. Although this will be continued in the future, providing customized trainings to suit the different needs of different teaching staff are also envisaged.</li> <li>• Since the Education Ministry itself organizes training programs for teachers, the college staff and teachers will also be sent to the Ministry's training programs in the future.</li> <li>• All the students are currently required to participate in a two-month training (internship) in private companies, etc. Since this is extremely useful for developing human resources required for businesses, it will be continued.</li> </ul>

### (3) Savan Business Administration College

Established	<ul style="list-style-type: none"> <li>• 1997</li> </ul>
Location	<ul style="list-style-type: none"> <li>• Savannakhet</li> </ul>
Courses	<ul style="list-style-type: none"> <li>• Courses provided are as follows: <ul style="list-style-type: none"> <li>✓ Accounting</li> <li>✓ General Management</li> </ul> </li> </ul>

	✓ Information Technology
Teachers	• 37
Students	• 3-Year Courses : 318 • 5-Year Courses : 119
Challenges ※ from Interview Survey	<ul style="list-style-type: none"> <li>• The main source of revenue of the college is tuition fee. At least 400 students are required for paying salary to teachers. Since the bachelor's degree course was forced to close due to the instruction by the government, the college management is currently in a difficult situation because of the decreased number of students.</li> <li>• The students' mindset is preference of higher education. The negative recognition that those who failed in the entrance exam of universities attend private colleges or TVET is generally shared in the society.</li> <li>• Although the college provides English training to students, there are many other competitors in this regard. It does not give the comparative superiority to the college.</li> </ul>
Unique Approach & Future Prospects ※ from Interview Survey	<ul style="list-style-type: none"> <li>• For securing capable teachers, the college has a program to send high-performing students to post-graduate schools with scholarship on the condition of coming back to the college as teachers. They plan to continue this program for faculty development.</li> <li>• Upon the confirmation of the will to work in the college, some promising students are provided with scholarship on the condition of remaining in the college after their graduation as teaching assistants. As this is desirable for securing capable human resources as well as providing employment to graduates, they plan to continue the practice.</li> <li>• Apart from the ordinary lectures to students, the college provides accounting consulting services to private companies, from which the college gains 25% of its total revenue. For diversifying financial sources, they further plan to start training programs for private companies in the disciplines of business administration and accounting.</li> </ul>

### 1-3. TVET – present situation and challenges

#### (1) Lao-German Technical School

Established	• Lao-German Vocational Secondary School was established in 1964. It was renamed as Craft Training School Vientiane in 1975, and Lao-German Technical School in 1993, and finally as TVET in 2015.
Location	• Vientiane

Courses	<ul style="list-style-type: none"> <li>• Courses provided are as follows: <ul style="list-style-type: none"> <li>✓ Automotive Technology</li> <li>✓ Metal Machining</li> <li>✓ Electro - Electronics</li> <li>✓ Welding - Plumbing</li> <li>✓ Heavy Equipment</li> <li>✓ Agro-machinery</li> </ul> </li> </ul>
Teachers	<ul style="list-style-type: none"> <li>• Teachers : 73 (out of whom 4 master's degree holders, 15 bachelors, 37 higher diploma holders)</li> <li>• Staff : 14</li> </ul>
Students	<ul style="list-style-type: none"> <li>• 800 - 900</li> </ul>
Challenges ※ from Interview Survey	<ul style="list-style-type: none"> <li>• Ensuring financial soundness is a challenge. Although they provide advisory and training services as well as automobile maintenance services to private companies for increasing their revenue, the scale is not large.</li> <li>• Students' attitude to studies is not active. Training for developing self-motivation and self-determination of students might be necessary in addition to ordinary skill and knowledge development.</li> </ul>
Unique Approach & Future Prospects ※ from Interview Survey	<ul style="list-style-type: none"> <li>• They are provided with equipment and materials as well as lecturers from major Japanese enterprises (Toyota, Denso, Kubota, etc.) Those companies also provide internship training opportunities to TVET students in the hope of securing immediately-effective workers after their graduation. This is quite useful for developing ready-to-work human resources. Those companies also provide training to TVET teachers. TVET receives scholarships, equipment and materials from varied organizations including Japanese firms. They are also considering the fortification of collaboration with the industrial circle (individual firms and the Chamber of Commerce and Industry) for the education of students with high-level skills and knowledge. (TVET boasts their graduates' rate of employment as high as 100% because of their high-level education. )</li> <li>• They plan to set up new courses regarding industrial electronics and machine construction, without taking too much heed of existing course composition, to meet the high demand for human resources in the current labor market. The student accommodation capacity is envisaged as around 1,500. (The application for approval has been already submitted to the Education Ministry.)</li> <li>• They are considering the ways of extending assistance to other TVETs in particular located in less developed rural areas. A plan to provide trainings to</li> </ul>

	<p>200 teachers annually in the southern areas is currently under consideration.</p> <ul style="list-style-type: none"> <li>• For securing the quality of students, interview sessions are added to the normal written examination at the time of entrance exams. However, there are some students without sufficient capability in mathematics and physics. They plan to conduct supplementary lectures to those under-performing new students.</li> </ul>
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## (2) Polytechnic College

Established	<ul style="list-style-type: none"> <li>• 1986年</li> </ul>
Location	<ul style="list-style-type: none"> <li>• Vientiane</li> </ul>
Courses	<ul style="list-style-type: none"> <li>• Courses provided are as follows: <ul style="list-style-type: none"> <li>✓ Electrical</li> <li>✓ Mineral Exploration</li> <li>✓ Environment</li> <li>✓ IT</li> <li>✓ Mining</li> </ul> </li> </ul>
Teachers	<ul style="list-style-type: none"> <li>• Full-time :</li> </ul>
Students	<ul style="list-style-type: none"> <li>• Diploma Level : 1086</li> <li>• Certificate Level : 1584</li> </ul>
Challenges ※ from Interview Survey	<ul style="list-style-type: none"> <li>• Because of the shortage of funds provided by the Education Ministry, the college is unable to purchase enough equipment and materials for conducting practical trainings. Therefore the college has no other choices than asking its neighboring factories for providing opportunities to do practical trainings in their premises.</li> <li>• In view of the current industrial needs, they wish to introduce a course for railway engineering. However, it is extremely difficult because of the absence of experts in this field in Lao PDR.</li> <li>• Another challenge is the fact that the quality of existing teaching staff is not necessarily satisfactory.</li> </ul>
Unique Approach & Future Prospects  ※ from Interview Survey	<ul style="list-style-type: none"> <li>• All the students are required to go through a 45-day internship training annually in the hope of obtaining knowledge and skills useful in the actual works. However, the internship program has so far been conducted not in a systematic manner, but through personal networks. In addition, they consider that the contents and duration of internship training should be flexibly decided based on the market needs and trends.</li> <li>• One of the comparative advantages of the college is the professional education in the fields of electricity and mining, since the education of these disciplines is not sufficiently conducted in other educational institutions. The college wants</li> </ul>

	<p>to continue to provide high-quality education in these fields while carefully observing the industrial trends.</p> <ul style="list-style-type: none"> <li>• They have a program to send teaching staff for overseas training for about half a year in order to enhance the staff quality. They want the program to be expanded further.</li> </ul>
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**(3) Champasak Technical-Vocational College / Pakse Technical Vocational College**

