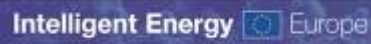


EIE-06-256 REEPRO



Promotion of the Efficient Use of Renewable Energies in Developing Countries

**Educational Competences Scan – Finance and Economics
Lao PDR**

Author

Dr Khamphone Nanthavong

Faculty of Engineering, National University of Lao PDR

June 2007

List of Contents

1	Introduction	1
1.1	General	1
1.2	Economy	2
2	Scope of the Educational Competences Scan.....	4
3	Targets Selection	5
4	Procedure of the Questionnaire	7
5	Results	7
5.1	General Data.....	7
5.2	Fields and Levels of education.....	9
5.3	Level of Knowledge, Experience and Competence in Finance and Economics	11
5.3.1	Budget Planning, Follow-up and Calculation of Opportunity Costs.....	11
5.3.2	Company bookkeeping.....	12
5.3.3	Company Management	13
6	Conclusions.....	14
7	Appendices	15
7.1	Appendix 1: Questionnaire.....	15
7.2	Appendix 2: Excel files with the single results without graphs	19
8	References.....	20

List of Figures

Figure 1: Lao PDR [www.wikipedia.org]	1
Figure 2: Professional education in Lao PDR [National census 2005]	4
Figure 3: Organizational chart of Ministry of Energy and Mines [MEM, 2007]	6
Figure 3: Present occupation of interviewed persons (questionnaires evaluation)	8
Figure 5: Main working fields (questionnaires evaluation).....	9
Figure 6: Fields of Vocational and University education (questionnaires evaluation)	10
Figure 7: Attendance of training courses (questionnaire evaluation)	11
Figure 8: Experiences in Company bookkeeping	12
Figure 9: Understanding of financial terms.....	12
Figure 10: Company management.....	13
Figure 11: Project sizes ever managed.....	13
Figure 12: Project team members ever managed	14

List of Tables

Table 1: General information on interviewees	8
Table 2: Work experience	8
Table 3: Professional education levels (Questionnaire evaluation).....	9
Table 4: Experiences and knowledge in Budget planning and follow-up and calculation of opportunity costs (questionnaires evaluation).....	11

List of Acronyms

ADB	Asia Development Bank
CDEA	Community Development and Environment Association
EDL	Electricité Du Lao PDR
ERI	Environment Research Institute
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
IMF	International Monetary Fund
MEM	Ministry of Energy and Mines
MOE	Ministry of Education
MOFA	Ministry of Forestry and Agriculture
NGO	Non-Government Organization
NPO	Non-Profit Organization
NUOL	National University of Lao PDR
ODA	Official Development Assistance
PADETS	Participatory Development and Training Centre
PSD	Power System Development
SME	Small and Medium sized Enterprise
STEA	Science, Technology and Environment Agency
TRI	Technology Research Institute

1 Introduction

1.1 General

Laos, officially the Lao People's Democratic Republic (Lao PDR), is a landlocked socialist republic in southeast Asia, bordered by Myanmar (Burma) and China to the northwest, Vietnam to the east, Cambodia to the south, and Thailand to the west. Lao PDR traces its history to the Kingdom of Lan Xang (or Land of a Million Elephants), which existed from the fourteenth to the eighteenth century. After a period as a French colony, it gained independence in 1945. A long civil war ended when the Pathet Lao came to power in 1975 [www.wikipedia.org].



Figure 1: Lao PDR [www.wikipedia.org]

Private enterprise has increased in Lao People's Democratic Republic (Lao PDR) since the mid-1980s, when in 1986 New Economic Mechanism Policy was introduced. Centralized planning economy was turned to free market mechanism. The Lao PDR remains among the poorest countries in the world despite of fast economic growth (7.2% in 2006). Eighty percent of the employed persons practice subsistence agriculture. The country's ethnic make-up is extremely diverse, with only around 70% belonging to the largest ethnic group, the Lao.

1.2 Economy

The government of Lao PDR began encouraging private enterprise in 1986. The results, starting from an extremely low base, were striking: growth averaged 6% in 1988-2004 except during the short-lived drop caused by the Asian financial crisis beginning in 1997. As in many developing countries, the major urban centres have experienced the most growth. The economies of Vientiane, Luang Prabang and Savannakhet in particular have experienced significant booms in recent years. Lao PDR' economy is heavily dependent on investment and trade with its larger and richer cousin, Thailand.

Much of the country, however, lacks adequate infrastructure. Lao PDR has no railways, although a short link is planned to connect Vientiane with Thailand over the Thai-Lao Friendship Bridge. The major roads connecting the major urban centres, mainly forming Route 13, have been significantly upgraded in recent years, though villages that are far from major roads are accessible only by unpaved roads that may not be accessible year-round. There is limited external and internal telecommunication, particularly of the wire line sort, but mobile cellular phone usage has become widespread in urban centres. In many rural areas electricity is either not available or offered only during scheduled periods.

Subsistence agriculture still accounts for half of GDP and provides 80% of total employment. Lao PDR has the lowest percentage of arable land and permanent crop land in the Greater Mekong Subregion. Only 4.01% of Lao PDR is arable land, and only 0.34% of the country is planted with permanent crops. Rice dominates agriculture, with about 80% of the arable land area used for growing rice. Approximately 77% of Lao farm households are self-sufficient in rice. The development, release and widespread adoption of improved rice varieties and economic reforms, caused a net balance of rice imports and exports for the first time in 1999. Between 1990 and 2005, rice production increased from 1.5 million tons to 2.5 million tons; an average annual growth rate of more than 5%. This increase in production has been valued at \$8 million to \$19 million per year. Lao PDR may have the greatest number of rice varieties in the Greater Mekong Subregion.