Established	<ul style="list-style-type: none"> <li>• 1985 (established as Pakse Technical Vocational College)</li> <li>• 2010 (unified as Champasak Technical-Vocational College)</li> </ul>
Location	<ul style="list-style-type: none"> <li>• Pakse</li> </ul>
Courses	<ul style="list-style-type: none"> <li>• Courses provided are as follows: <ul style="list-style-type: none"> <li>✓ Architecture</li> <li>✓ Cooking &amp; Hotel Services</li> <li>✓ Garment Manufacturing</li> <li>✓ General Machinery</li> <li>✓ Agricultural Machinery</li> <li>✓ Furniture</li> <li>✓ Technology</li> <li>✓ Automobile</li> <li>✓ Electricity</li> <li>✓ Electronics</li> <li>✓ Plant Machinery</li> </ul> </li> </ul>
Teachers	<ul style="list-style-type: none"> <li>• Full-time : 148</li> </ul>
Students	<ul style="list-style-type: none"> <li>• 2,492</li> </ul>
Challenges ※ from Interview Survey	<ul style="list-style-type: none"> <li>• Shortage of teachers with high-level academic background.</li> <li>• Thanks to the donation of equipment for practical training from private companies, a certain level of educational environment has been ensured. However, it is necessary to develop the facilities so that the students are equipped with higher level of skills.</li> <li>• The college has not been able to sufficiently trace the career of their graduates. Getting familiar with the information regarding what type of graduates are pursuing what sort of careers is useful for future curriculum development of the college.</li> </ul>
Unique Approach & Future Prospects  ※ from	<ul style="list-style-type: none"> <li>• In courses which enable students to earn diplomas or higher diplomas, students are required to experience a-few-month internship training in private companies in their last academic year. The college intends to diversify and expand the intern-recipient companies from now on to enhance the skill level of graduates.</li> </ul>

Interview Survey	<ul style="list-style-type: none"> <li>The college has so far received equipment from Japanese companies such as Toyota, Toshiba, and etc. In collaboration with those Japanese firms, the college plans to enhance not only the contents of equipment, but also the training programs for teachers including receiving lecturers from Japanese firms and sending college teachers to Japan for enrollment in doctoral degree courses in Japan.</li> </ul>
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#### (4) Vientiane Hanoi Friendship Vocational College

Established	<ul style="list-style-type: none"> <li>2004</li> </ul>
Location	<ul style="list-style-type: none"> <li>Vientiane</li> </ul>
Courses	<ul style="list-style-type: none"> <li>Courses provided are as follows: <ul style="list-style-type: none"> <li>✓ Electricity</li> <li>✓ Computer Technology, Computer-related Business</li> <li>✓ IT</li> <li>✓ Office Management</li> </ul> </li> </ul>
Teachers	<ul style="list-style-type: none"> <li>83</li> </ul>
Students	<ul style="list-style-type: none"> <li>1,928</li> </ul>
Challenges ※ from Interview Survey	<ul style="list-style-type: none"> <li>Although the college has so far conducted evening classes, it is now prohibited to open evening classes anew due to the instruction by the Education Ministry. This has affected the financial base of the college.</li> <li>Compared to similar institutions in neighboring countries, equipment and facilities of the college are obsolete. This limits the level which students can achieve while they are in the college. On the other hand, the funds available from the Education Ministry are also limited. In the circumstances, the college has no other ways than asking Chinese or Thai universities for support.</li> </ul>
Unique Approach & Future Prospects  ※ from Interview Survey	<ul style="list-style-type: none"> <li>To ensure impartial assessment of students' achievement, the comprehensive evaluation is conducted based on the results of mini exams conducted in each class in every term (evaluated by the teachers in charge) and the overall exam conducted at the end of each term (evaluated by the teachers responsible for tests). While maintaining this double evaluation system in view of the merit to ensure the students' quality as well as impartiality of achievement assessment, the college wishes to enhance the quality of assessment.</li> <li>The college has a program for high-performing students to send them to universities in Viet Nam for earning the doctor's degrees. The college intends to maintain and expand the program.</li> <li>The college has a plan to employ ten master's degree holders, three doctor's degree holders by 2020, while dismissing all the teachers holding only higher</li> </ul>

	<p>diplomas all in order to enhance the quality of education. In addition, the college has a program to send teachers to universities in foreign countries, all of which are in a collaborative relationship with the college, for the purpose of enhancing teaching capability of the college teachers. The program will also be expanded.</p> <ul style="list-style-type: none"> <li>• Thanks to the assistance from the Asian Development Bank, the college has been implementing the project to construct a new school building for IT course coupled with the curriculum development for the IT-related two courses with the budget of 1 to 2 million US\$ to be completed in 2017. As for electricity-related two courses, their curricula are going to be developed by the college themselves with the assistance from the government of Viet Nam.</li> <li>• Since the improvement of school equipment and facilities is also necessary, the college envisages expansion of library bookshelves, installation of PC equipment including monitors and printers, and renovation of conference rooms and school yards, etc.</li> <li>• All the students of the college are required to experience a three-month internship training in their last academic year. The college asks the companies which receive students for the training to evaluate students and fill in the evaluation paper. The college considers the continuation of the internship program making use of such evaluation paper which they think is useful for ensuring the quality of the internship program.</li> </ul>
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**(5) Luangprabang Technical College**

Established	<ul style="list-style-type: none"> <li>• 1980</li> </ul>
Location	<ul style="list-style-type: none"> <li>• Luangprabang</li> </ul>
Courses	<ul style="list-style-type: none"> <li>• Courses provided are as follows: <ul style="list-style-type: none"> <li>✓ Industry (auto mechanics, welding)</li> <li>✓ Tourism (hotel services, tourism)</li> <li>✓ Construction (wood works, construction)</li> <li>✓ Electricity engineering (electricity, electronics, information technology)</li> <li>✓ Business (computer-related business, corporate management, accounting)</li> </ul> </li> </ul>
Teachers	<ul style="list-style-type: none"> <li>• 152</li> </ul>
Students	<ul style="list-style-type: none"> <li>• 2009</li> </ul>
Challenges ※ from Interview Survey	<ul style="list-style-type: none"> <li>• As the number of students have been on the rise, shortage of classrooms, facilities and equipment is a serious problem. Some lectures are conducted in the open-air. Taking appropriate measures without delay is the requisite for ensuring the quality of education.</li> </ul>



	<ul style="list-style-type: none"> <li>• Most of the teachers are bachelor's degree holders. There are only a few master's degree holders, and only one doctor's degree holder. Improvement of teachers' knowledge and skill level is an imminent requirement.</li> <li>• While Japanese electric machinery were purchased as equipment for practical training, it is difficult to repair them when they are out of order. Teachers and students need opportunities to learn the basic knowledge and skills of industrial machinery and electrical goods.</li> </ul>
<p>Unique Approach &amp; Future Prospects</p> <p>※ from Interview Survey</p>	<ul style="list-style-type: none"> <li>• Of the total graduates, 80 to 90 % of them find employment, 10% is self-employed, and others go on to higher education in Vientiane. Although this is not bad, all of them do not necessarily proceed to the stage they want. The internship program has already been introduced including the training in LANITH which is one of major companies in the tourism industry. The college is considering the curriculum improvement taking account of the needs of the business circles for fostering human resources to work in the private sector.</li> <li>• The college organizes class reunion annually in the hope of formation of networks of the college graduates which might be helpful for the students' job hunting activities.</li> <li>• In the past, Japan International Cooperation Agency supported training of teachers as well as students. Although it was given good reputation, the support has already ceased. If the similar assistance is available again in future, the college would like to make use of it for the quality improvement of teachers and students.</li> <li>• The college plans to increase the number of courses. In view of the future North-South Railway construction with the assistance from China, the college envisages the establishment of a logistics-related course. In addition, commerce, marketing, and information technology which is rapidly advancing, etc. are the areas which the college gives priority.</li> </ul>

**(6) Savannakhet Agriculture and Forestry College**

Established	<ul style="list-style-type: none"> <li>• 1978</li> </ul>
Location	<ul style="list-style-type: none"> <li>• Savannakhet</li> </ul>
Courses	<ul style="list-style-type: none"> <li>• Courses provided are as follows: <ul style="list-style-type: none"> <li>✓ Animal Husbandry</li> <li>✓ Fisheries</li> <li>✓ Forestry</li> <li>✓ Agricultural Economy</li> <li>✓ Plant Protection</li> </ul> </li> </ul>

Teachers	<ul style="list-style-type: none"> <li>• 49</li> </ul>
Students	<ul style="list-style-type: none"> <li>• 736</li> </ul>
Challenges ※ from Interview Survey	<ul style="list-style-type: none"> <li>• Because of shortage of teachers, they are unable to effectively provide guidance and/or advice to students. The number of teachers with high- level academic knowledge and skills of specialty area is also limited.</li> <li>• Inviting teachers with high professional background is one solution. However, it is not practical due to financial constraints of the college.</li> <li>• Existing obsolete equipment and facilities are not commensurate with high-quality education and research which the college aspires.</li> <li>• Constraints on the capacity of the existing laboratory make it difficult for many students to simultaneously conduct experiments. In addition, as the college’s experiment farm is located in a higher area with no irrigation facilities, it is impossible to grow plants in the dry season.</li> </ul>
Unique Approach & Future Prospects ※ from Interview Survey	<ul style="list-style-type: none"> <li>• The college, as the only agricultural school in Savannakhet, wants to provide opportunities with high-quality practical training to students. However, physical resource constraints including insufficient machinery and experiment farm facilities are the headache to them. They plan to ask for assistance from outside of the college including donation of equipment from private companies and/or donors.</li> <li>• In order to cope with the issue of volume and quality of teachers, they plan to send their teachers to training programs in and out of the country for improving the level of their knowledge and skills.</li> </ul>

### (7) Vocational Education Development Institute

Established	<ul style="list-style-type: none"> <li>• 1981 (Vocational Teacher Training School as predecessor)</li> <li>• 2004 (Vocational Education Development Center as an organization under the Education Ministry)</li> <li>• 2013 (Vocational Education Development Institute as an upgraded organization)</li> </ul>
Location	<ul style="list-style-type: none"> <li>• Vientiane</li> </ul>
Courses	<ul style="list-style-type: none"> <li>• Courses provided are as follows. <ul style="list-style-type: none"> <li>✓ TVET teachers training course (pre-service training)</li> <li>✓ Training course for in-company trainers who work in companies</li> <li>✓ Teaching method training &amp; TVET management course</li> </ul> </li> <li>• In addition, the college conducts consulting works including TVET curriculum development, TVET research and evaluation, and for private companies.</li> </ul>
Teachers	<ul style="list-style-type: none"> <li>• 79</li> </ul>

Students	<ul style="list-style-type: none"> <li>• Generally 50 to 100 for each course. It varies depending on courses.</li> </ul>
Challenges ※ from Interview Survey	<ul style="list-style-type: none"> <li>• English proficiency of teachers is low. Many teachers do not speak English.</li> <li>• Some courses include curriculum of 3-month study in Korea and 9-month study in Germany (both in English). However, because of the limited number of the target students, the ripple effects are also limited.</li> <li>• Students of TVET teachers training course are required to participate in the internship program. The remuneration during the internship training, however, differs from one intern-receiving institution to another. This issue needs to be sorted out. (Each participating student is provided with monthly allowance equivalent to 200,000 kip from the government, which is not enough. )</li> <li>• One characteristic issue related to teachers of Lao PDR in general is the dearth of teachers of mathematics, physics and science-related disciplines and abundance of teachers of linguistics, geography, etc. In addition, teacher allocation (quota) per school does not particularly take account of disciplines. Therefore the lopsided discipline-wise teacher allocation cannot be solved.</li> </ul>
Unique Approach & Future Prospects ※ from Interview Survey	<ul style="list-style-type: none"> <li>• The primary objective of the college is to foster TVET teachers. They wish to keep the policy in mind and continue to provide a variety of training programs.</li> <li>• As the existing internship programs are providing valuable experiences to students, the college is determined to expand and diversify the student-receiving institutions.</li> <li>• As for in-company trainers training, the college focuses on those staff in the management positions in companies. The college is considering the introduction of Dual Cooperate Training (DCT) which is composed of studying in the college and practical training in companies in the future.</li> <li>• The college also envisages a mechanism to produce training opportunities for staff of member companies of the Lao Chamber of Commerce and Industry.</li> <li>• As for the curriculum design for this training, the competency-based curriculum (which is designed based on competency elements required for specific positions) will be developed in future in consultation with the Asian Development Bank which is the major donor for the project.</li> <li>• The Entrepreneurship Training Center was established in 2015. In cooperation with ETC, the college intends to develop the human resources who are expected to contribute to the economic development.</li> <li>• Apart from those who are already working, the college plans to implement Advanced Skill Training Program which specifically targets those in the handicapped circumstances (mainly the jobless youth or dropouts from the</li> </ul>

secondary education) to impart skills required in the actual working scenes.

## 2. Japan's Assistance for Industrial Human Resources Development

Japan has provided a variety of assistance to Lao PDR in the fields of education and human resource development. The “Country Assistance Policy for Lao PDR,” adopted in April 2012, also advocates “Improving the Educational Environment and Developing Human Resources” as a priority area in the light of the socio-economic situation in Lao PDR as follows.

Extract from “Country Assistance Policy for Lao PDR”

To develop human resources who can contribute to socio-economic development, Japan gives assistance to improve the educational environment, raise the quality of teachers, and upgrade school management. In primary and secondary education, the focus is on science and mathematics education, in which Japan has a rich body of knowledge accumulated through its experience in a great number of countries. Assistance is given also to higher education and technical and vocational education, in order to enhance the private economic sector.

In response to that principle, “Expanding higher and technical education, which is instrumental in strengthening the private sector and the transition to a market economy” is set as one of the development issues as follows.

Extract from “Expanding higher and technical education, which is instrumental in strengthening the private sector and the transition to a market economy” in the “Country Assistance Policy for Lao PDR”

[Background and Current Situation]

Twenty years have passed since the transition to a market economy. However, the private sector has not yet matured. Therefore, developing engineers and management personnel who will support the private sector is important, as well as developing administrative officials who will assume responsibility for promoting the private sector. To those ends, long-term measures are required, and the National University of Laos is expected to play an important role in this process. One essential task for Lao PDR is to strengthen higher education, while taking into account industry-academia collaboration. Likewise, with an increase in foreign investment and development of special economic zones, it will become increasingly necessary to supply labor markets with people who have basic academic and technical abilities. To meet these needs, vocational training and technical education in various fields will be required.

[Strategy]

Assistance, such as establishing MBA courses, is also offered through projects implemented by the Lao–Japan Human Resource Cooperation Center for developing

business people. In addition, assistance is extended, primarily targeting those who have completed early secondary or higher education, to cultivate human resources with basic academic abilities and capabilities for responding to changes in labor market demand.

In addition, at the ASEAN Business and Investment Summit held on November 21, 2015 in Kuala Lumpur, Malaysia, the Japanese government disclosed the “Industrial Human Resource Development Cooperation Initiative,” which aims to promote industrial human resource development in ASEAN, including Lao PDR. Concrete principles of the Initiative are as follows.

Extract from “Industrial Human Resource Development Cooperation Initiative”

- Japan, therefore, will help Asian countries develop human resources with practical technical skills, design and product development skills, innovation capabilities, and management and planning skills. Japan, which places importance on inclusiveness, also supports improving basic education focusing on mathematics and science to improve the standards of human resources, and training government officials responsible for industrial policies. Japan will encourage the steady development of developing countries and the further development of Newly Industrialized Economies by extending comprehensive support for industrial human resources, ranging from manufacturing, research, and development to basic education that contributes to supplying more and better quality human resources.
- Japan will provide individual countries with such strategic support based on local needs reflecting a country’s industrial policies and domestic situation through close dialogues, while respecting ownership. Japan will also provide support, fully using its strengths and experience through PPP, in addition to providing vocational training and study programs in Japan, enabling two-way, effective, and fine-tuned support through public-private-academic collaboration. Japan will assist industrial human resource development of 40,000 people over the next three years in Asia.