The economy receives aid from the IMF and other international sources and from new foreign investments in food-processing and mining, most notably of copper and gold. Tourism is the fastest growing industry in the country. However, economic development in general is hampered by a serious case of brain drain. A 2005 World Bank study reported that 37% of educated Laotians lived abroad, putting the country in fifth place for worst brain drain.

In late 2004, Lao PDR gained normal trade relations status with the US, allowing Lao PDR-based producers to face lower tariffs on their exports; this may help spur growth [www.wikipedia.org].

The Lao economy has been heavily relying on official development assistances (ODA), similar to least developed countries. The National Growth Program and Eradication Strategy (NPGES, 2005) intended to decrease gradually the Lao PDR's high dependency on ODA by

progressively and consistently undertaking efforts “to create a broad base for countrywide growth and from the many significant investments in the national resources base will yield substantial revenues to the budget, over time”. This, together with a greatly improved tax administration and systematic enhancement of all economic sectors, in particular the private sector development, will markedly increase revenue flows to budget and, consequently, reduce the country’s dependency on ODA.

The Government of Lao PDR has emphasized the importance of private sector development (PSD) in the economy to facilitate small- and medium-sized enterprise (SME) development as well as attract foreign direct investment (FDI) to promote sustainable development of the natural resource base. The Government recognizes the high potential of SME to create jobs and reduce poverty, and FDI’s high potential to mobilize investment, improve human resource skills development, and access technology and export markets (ADB, 2003).

The Lao PDR remains dominated by agriculture, which employs over 70% of the population, while manufacturing employs only about 11%. Agriculture’s share of gross domestic product (GDP) is slightly above 50%, and industry’s, 23%. A few large firms dominate the natural resources sector (mining and quarrying as well as electricity) producing 44% of the industrial output. The mostly small business-dominated manufacturing sector produces 56% of industrial output. However, while approximately 22,000 small businesses account for 98% of manufacturing activities and over 50% of commercial activities, these firms employ on average less than five people. The firms’ size and inability to invest constrains labor absorption (ADB, 2003).

In the government policy implications, the human resources development through provision of a wide range of skills related to economic activities, community organization and environmental protection management is standing among the most important targets.

The education in the fields of economic administration and management has become the most attractive in Lao PDR since more than a decade. This can be observed by the following facts listed below

- permanently announcing in newspapers long list of job requirements for the jobs of administrator, managers, etc,
- booming increased number of educational institutions, including state, private and international, which offer various programs of education in business administration, management, foreign languages, etc.

The main Institutions, offering economic education can be classified by ownership into the following categories:

- National institutions, such as The National Institute of Political sciences and Governance, the National university of Lao PDR and its branches. Offered master, bachelor, higher diploma or short term special training programs.
- Ministerial research institutions and college (provide short term, usually special certification training courses)

- Private institutions. The most popular are (1) The Lao-American college, (2) Rattana Business Administration college; (3) The Comcenter college; (4) Budviseth College; (5) Sengsavanh college, etc. Beside regular bachelor degree and higher diploma programs, these institutions often provide intensive short-term (from few weeks up to few months) training programs in accounting, computer sciences and english language.
- Foreign institutions: some foreign institutions (mainly universities of Australia, New Zealand, Japan, Korea R., Singapore) have established their representative branches in the Lao PDR, where enrolled student will obtain their first degrees and then to continuing further studies at the mother institutions.

Although the education system, particularly the economic education has been significantly improved in both, accessibility and variety, the education level of Lao people still remains low, especially in higher levels of education (graduate and post graduate) and in rural areas. According to the results of the National census 2005, about 26% of population aged 6+ don't possess any school education; 16% have finished primary education (grades 1-5), 6%-lower secondary (grades 6-8) and 5%-upper secondary (grades 9-11). According new education reform: Starting from 2007-08, 4-grades lower secondary education has been introduced in Lao PDR (total schooling period is 12 years) (MOE).

Figure 2 shows percentages of Lao people aged 6+ (totally 4,760,493 persons) in professional educations by different areas of living (National census 2005).

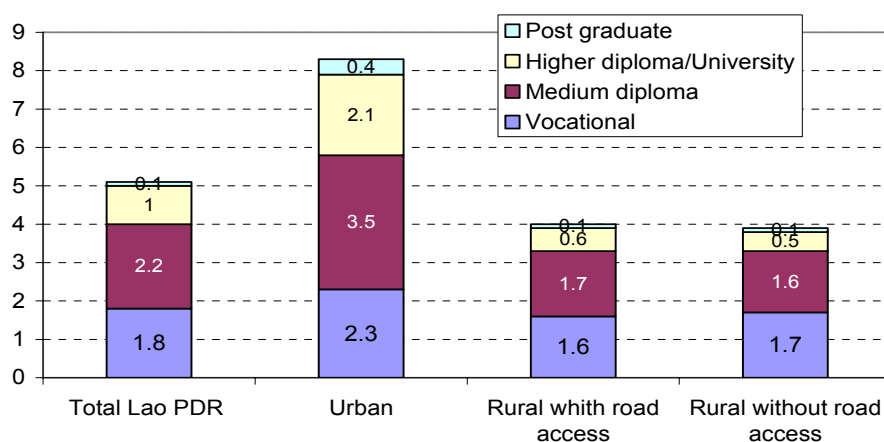


Figure 2: Professional education in Lao PDR [National census 2005]

Only about 5% of Lao people aged 6+ have got professional education. As seen from the figure, people with higher professional education are concentrated in urban area (2.1% comparing to 0.6% and 0.5% for rural with and without road access, respectively).

2 Scope of the Educational Competences Scan

In order to include right contents and suitable level of knowledge in economics and management in to training manuals, a scan of financial and economic understanding as well as entrepreneurial competence among trainers, community stakeholders and further project

target groups was performed. The results of the scan will serve as input for the economic related sections of the training manuals and further project decisions.