(Source) Ministry of Foreign Affairs (<http://www.mofa.go.jp/files/000112833.pdf>)

Against this background, the following industrial human resource development projects are currently underway.

Major ongoing projects on industrial human resources development

- The Project on Capacity Building for Supporting Private Sector Development and

Japanese Investment in Lao P.D.R. through LJI of NUOL

- ASEAN University Network/Southeast Asia Engineering Education Development Network (AUN/SEED-Net) Project Phase 3
- Volunteers in the field of higher education
- JICA Partnership Program in the field of higher and technical education
- The Project for Human Resource Development Scholarship
- Special Program for Capacity Building in the Food Industry in ASEAN Least-developed Countries
- Upgrading Lecturers' Academic Degree at the IT Center and Faculty of Business Administration of Savannakhet University

In addition, a certain number of projects in the field of industrial human resource development had been implemented before formulation of “Country Assistance Policy for Lao PDR” as follows.

Major projects implemented

- Development of the Faculty of Economics and Management of National University of Laos (2000~2007)
- Upgrading Information Technology Education Project (Information Technology Bridging Course) (2003~2008)
- Lao-Japan Human Resource Cooperation Center (2000~2005)
- Lao-Japan Human Resource Cooperation Center (Phase 2) (2005~2010)
- Project on Vocational Training for Starting Small Businesses and or Creating more Employment (2007~2010)
- Human Resource Development in IT Service Industry at NUOL (2008~2013)
- Project for Human Resource Development Scholarship (2009~2015)
- Capacity Development of Business Persons through Laos-Japan Human Resource Development Institute (2010~2014)
- In-country Training on Strengthening Faculty of Management and Administration at Savannakhet University (2012~2015)
- Advising Savannakhet University on the Development of Industrial Human Resources (2012~2016)

Some of the above-mentioned projects were evaluated during and/or after their completion, and their overviews and outcomes are disclosed as follows.

Title	Development of the Faculty of Economics and Management of National University of Laos (Evaluation Year: 2005)
Scheme	<ul style="list-style-type: none"> <li>• Technical Cooperation Project</li> </ul>
Cost	<ul style="list-style-type: none"> <li>• 840 million yen</li> </ul>
Expected Outputs	<ul style="list-style-type: none"> <li>• Quality of teaching staff is enhanced.</li> <li>• Curricula and teaching materials are developed and improved.</li> <li>• Necessary equipment and facilities are available.</li> <li>• Management system of FEM is improved</li> </ul>
Results of Evaluation	<p>① Relevance</p> <ul style="list-style-type: none"> <li>• The Project's Purposes and the Overall Goal are relevant given the main objectives of the Five-year Socio-economic Development Plan (2001-2005), especially "to support continued economic growth" and "to develop human resources in various areas." Moreover, there is a need for human resources who will contribute to developing the market economy of Lao PDR and employment for graduates of FEM; the Project is also in conformity with Japan's Official Development Assistance policy for Lao PDR. Therefore, the relevance of the Project is high.</li> </ul> <p>② Effectiveness</p> <ul style="list-style-type: none"> <li>• Most Outputs have been achieved as scheduled, which are the students' understanding of lectures, the number of research activities, the percentage of lecturers who hold master's or higher degrees, preparation of regulations for faculty management, and so forth. In general, the Outputs of the Project have contributed well to achieving the Project Purpose, which means the effectiveness of the Project is sufficiently high. Due to the introduction of new functions, many textbooks need to be improved or newly prepared, and there is also room to improve the quality of the research capacity of lecturers.</li> </ul> <p>③ Efficiency</p> <ul style="list-style-type: none"> <li>• Because of the effective use of training in third countries, dispatching experts from third countries and distance education using JICA-Net etc., can assure good levels of efficiency in general. On the other hand, there were weaknesses on assigning Japanese experts for project management and inputs for improving the management system of FEM. Although several training programs on management and administration were</li> </ul>



provided for core members of the faculty, the resulting knowledge and skills have not been used sufficiently for application in their work. It also took time to employ the necessary number of administrative staff. Insufficient frequency of Joint coordinating committee meetings and time-consuming decision-making were also pointed out as weaknesses of the Project.

#### ④ Impacts

##### <Possibility of achieving Overall Goal>

- It is too early to evaluate the full contribution to developing a market economy of FEM graduates, because only four years have passed since the first graduate students of FEM entered society. However, it should be pointed out that some graduates entered core governmental organizations related to the economic policy of the country, and also that 80% of organizations employing graduates of FEM, are satisfied with their performance and their academic and professional knowledge and skills. There are high expectations for the future impact on the progress of the market economy.

##### < Impacts on and of special course (night course) of FEM>

- The target of the Project is a regular course (daytime courses) of FEM, not a Special course (night course) conducted by FEM (not a target of the Project). However, teaching staff, textbooks, and facilities are used for both regular and special courses. Regarding the impact of the special course, capacity building of teaching staff, improving textbooks by the Project, and availability of good facilities have had good impacts on the quality of education of the special course.
- In turn, the special course also has an impact on the teaching abilities of FEM lecturers. By teaching the special course, they are developing their teaching capacities through experience and can earn additional income. An important positive impact of the night course has been to support the financial sustainability of FEM. Revenue from tuition fees from the night course is used for all operations of FEM. Considering the current limited budget from the government, this revenue is an important financial source that can be used for operating FEM

<Impacts on the other universities in Lao PDR >

- Textbooks revised and newly created by the Project were donated to universities in Luang Phrabang and in Champasak, which have faculties of Economics and Management, and also the central library of the National University of Laos. There is a plan to sell textbooks to the public. It is expected that textbooks will be used more widely by students of other universities and business colleges. FEM's lectures have started to train teachers regularly at the two universities. In addition, some FEM graduates teach in universities other than the National University of Laos, including public and private institutions.

⑤ Sustainability

<Organizational Aspects>

- To ensure the organizational sustainability of FEM, it is necessary to strengthen the operational and management capacities of the faculty for a more systematic way of working and by making the decision-making process quicker and more transparent, while sharing information among Lao staff.
- Regarding the teaching staff, partially because many teaching staff are studying abroad at the moment, the teaching load on lecturers is extremely heavy to make up for absent teachers. Even under such a severe situation at the lecturers' side, students enrolled in FEM have increased, which cannot be controlled by the faculty. This may endanger the FEM's organizational sustainability. It is necessary for a more feasible plan for human resource management of lecturers to be developed.

<Financial Aspects>

- The TFEM budget provided by the government is limited to covering salaries of public employees and the cost for utilities etc. While FEM has income from students of the special course (night course) in the form of tuition fees. There is some other income from sales of textbooks and survey data. (Textbooks are printed using the budget of the Japanese side and donations to FEM.) A fund has been established, which will mainly be used for promoting research in FEM, by combining the various income sources mentioned above. We can expect improved financial sustainability if funds are maintained by earning sufficient income. In spite of such progress in

	<p>financial sustainability a feasible plan for ensuring financial sustainability should be made to bear the costs of procuring books for the library after the Project is completed.</p> <p>&lt;Technical Aspects&gt;</p> <ul style="list-style-type: none"> <li>• Many lecturers of FEM have acquired the necessary knowledge and skills through technical transfers and short- and long-term training. The number of teaching staff, who have masters or doctorate degrees, is increasing steadily, which is an important achievement to assure technical sustainability. Some teaching staff have improved their research capabilities through experience of consultancy work and research activities. In this way, through implementation of the Project, the knowledge and skills of teaching staff have been strengthened steadily.</li> <li>• A teaching staff member is a public employee and has high status in Lao PDR. Therefore, most teaching staff are expected to remain as lecturers at FEM. There are many features for ensuring technical sustainability in the future, although the continued capacity development of lecturers is necessary.</li> </ul>
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Title	The Upgrading Information Technology Education Project (Information Technology Bridging Course) (Evaluation Year: 2005)
Scheme	<ul style="list-style-type: none"> <li>• Technical Cooperation Project</li> </ul>
Cost	<ul style="list-style-type: none"> <li>• 220 million yen</li> </ul>
Expected Outputs	<ul style="list-style-type: none"> <li>• A bachelor's degree course in IT field is prepared and developed to meet the needs of society.</li> <li>• Management capabilities of facilities, tools, and equipment in the Department of Electronics are improved.</li> <li>• Facilities, tools, and equipment for the IT program are procured properly</li> <li>• A number of teaching staff in the IT field are to be assigned and trained for the course.</li> <li>• Teaching manuals/textbooks and glossary for IT subjects written in the Lao language are to be prepared and developed by the teaching staff of FE.</li> <li>• The operation and administration systems of the course are implemented properly.</li> <li>• Research capabilities of FE teaching staff in IT and IT-related fields are strengthened</li> </ul>

<p>Results of Evaluation</p>	<p>① Relevance</p> <ul style="list-style-type: none"> <li>• Overall, the relevance of the project is high in terms of Lao government policy, Japan's ODA policy, and Lao social needs. The project is in line with the Lao government's policy and the Fifth Five-year National Social Economic Development Plan (NSED 2001-2005), which stated the importance of actively using IT and human resource development for the benefit of the market economy. With this aim, Japan's ODA policy toward Lao PDR has been formulated so that the five mid-term prioritized issues are incorporated into the Laos Country Assistance Strategy 2. In addition, the project reflects Lao social needs very well in terms of IT human resources in the new curriculum revised in 2005, in accordance with the results of several needs surveys. However, the aims set for the project are insufficient, as are PDM outputs and indicators, as well as inputs to secure the sustainability of course management.</li> </ul> <p>② Effectiveness</p> <ul style="list-style-type: none"> <li>• The effectiveness of the project is high. The bachelor's degree curriculum was developed and implemented based on the existing IT bridging course, and has produced 61 graduates (including a student in group B, who is scheduled to graduate in January 2006) with a pass rate of over 80 %. The approach of this project, encompassing curriculum development, its operation, and provision of equipment to improve the working environment, seems to work well. However, factors inhibiting the progress of the project, for example, are: 1) less priority is given to improving course management capabilities; 2) there are no qualitative indicators for PDM; and, 3) Lao IT human resources needs are not reflected well in the original curriculum. An important assumption did not materialize because three candidates for lecturing positions with master's degrees could not take up posts because they left to pursue doctoral degrees.</li> </ul> <p>③ Efficiency</p> <ul style="list-style-type: none"> <li>• The efficiency of converting inputs into outputs is high. A long-term expert supervised the project. The third-country experts, for whom there is less of a language barrier, have fulfilled their important role of implementing the daily work of technical transfers to facilitate operation of the course. On the other hand, Japanese short-term experts took part in advanced technical</li> </ul>
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	<p>transfers implemented on a contract basis. This increased efficiency levels. Moreover, capacity development of FE lecturers through the AUN/SEED-Net Project generated synergies because they also acted as C/P for the Project.</p> <p>④ Impacts</p> <ul style="list-style-type: none"> <li>• The project has a positive impact on Lao society:             <ol style="list-style-type: none"> <li>1) About 20 NUOL members of staff were trained in the course and are expected to convey their IT skills and knowledge to students.</li> <li>2) The course produced approximately 40 bachelor's degree holders, who are able to successfully apply their skills in their workplaces in either governmental offices or the industrial sector.</li> <li>3) FE has adopted a new recruitment system for course applicants, which was first developed during the project.</li> <li>4) The project's aims are certainly expected to be achieved, leading to the attainment of the overall goal, if the IT bridging course is successfully sustained.</li> </ol> </li> </ul> <p>⑤ Sustainability</p> <ul style="list-style-type: none"> <li>• The sustainability of the project is relatively low because the course is not so firmly established in either technical aspects of education and research or institutional aspects of administration. The IT bridging course itself will be continued after termination of the project because the functional and organizational framework already exists. The Ministry of Education of Laos and NUOL have agreed to continue the course. However, the quality of the course that the project aims to maintain over three years might not be guaranteed. Specifically, if it is no longer possible to revise the curriculum, provide teacher training, or maintain equipment, it might be difficult to sustain the present quality of the course. FE should consider how to ensure financial sustainability. Capacity development by C/P is insufficient to keep the course operating independently.</li> </ul>
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Title	Lao-Japan Human Resource Cooperation Center (Evaluation Year: 2005)
Scheme	• Technical Cooperation Project
Cost	• 460,513,000 yen
Expected	• The LJC's management system will be established and the Center will be

Outputs	<p>managed smoothly.</p> <ul style="list-style-type: none"> <li>• The LJC’s business courses will provide practical knowledge on a market economy to business people in Lao P.D.R.</li> <li>• Japanese courses will be developed and managed according to society’s needs in Lao PDR.</li> <li>• The LJC’s computer courses will be smoothly managed and carried out.</li> <li>• Cultural exchange programs between both countries will be smoothly managed and carried out.</li> <li>• Information on Japan, Lao P.D.R., and other countries will be available at the Center.</li> <li>• The Center will be actively used for educational activities</li> </ul>
Results of Evaluation	<p>① Relevance</p> <ul style="list-style-type: none"> <li>• The project goals and the overall goals are consistent with the main goals specified in the National Social and Economic Development Plan (2001-2005) of Laos—ensuring sustainable economic growth and promoting the development of human resources in all sectors. They are also in accordance with Japan’s aid policy. Moreover, there is a strong need for the LJC’s activities, and the size of the target group is judged to be appropriate. Therefore, this Project is highly relevant.</li> </ul> <p>② Effectiveness</p> <ul style="list-style-type: none"> <li>• It can be said that the LJC has been playing an important role in the development of human resources through its business courses, Japanese language courses, and computer courses. The LJC has been carrying out mutual understanding programs in cooperation with various organizations to accept participants from a wider range of fields. However, many participants in mutual understanding programs are students of the National University of Laos because there is no Japanese expert in charge of the programs and there is only limited space for the programs. Many people visit the LJC to obtain information using the media room. While the first project goal (playing an important role in the development of human resources) can be evaluated as highly effective, activities for the second project goal (promoting mutual understanding between the peoples of both countries) should be further expanded and strengthened, although a certain level of effectiveness has been secured.</li> </ul>

### ③ Efficiency

- The inputs from the Japanese side into this Project were insufficient concerning the dispatching of experts for mutual understanding programs and the provision of training in Japan to counterparts in the LJC's management department. However, the other inputs were carried out almost according to plan within the project period. In addition, nine full-time counterparts were placed in the LJC to manage the facilities and the courses, and the other inputs from the Lao side were carried out according to plan. As a result, the Lao staff members, including the counterparts, began to play an important role in the management of the LJC and the efficiency of management increased. With regard to the LJC's mutual understanding programs, however, although inputs of experts were not planned at the beginning of the Project because only the provision of venues (facilities and equipment) for mutual understanding was planned, it has become necessary to consider dispatching Japanese experts in Phase 2 because expansion of the LJC's activities requires more substantial dispatching activities than before. In addition, with the diversification of the LJC's activities, it has become necessary to improve the capabilities of counterparts in the LJC's management department. Therefore, when examining inputs for Phase 2, it is necessary to consider carrying out training for counterparts in the LJC's management department (procurement, accounting, etc.) and the library management department.