3 Targets Selection

Firstly, the targets were selected by focusing on their relevance and interests to renewable energy promotion and dissemination. Such groups of people in Lao PDR currently are so many. From other point of view, renewable energy technologies are nearly unknown for majority of population, with the exception for some relevant ministries and institutions, few public and private companies, non profit and non-government organizations who have ever participated in different renewable energy related programs.

Secondly, as stated in the project requirements, the targets should be of those people, who are motivated into projects activities. After several discussions and advising with some seemed relevant people, we found that people are interesting in our project ideas and would with pleasure to participate in to our project activities. But when they know that there is no salary for them, mostly their enthusiasm calmed down. It is not wonder in reality of least developed countries, when people looking for international projects as for better salaries and improvement of their living conditions.

Thirdly, in one hand, renewable energy technologies often are unknown for majority of Lao people. On the on the hand, many of previous or currently running renewable energy projects in Lao PDR have left bad reputation on its success and sustainability for Lao people. Two these points frighten people - they don't want to be risky in a business which they are not familiar with its concept, or not sure of its success and stable future.

Based on the above mentioned background, the interviewing targets can be grouped into following groups:

- Governmental staffs:
 - Ministry of energy and mines: Department of Electricity (divisions: Rural electrification, Social and environment, Planning and development)
 - Ministry of Agriculture and forestry (Departments: Forestry, Agriculture, Live-stock)
 - Provincial Departments of energy and mines (Bolikhamxay, Vientiane, Oudomxay and Xayaboury provinces)
- Research institutions: Research institutions: Technology Research Institute (TRI), Environment Research Institute (ERI) (within the Science, technology & Environment Agency, STEA)
- Academic institution: Faculty of engineering, Faculty of Natural sciences, Faculty of Social sciences (National University of Lao PDR)
- NGO/NPO:
- NPO: Community Development and Environment Association (CDEA); Association for Organic Products Promotion (OPPA);
- NGO: Participatory Development & Training centre (PADETC)

- Private sector:
 - Rural energy service provider: Electricité du Lao PDR (EDL), Sunlabob Co., Sengsavang Co.,
 - Food processing: Beer Lao Brewery Company,
 - Farm: Vanis Farm (the largest pig farm in Vientiane capital),
 - Freelance workers (self-employed)

The reasons, why the targets for interviewing were selected among these groups are listed below:

The newly formed Ministry of Energy and Mines is responsible for renewable energy resources promotion and development (Figure 3:). At least there are two departments in MEM, which deal with energy-related issues:

- Department of Electricity (divisions: Rural electrification (which is also oversees renewable energy resources); Social and environmental management, Electricity management, Power systems Planning);
- newly created Department for Energy Promotion and Development.

Relevant departments of Ministry of Agriculture and Forestry (MOFA) have deals with forest management, agriculture and livestock production. Some demonstration projects related to renewable energy technology were carried out by these departments, e.g., demonstration biogas projects, saving wood/charcoal cook stove, etc

The staff of research and academic institutions currently play important role in demonstration, research and development of renewable energy technologies.

Selected private companies or NGOs/NPOs are organizations in Lao PDR, who have ever been dealing with or are interested in the promotion of renewable energy technologies in the country.

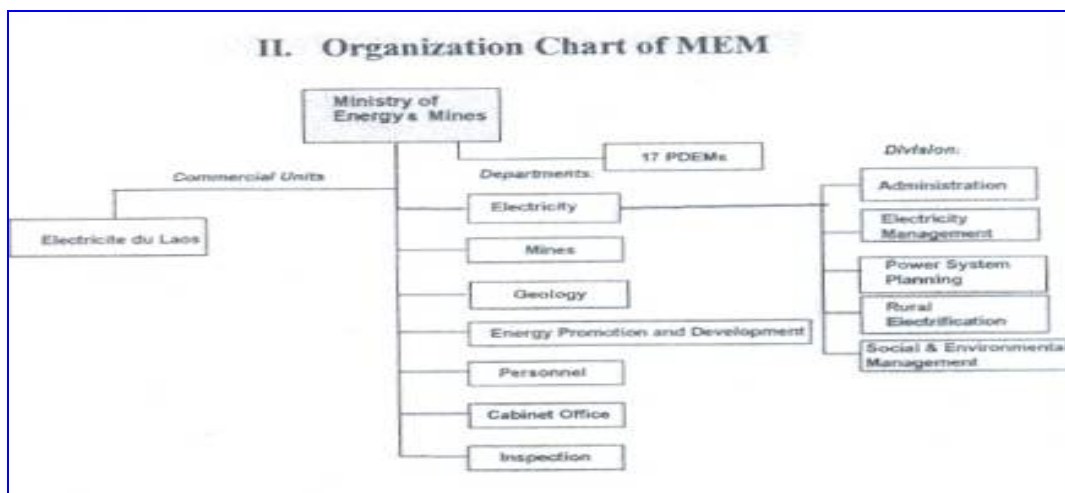


Figure 3: Organizational chart of Ministry of Energy and Mines [MEM, 2007]

Remark: PDEM - provincial department OF Energy and Mines;

Selection of the interviewees: Most of the interviewees were selected according to the following procedure. The dean of the Faculty of Engineering prepared an official letter to rele-

vant organizations, indicating purposes and aims of the project and the current data survey. Referring to this letter and also basing on further explanations of our study team, the head of targeted organizations appointed his staffs as interviewees. Some interviewees were selected just through telephone talks. This is related to staffs of small companies, or persons who have been known for project team before.

4 Procedure of the Questionnaire

The questionnaire was translated to Lao language by the NUOL team. The questionnaire action was performed during 20 April – 15 May 2007, mainly by NUOL project team staff. TRI and CDEA teams assisted interviewing some staffs of research institutions within the STEA (Science, Technology and Environment Agency (under the Prime Minister Office, Lao PDR).