### ④ Impacts

- The Lao Government and private companies have been forced to increase their international economic competitiveness compared to ASEAN countries. This situation has remained unchanged since the beginning of the Project. Under these circumstances, it can be said that the LJC's provision of useful knowledge to participants of the business courses has played a role in developing human resources in the fields of economics and business management, such as business persons and government officials, and this has contributed to one of the overall goals, "Lao PDR's social and economic development," to a certain extent. However, it has become difficult to strictly evaluate the impact of LJC from a quantitative viewpoint. This is because the overall goals have been set at a much higher level than the project goals and the relationships among them are unclear

because there are many external factors involved. Therefore, to measure the LJC's impact on overall goals, it is necessary to continue to expand activities from a long-term viewpoint and to evaluate them from multiple viewpoints. It is also necessary to evaluate the LJC's impacts on individual changes of behavior patterns and improvements in performance, such as management improvements in the companies of business course participants.

- With regard to the second overall goal, "strengthening the relationship between the Lao people and Japan," it is possible to carry out a qualitative analysis, for example, to show that the provision of information by LJC on Japan through its various activities (business courses, Japanese language courses, and mutual understanding programs) has promoted the Lao people's understanding of Japan and thereby strengthened relations between the Lao people and the Japanese people. However, it is difficult to carry out a large-scale quantitative evaluation study, such as a study on the attitudes of people in both countries.

#### ⑤ Sustainability

##### <Organizational Aspects>

- The LJC is a public institution belonging to the National University of Laos, with nine public employees working as full-time counterparts. Moreover, 27 staff members have been employed from the LJC's own revenues and are engaged in managing the LJC. The LJC consists of three sections: the Japanese Language Course Section, the Business Course Section, and the Administrative Section. The chief and assistant chief of each section are appointed by the university. In addition, the Lao Director-General and Vice Director-General of the LJC are appointed directly by the Ministry of Education. Because the LJC regularly holds and manages business courses, Japanese language courses, and computer courses as training courses for developing human resources, it can be said that the LJC has established an organizational foundation.

##### <Financial Aspects>

- The LJC's utilities and communications costs are borne by the Ministry of Finance through the National University of Laos. In addition, the LJC receives tuition fees from training course participants and uses them to pay



	<p>the basic salaries of LJC staff members, remunerate lecturers of business courses and part-time lecturers of Japanese language courses, purchase consumables, and cover other expenses. However, taking into account JICA's payments for these expenses, it cannot be said that the LJC is financially self-supporting. Therefore, first of all, it is necessary for the Japanese side to cooperate with the Lao side to establish a basic financial policy for managing the LJC.</p> <p>&lt;Technical Aspects&gt;</p> <ul style="list-style-type: none"> <li>• Most of the business-course lecturers are teachers of the Faculty of Economics and Business Management of the National University of Laos. Generally, they are very capable lecturers. Although they have sufficient theoretical knowledge, providing practical knowledge and skills requires lecturers to be invited from various organizations in Lao PDR, such as private companies, government agencies, and business schools.</li> <li>• Most of the Japanese language course lecturers are Japanese experts and Japanese residents in Lao PDR. Lao lecturers also give basic lessons in some courses. However, to be able to give all lessons at a basic level, Lao lecturers need to continue to improve their Japanese competence.</li> <li>• The computer courses for government officials are provided by teachers of the Department of Mathematics of the National University of Laos and are managed independently. However, because they cannot flexibly handle participants according to their learning speeds and intellectual abilities, it is necessary to devise suitable teaching methods for the learning capacity of participants.</li> <li>• The LJC staff's management capabilities have been gradually improving as a whole. If existing staff members continue to work for the LJC and improve their capabilities, the LJC's technical sustainability will increase.</li> </ul>
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Title	Human Resource Development in IT Service Industry at NUOL (Evaluation Year: 2013)
Scheme	• Technical Cooperation Project
Cost	• 380 million yen
Expected Outputs	• ITSC will be operated properly at the IT Department of the Faculty of Engineering, the NUOL.

	<ul style="list-style-type: none"> <li>• The IT Department Business Unit (ITBU) will be operated properly at the IT Department of the Faculty of Engineering, the NUOL.</li> <li>• Practical skills and teaching capabilities of lecturers in charge of the ITSC and master's course to be established will be enhanced in the field of software engineering.</li> <li>• ITSC and master's course, which is planned to be established, will develop practical software Engineering and business skills.</li> <li>• Collaboration among the government, industry, and academia will be reinforced</li> </ul>
Results of Evaluation	<p>① Relevance</p> <ul style="list-style-type: none"> <li>• The project's direction is consistent with the government policies of Lao PDR and Japan. The Seventh Five-year National Socio-economic Development Plan (2011-2015) of Lao PDR emphasized the importance of promoting telecommunications and a high-speed Internet, as well as human resource development including engineers. The ICT National Policy (2009 by NAP) places importance on human resource development in the IT sector, as well as developing the IT sector itself. At the Japanese side, in MOFA's Country Assistance Policy for Laos (2012), support for higher education and technical and vocational education is indicated as a third pillar, i.e., "establishing an educational environment and developing human resources," with which JICA's assistance policy to Lao PDR is in line. With regard to the needs of industry, fostering IT specialists is consistent with the needs of major private companies, which leads to a good reputation among potential students. On the other hand, it is less consistent with some private companies' demands for securing IT specialists within the minimum time range, because the project changed the duration of long-term courses from one year to two years during the implementation stage, with the TISC upgraded to ITPM, i.e., master's course.</li> </ul> <p>② Effectiveness</p> <ul style="list-style-type: none"> <li>• All the indicators of the Project Purpose show either almost achieved or achieved, leading to the conclusion that the Project Purpose has almost been achieved. To achieve the Project Purpose, which is to develop human resources in the IT service industry, the project was designed to have each of the four Outputs play a certain role and to make contributions to</li> </ul>

achieving the Project Purpose, thereby having a logical linkage between Outputs and Project Purpose.

③ Efficiency

- The following project design enhanced Efficiency, securing a high quality of outputs with fewer inputs: 1) training with experts from Thailand, whose language is easier for Laotian lecturers to understand than English; 2) using academic programs such as Microsoft Academy, Oracle Academy, etc., which share about two thirds of the total teaching materials. These materials are of a high international standard, can be distributed to students, and are automatically updated, so lecturers do not consume time for updating; and, 3) the teaching materials developed by other JICA IT projects were used for one third of all teaching materials, which resulted in saving time for developing new teaching materials, and lecturers could concentrate on other activities.
- On the other hand, although a number of lecturers were assigned by the faculty, some lecturers could not pass the technical transfer tests and could not remain as Project counterparts, due to a lack of experience. Also, assigning the Manager of ITBU, which is responsible for Short-term Courses, was very difficult, and the post was vacant for two months. The current manager is the third person to take the position. It is taking time to strengthen the management capacity of ITBU.

④ Impacts

- Probability of achieving Overall Goal within about three years after termination is very low, because the initial Overall Goal set was too high.
- However, the following positive influence was observed for undergraduate education at Faculty of Engineering, NUOL: 1) Improvement of education (due to enhanced capacity of lecturers and introduction of the same teaching materials at the undergraduate level); 2) revision of Curriculum (due to enhancement of master course education, some of the modules at the master level which should have been taught at the undergraduate level, will be transferred to the undergraduate curriculum from September 2013); and, 3) Satisfaction rating of lecturers among students has been introduced at Undergraduate Level, Faculty of Engineering.
- Incubation study tour to Thailand in 2013, which consists of university,

	<p>government, and industry led to an understanding of the concept and importance of incubation among participants. Discussions and proposal-making have begun among the ministries on promoting the incubation system in Lao PDR, regardless of sectors. No negative impacts have been observed.</p> <p>⑤ Sustainability</p> <ul style="list-style-type: none"> <li>• As for the policy aspect, the direction of promoting IT and its human resources will be continued, because the government is going to step forward to implement e-government, e-commerce, etc., which may take time, but will not be totally reversed.</li> <li>• From an organizational aspect, NUOL has a solid foundation as a national university with the longest history in the country. In terms of personnel, it is likely that most of the lecturers will stay at the university. However, there are some concerns, such as the salary gap between lecturers and graduates, and the burden of workload for teaching various courses, etc. becoming too heavy. Besides, it remains to be seen whether or not the management system of ITBU will be stable, and the study session will be continued after completion of the Project.</li> <li>• In terms of financial aspects, maintaining and improving the quality of education at the IT Department and securing the number of students to be enrolled in the future are essential, because all the operating costs for conducting ITPM (the master's course) and Short-term Courses are covered by tuition fees.</li> <li>• From a technological aspect, the teaching capacity of lecturers is regarded to be generally sufficient for teaching the courses. However, the rate of technological change in the IT sector is very rapid, so it is essential for lecturers keep their knowledge up to date by themselves after termination of the project, in order to continue responding to industry demand. If its reputation and level of satisfaction in the industry decrease, the reputation of the Department among students and candidates for trainees in IT industry will also deteriorate, resulting in a possible decrease in new students/trainees.</li> </ul>
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Title	Capacity Development of Business Persons through Laos-Japan Human Resource Development Institute (Evaluation Year: 2014)
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Scheme	<ul style="list-style-type: none"> <li>• Technical Cooperation Project</li> </ul>
Cost	<ul style="list-style-type: none"> <li>• 399,021,000 yen</li> </ul>
Expected Outputs	<ul style="list-style-type: none"> <li>• LJI staff members are able to conduct field surveys and consultations independently.</li> <li>• LJI staff members are able to manage business courses that can provide practical business knowledge and know-how.</li> <li>• LJI becomes a hub of the business network.</li> <li>• LJI staff are able to manage the Institute on their own.</li> </ul>
Results of Evaluation	<p>① Relevance</p> <ul style="list-style-type: none"> <li>• For the reasons below, the relevance of the Project is judged to be high.</li> <li>• The 7th National Socio-economic Development Plan (2011-2015) of GOL states that the supply and demand imbalance in the labor market is one of the critical factors hindering the socio-economic growth of the country. Human resource development is listed as one of five measures to be taken for developing industry and commerce in the country. Besides, developing business human resources is an urgent issue to prepare the country for ASEAN economic integration in 2015.</li> <li>• According to GOJ's Rolling Plan for Lao PDR, there are four priority areas. Priority 3 focuses on Improving the Educational Environment and Human Resource Development. Within Priority 3, there is a sub-objective, which is to expand higher and technical education, which is instrumental for strengthening the private sector and the transition to a market economy. In addition, among the six priority areas of Japanese Country Assistance Program for Lao PDR, the fifth is "Institutional building and human resource development for enhancing the private sector," with which the Project is a particularly good match. Besides, the GOJ has been shifting its ODA policy from recipient benefit-oriented support to strengthening social and economic relationships for developing both the recipient country and Japan. Because the original concept of this project is to exchange business development experience based on human resource development between the two countries, LJI has significant potential to contribute to the latest direction of Japanese ODA policy.</li> <li>• Looked into the labor situation in Lao PDR, the labor gap is greatest at the worker/operator level, however, demand for capable human resources to fill middle-management roles is also apparent. In the long run, middle-management should be staffed by Lao nationals, and the contribution of the</li> </ul>

Project to producing capable business human resources with knowledge and skills of business management has significance in this sense. One concern is the fact that the majority of SMEs in Lao PDR can be regarded as family businesses, and most owners are yet to be serious about improving business management, despite the potential needs. Therefore, educational approaches are necessary as well.

② Effectiveness

- Based on the findings below, the effectiveness of the Project is concluded to be relatively high.
- Two of the five indicators for the project purpose, i.e., number of graduates from the Business Course and establishing linkages with important stakeholders, have already been achieved. Another indicator of the satisfactory level of the MBA program among graduates was achieved at the graduate side, but the satisfaction level of their employers was not confirmed due to a lack of information. Data will be collected by the end of the Project. Expenditure coverage by LJI is 76.6% with a target of 80%. The only remaining issue is to prepare the five-year plan. However, this is expected to be completed by the project termination.
- With regard to the Output 1 (Research capacity of LJI, the delay in assigning personnel to the Research section was the major hindrance, and further capacity development is still an important challenge.
- With regard to Output 2 (Management ability for program and courses), most of the Lao lecturers are capable of conducting lectures, which shows the increase in the technical capability of Lao lecturers and has contributed to achieving the project purpose. The MBA program and the Business courses of LJI have comparative advantages in that the contents include aspects of Japanese management methods and styles and presence of Japanese lecturers, and this has also enhanced the effectiveness of the Project. There is concern about the level of understanding of some students, mainly due to their English ability.
- With regard to Output 3 (Networking), LJI has acquired important social capital in terms of human/organizational connections. It is expected that LJI will make maximum use of this social capital in its advertising, case-study development, and other business information sharing activities.
- With regard to Output 4 (Management capability of LJI), despite the delay

in preparing the five-year plan, the actual management system and procedures have been significantly improved and Lao C/Ps are generally capable of managing ordinal activities of LJI.

③ Efficiency

- The efficiency of the Project is assessed as relatively high with some concerns.
- The inputs from the Japanese side have been implemented with appropriate quality, quantity, and timing as planned. There were some difficulties in communications between the Lao side and the Japanese side, which led to delays of producing operation manuals for the MBA program and the Business course.
- The inputs from the Lao side have been provided as planned, with the exception of human resources for the Research section, which affected Output 1. The official slots of three people for the Research section were not in the original personnel arrangement of LJI and needed a proper protocol to request additional allocation of human resources to LJI. The authorization process took time.

④ Impacts

- As explained below, considering the situation observed by the evaluation study, it is reasonable to state that the likelihood of achieving the impacts is high, despite that fact that the indicator set for the overall goal may not be so appropriate.
- The indicator of the overall goal is a “Total 115 students graduating or completing the MBA program and/or the general business courses every year after project completion.” LJI has already achieved the target of 115 since 2011. Based on this fact, the overall goal has already been achieved, However, considering the guideline that an overall goal should state a future development goal of three to five years for completion of the project, the indicator for the overall goal of this Project is considered to be relatively low. It may not be sufficient to evaluate impacts of the Project only with this indicator.
- One way to see the impacts of the Project is the magnitude of the contribution of LJI to human resource development for the private sector in the country. The number of MBA graduates and participants of Business

courses since 2001 total 133 and 4,123, respectively. LJI produced more than 4,000 business human resources over 14 years. The 7th Socio-economic Development Plan of the country states that during the period 2011-2015, numbers of human resources needed for industrializing and modernizing the economy are 15,000 in the manufacturing sector and 52,000 in the service sector. The total number is 67,000, and given this figure, 4,000 may not be insufficient.

- Another aspect is the actual effects of LJI's program and courses on graduates and participants. The evaluation team interviewed three MBA graduates/Business course participants and two companies that requested the Tailor-made course. It was confirmed that the actual effects of the MBA program, the Business courses, and the Tailor-made courses appeared as improvements in the actual businesses of participants. Although these are very limited observations, it is safe to state that the program and its contents and lecturers of LJI are sufficiently effective to improve the businesses of Lao companies in general.
- Apart from the above, another noteworthy contribution of the Project is its support for Japanese companies interested in investing in Lao PDR. In recent years, more and more study tours have been visiting Lao PDR to identify its investment potential, and LJI has been supporting these tours with information and venues for meetings.

#### ⑤ Sustainability

- Based on the situation mentioned below, the sustainability of LJI is reasonably high. There are important challenges for LJI to more vigorously establish its self-reliance.
- One of the indicators for the project purpose "80% of LJI expenditure is covered by the Lao side, including LJI revenue" has almost been achieved, however, most overtime allowances and some expenditures for consumables need to conduct LJI's core activities have not been covered yet. Given the situation that LJI will continue to be a Lao PDR-Japan cooperation project for some years, the necessary budget for further strengthening LJI should be sourced, and this deficit is not an immediate issue. Rather, efforts to improve the income generation and profitability of each business area (MBA program, Business course, Tailor-made course, Japanese course, and so on) should be made in a medium- to long-term



plan. At the same time, the profitability of different business areas should be carefully considered according to their characteristics.