Where possible, a meeting between the study team and interviewees was held at their office. Our survey team gave brief explanations on some terms in the questionnaire and how to complete it. The interviewees then were given some time for further careful reading and completing the questionnaire.

For some remote provinces, e.g. Oudomxay province, we have forwarded the official letter together with questionnaires and detailed explanation attached to the head of provincial Department of Energy and Mines. Several short conversations by telephone were made for project introduction and further clarifications. Then the completed questionnaires were sent back to project team.

Some interviewees from provinces were interviewed at Vientiane capital attending a short term training course at the Faculty of Engineering.

A complete set of questionnaires (including official letter of the dean, questionnaires, contact addresses) were distributed to staffs of research and academic institutions in Vientiane capital. The completed questionnaires then were collected by our project teams.

Our NUOL team visited the Departments of Energy and Mines of Vientiane and Bolikhamxay provinces, which are situated close to Vientiane capital and easily accessible by car.

5 Results

In general, the questionnaires were successfully performed. The leadership of the faculty of Engineering, as well as leadership of targeted organizations fully supported our project ideas. Almost all relevant targets actively participated in our interview process.

5.1 General Data

Number of interviewees: 71 persons were interviewed in total, only 10 (14%) were female (table 1). Nearly half of the interviewed people are aged below 40 years (55%), followed by ages between 40-50 years and only 11% are older than 50 years. The average age was 39 years, while the youngest and oldest interviewees were 21 and 56 years, respectively.

Table 1: General information on interviewees

	Numbers	Percents
Gender		
Male	61	86%
Female	10	14%
Ages		
<40 years old	39	55%
40-50 Years old	24	34%
>50years old	8	11%
Youngest	21 years	
Oldest	56 years	
Average age	39 years	

Table 2: Work experience

Work experiences in present post		
Minimum	1 year	19 (27%)
Maximum	26 years	2 (3%)
Average	9 years	
<10 years	46	64.8%
10-20 years	16	22.5%
> 20 years	9	12.7%
Experience in previous work	38	

Occupation: Almost all (78% or 55 persons) of the interviewed persons are governmental employees, followed by employees of private enterprises (13%) and by 4% for public and public-private enterprise employees. One person is a freelancer (Figure 4:). None of interviewed persons were employers (Table 2).

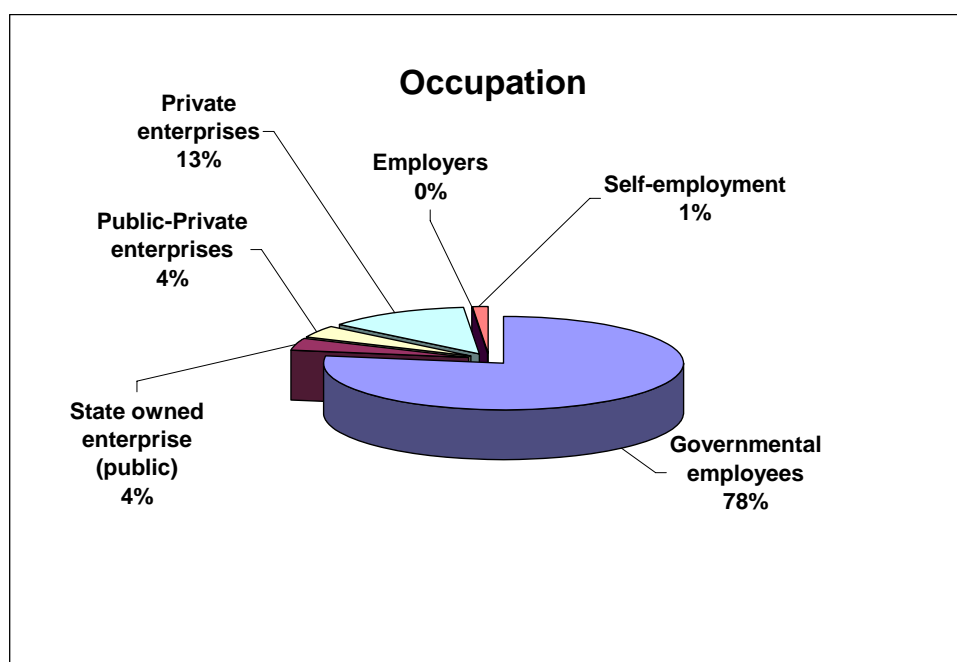


Figure 4: Present occupation of interviewed persons (questionnaires evaluation)

Work experiences: 19 persons (27%) have at least one year experience in their present post and two persons have with 26 years the longest experience in their work. Most (46 persons or about 65%) interviewed persons have occupied their present work for less than 10 years and only 9 persons have more than 20 years work experience in their present post. The last ones are mostly teaching staffs. Remainders have occupied present work from 10 to 20 years.

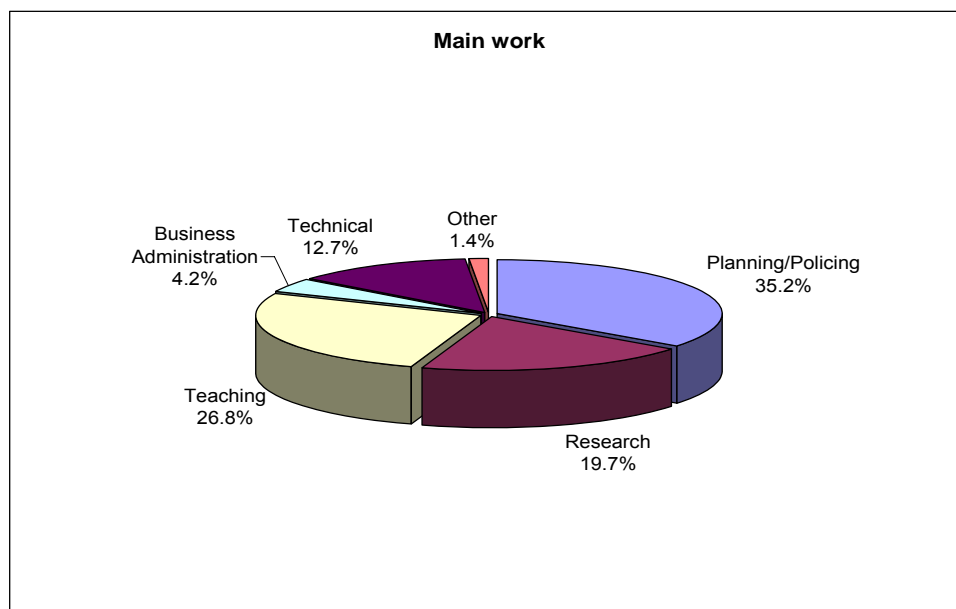


Figure 5: Main working fields (questionnaires evaluation)

About 35% of interviewed persons are responsible for planning and policing works, while 27% are teaching staffs and 20% are researchers. Approx. 13% of the interviewees are technical staffs and 4.2% work in business administration.

38 interviewees possess experiences in different working fields. Conversations with interviewed persons revealed that people usually worked in technical fields before. They were promoted to the next level (higher positions), e.g. planning/policing or administration works after extending their professional skills.

5.2 Fields and Levels of education

Educational level: All of the interviewed persons have a completed primary and lower secondary education. Few people did not complete upper secondary education. Only 21 (of 71) have had vocational education. Nearly half of interviewed persons (51%) are holding a bachelor degree, 31%- master degrees. Some of them – possess higher diploma and only 2 possess a doctor degree.

Table 3: Professional education levels (Questionnaire evaluation)

Professional Education	Numbers	%	Remarks
Vocational education			
Yes	21	30%	
No	50	70%	

Professional Education	Numbers	%	Remarks
University education			
Higher diploma	12	14%	4-years program in University or colleges
Bachelor degree	43	51%	5-years program in University or colleges
Master degree	26	31%	
Doctor degree	3	4%	

Field of education: Fields of vocational and university education of interviewed persons are shown in Figure 6.

More than half (59%) of the interviewed persons have an engineering/technical educational background, 12% have their roots in business administration and 11% in economics. Some of them finished university education in natural or social sciences and have been working as teaching staffs. They extended their professional skills mainly in business administration and engineering.

While switching from centralized planning economy to a free market, new skills and knowledge are required. The government of Lao PDR has encouraged its staffs improving their knowledge in economics and administration. Thus, usually with support from international organizations, short-term (from one day up to few months) special courses in economic management, business administration, foreign language (mainly English) are intensively provided for all managing staffs. These courses are compulsory especially for the upper levels of management / leadership.

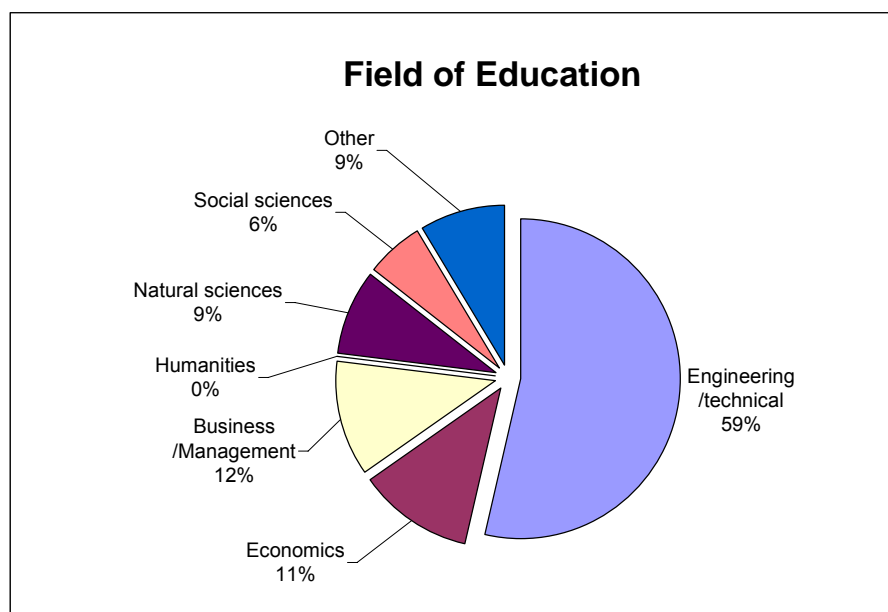


Figure 6: Fields of Vocational and University education (questionnaires evaluation)

Figure 7 provides information about the attendance of the interviewees at special training courses. The majority of interviewed persons (46 of 71, or 65%) have attended several special courses (some months) on accounting, management and financing. Fewer people (28 and 20, or 39% and 28%, respectively) participated in courses with durations of less than one month. These courses provide usually basic knowledge and understanding of business

administration, economic management by free market mechanisms, international economic relations, etc.