- The organizational structure of LJI and allocation of responsibilities among LJI staff members has been well organized and understood by the staff. Monthly meetings have been introduced and these monitoring systems have been functioning effectively to manage the activities of LJI. Lecturers from FEBM are also participating in the monthly meeting and the partnership between LJI and FEBM for the MBA program management is good. The five-year plan, which is an indicator of the project purpose, has not been completed yet, however, annual activity plans are prepared by divisions and annual budget plans are prepared accordingly. Based on the above management activities, the Lao counterparts are now capable of conducting the MBA program and the Business courses, as well as the business forums and the tailor-made courses. Important challenges for further establishing sustainability are marketing and advertising. Enhancing client (customer) relationship management (CRM) is one of the necessary measures to be taken.
- Most of the Lao lecturers are ready to take over their respective lectures from the Japanese counterparts. The Lao lecturers have already started to improve the of lectures and teaching materials. Besides, three new subjects have been developed and introduced to the Business course by a Lao lecturer. One of the remaining issues is improving the technical capacity of research and development activities, which was not fully achieved by the Project due to the delay in obtaining personnel.
- Assigned by the Lao side, a challenge of case study development is to identify suitable applications of “Japanese business management” for the country, and the findings of research should be reflected in further improving and developing lectures and teaching materials. Another challenge is to strengthen the planning capability of the Tailor-made course, so that each course can to effectively address issues and problems of a particular company. For this purpose, a systematic process of investigation, diagnosis, and training course planning should be developed, and the necessary technical skills should be improved. Lastly, to maintain the comparative advantage of LJI as the only one institute where “Japanese business management” is taught, rationally selected subjects should continue to be taught by Japanese lecturers.

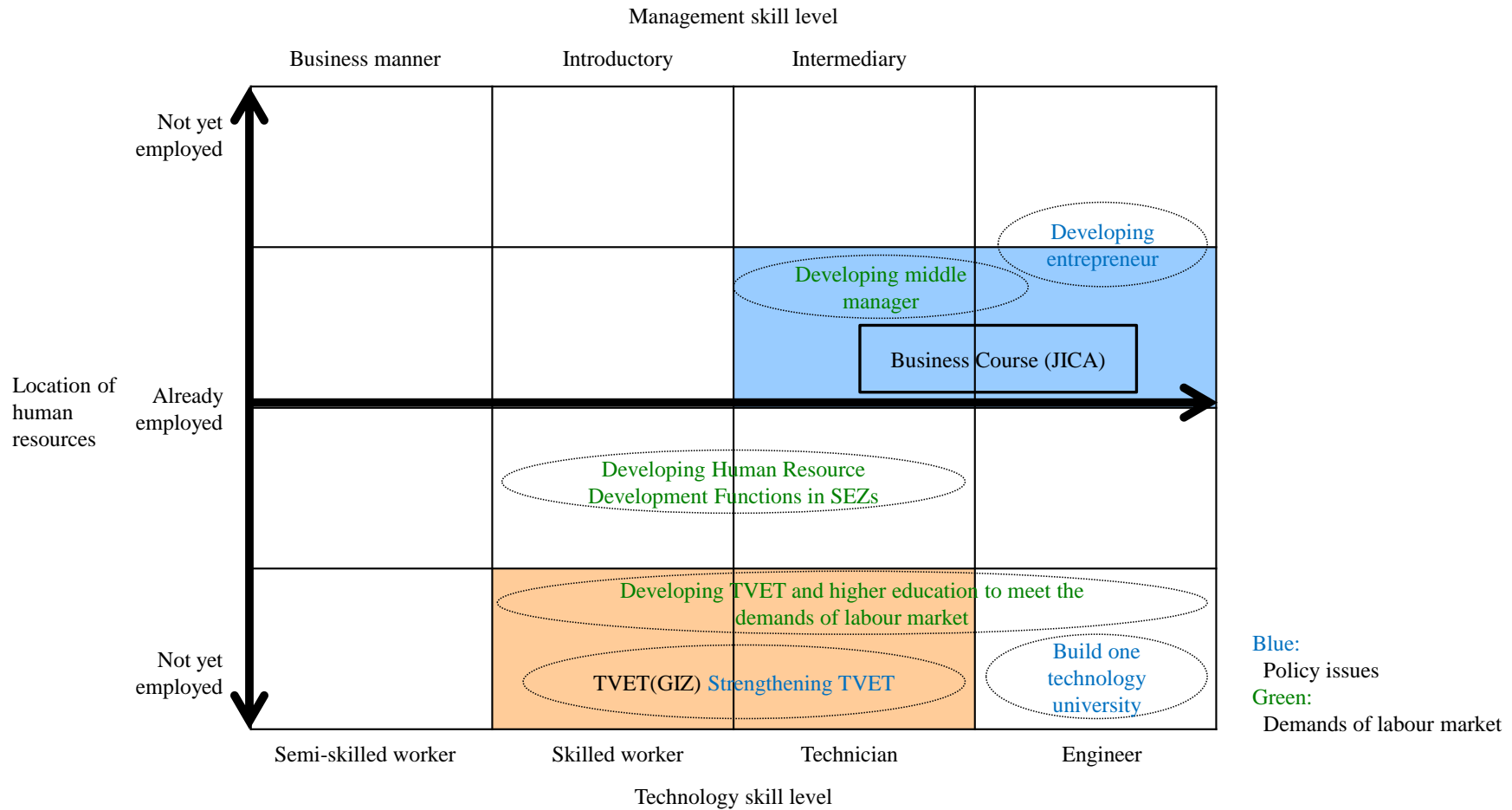
In the light of all of the above information, the major outcomes and challenges with regard to Japanese assistance in the field of industrial human resource development in Lao PDR can be classified as follows.

**Table Major Outcomes and Challenges of Japanese Assistance in the Field of Industrial Human Resource Development in Lao PDR**

<p><u>Outcomes</u></p> <ul style="list-style-type: none"><li>• Educational environments have been promoted, such as developing new study courses and new learning materials, and improving curricula based mainly in universities at input and output levels.</li><li>• Human resource development and research activities, as well as skills development of students, within those bases (universities) have been partly activated.</li><li>• Some human resources who had experience of learning opportunities have started to play important roles in related industries.</li><li>• Localization of skills in several fields has been promoted from the perspective of sustainability.</li></ul> <p><u>Challenges</u></p> <ul style="list-style-type: none"><li>• Necessary knowledge and skills have not necessarily been defined clearly from the perspective of the industrial advancement and economic development in Lao PDR, hence essential curricula and learning materials have not yet been crystalized. In particular, in a rapidly changing industry such as information technology, developing an autonomous and sustainable system to keep updating knowledge and skills is indispensable.</li><li>• Teacher training is not sufficient in terms of meeting growing demand for human resource development, thus the necessary learning opportunities have not been secured, while teaching quality is not sufficient due to overloaded in-service teachers.</li><li>• Infrastructure that is indispensable for a quality education and research have not been adequately developed.</li><li>• Collaboration among industries, academia, and government is not sufficient and synergies from different but related human resource development projects have not been enhanced.</li><li>• The bases of human resource development projects are limited to Vientiane and/or some provincial cities. As a result, disadvantaged people living in remote areas cannot secure quality learning opportunities.</li></ul>
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- Local human resources who can manage related projects in Lao PDR on their own have not been accumulated sufficiently from the perspective of sustainability. In addition, financial bases are fragile.
- Social and economic impacts not only within Lao PDR, but also within the whole ASEAN region as well as Japan, have not necessarily been verified.

### 3. The portfolio of Industrial Human Resource Development<sup>62</sup>



<sup>62</sup> This portfolio shows the position of exisitent projects supported by donors.