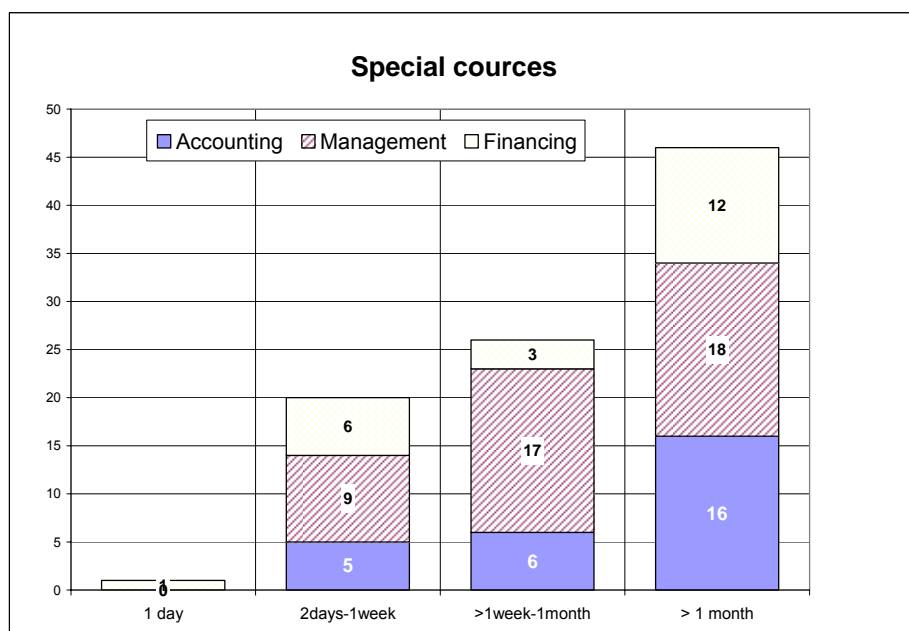


Figure 7: Attendance of training courses (questionnaire evaluation)

5.3 Level of Knowledge, Experience and Competence in Finance and Economics

5.3.1 Budget Planning, Follow-up and Calculation of Opportunity Costs

Although the majority of the interviewees have attended training courses in accounting, management or financing (Figure 7), their knowledge or experiences in these matters is generally limited. This point is observed from our survey results. Many of the interviewees have no experiences in terms of budget planning or calculation. Some have limited experiences in these matters. Interviewees revealed that they have heard or seen these terms before, but they badly understand them. This is probably due to the fact that the majority of them are staff of governmental organizations and academic institutions.

Table 4: Experiences and knowledge in Budget planning and follow-up and calculation of opportunity costs (questionnaires evaluation)

Budget planning and follow-up and calculation of opportunity costs	No experiences	Some experiences	Good experience and knowledge
calculation of future income flows (discounting)	34	30	7
calculating fixed costs and variable costs	30	35	6
pricing products	26	37	8
raising loans for business purposes	47	19	5
calculating annual installments of debt and interest costs	34	33	4
calculating opportunity costs	48	18	5
information of different lenders and their interest rates	49	17	5

5.3.2 Company bookkeeping

In more specific financial matters, as company bookkeeping, almost all of interviewed people have no experiences. Good experiences or knowledge are observed for only few people, who have been dealing with financial jobs of the company or financing organizations.

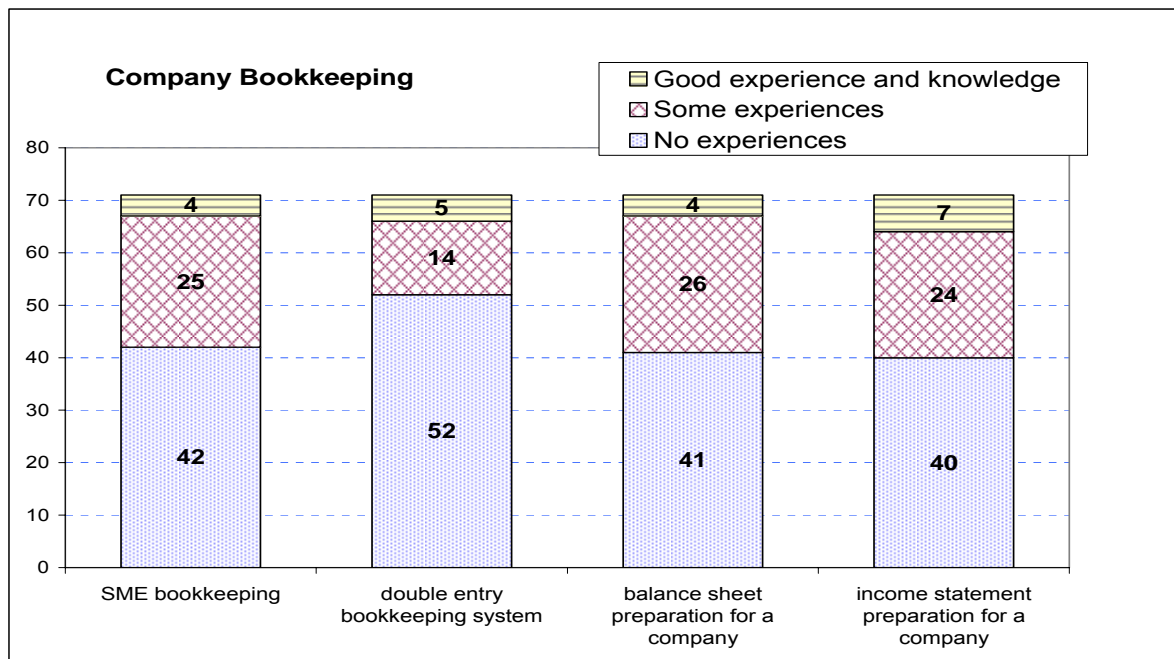


Figure 8: Experiences in Company bookkeeping

Being asked about selected financial terms, more than half of the interviewees gave positive answers. Many people possess knowledge of these terms by attending training courses. They are used to see these terms in their daily business without knowing the exact meaning of them.

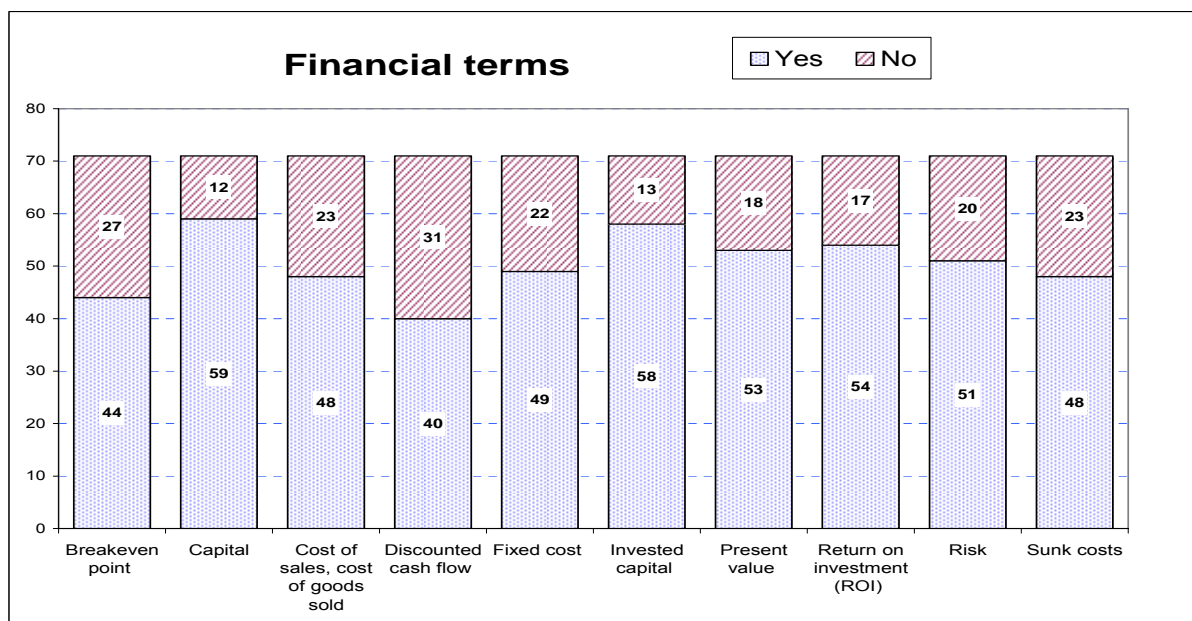


Figure 9: Understanding of financial terms

5.3.3 Company Management

Approx. 50% of the interviewees have some experiences in company management (49% and 48% in project management and personnel administration, respectively). Probably the staffs of governmental offices and research institutions belong to this category. Most of them have managed small research, pilot or demonstration projects, with some assigned staffs. Mostly young staffs with short working experience and teaching staffs of academic institutions can be found among inexperienced people (39%), (see Figure 10 and Figure 11).

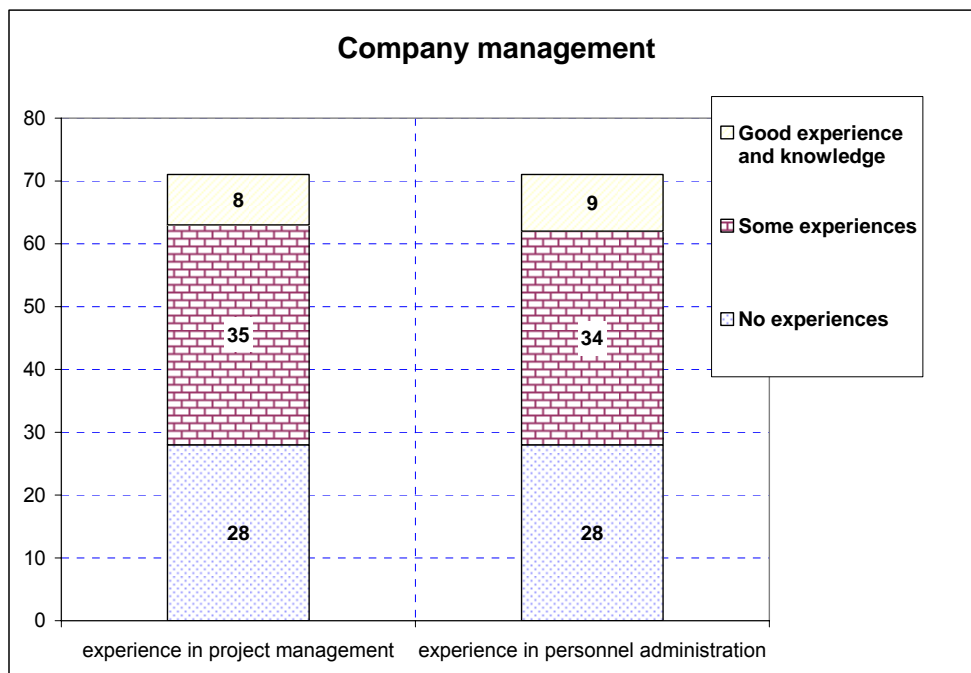


Figure 10: Company management

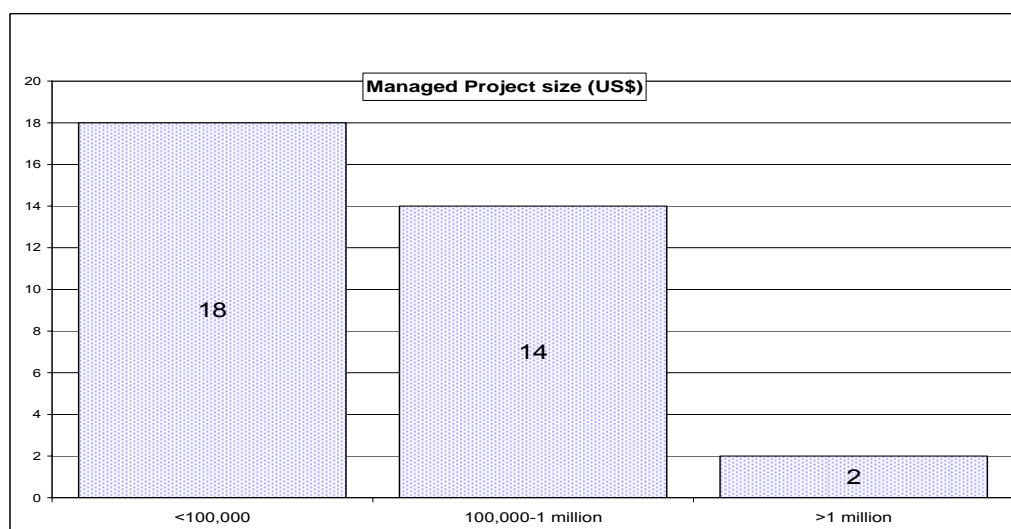


Figure 11: Project sizes ever managed

Almost all (80%) of people, who are experienced in project management or personnel administration, have managed projects or teamwork with less than 10 team members (Figure

12:). This also pointed to the fact that mostly interviewed people are mostly from lower rank staffs.

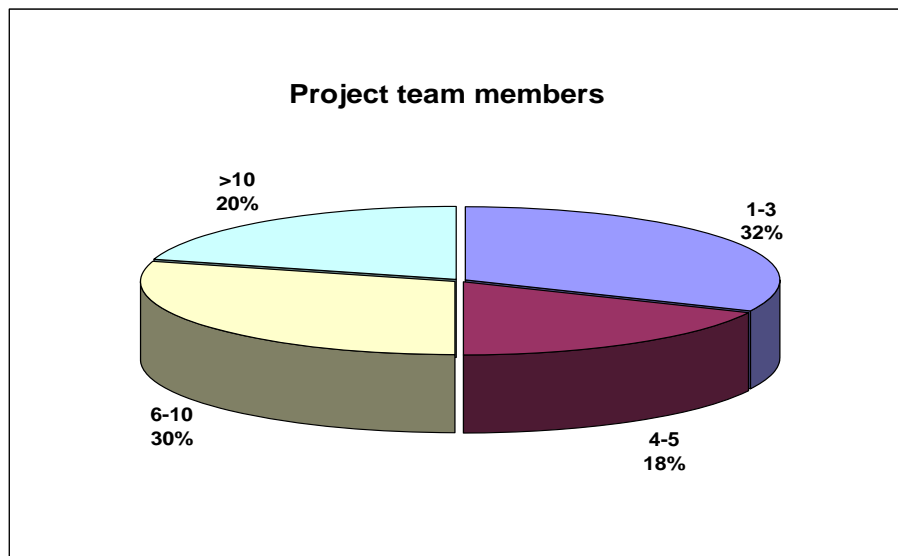


Figure 12: Project team members ever managed

6 Conclusions

Staffs of governmental organizations have principally a good basic and higher education background. Almost all of them possess little experiences or knowledge in financing, accounting and management matters. The situation is better for persons working in business or financing organizations, however, , their general knowledge level is still low and needs to be improved.

Technical staffs of the Departments of Energy and Mines, the Energy Research Institutes, etc. often tend to notice only technical problems of renewable energy technologies, though giving less attention to financial feasibility and viability. The past experiences show that such projects usually were not sustainable, mostly failed soon after external financial and technical support ended.

Experiences of other countries show that the lack of financial, management knowledge and skills often leads to project failures. This is especially important in case of renewable energy technology promotion projects, where more comprehensive and careful assessment approaches are required.

Therefore, as pointed out in the survey results, the improvement of financial and economic knowledge of persons dealing with the promotion and dissemination of renewable energy technologies (e.g., relevant departments of MEM and MOFA, PDEM, research institutes, NGO/NPO, private sectors, etc.), is necessary. It enables them to perform their task in a more efficient manner.

7 Appendices

7.1 Appendix 1: Questionnaire

Educational competence scan – finance and economics

1 Field and level of education

Male Female

Age ____ years

Present occupation _____

Main work tasks _____

Work experience in present post _____ years

Previous fields of work experience _____

Education level:

- Primary school (grades 1-6)
- Secondary school (grades 7-8)
- Tertiary education (grades 9-11)
- Vocational education
- University education:
 - Bachelor's degree
 - Master's degree
 - Doctor's degree

Field of education (vocational / university)

- engineering / technical
- economics
- business / management
- humanities
- natural sciences
- social sciences
- other

In addition to the above mentioned education have you taken any special courses in the following fields (give the length of courses):

Accounting

one day 2 days – week >1 week – month several months

Management

one day 2 days – week >1 week – month several months

Financing

one day 2 days – week >1 week – month several months

2 Level of knowledge, experience and competence in finance and economics:

2.1 Budget planning and follow-up and calculation of opportunity costs:

(3 = good knowledge/experience, 2 = some experience, 1 = no experience)

Do you have experience in net present value calculation of future income flows (discounting)?

3 2 1

Do you have experience in calculating fixed costs and variable costs?

3 2 1

Do you have experience in pricing products (e.g. electricity)?

3 2 1

Do you have experience in raising loans for business purposes?

3 2 1

Do you have experience in calculating annual installments of debt and interest costs?

3 2 1

Do you have experience in calculating opportunity costs?

3 2 1

Do you have information of different lenders and their interest rates?

3 2 1

2.2 Company bookkeeping

(3 = good knowledge/experience, 2 = some experience, 1 = no experience)

Do you have experience in SME bookkeeping?

3 2 1

Do you know the double entry bookkeeping system?

3 2 1

Do you have experience in balance sheet preparation for a company?

3 2 1

Do you have experience in income statement preparation for a company?

3 2 1

Do you know what the following terms mean?

Break-even point Yes No

(The amount of revenue from sales which exactly equals the amount of expense. Break-even point is often expressed as the number of units that must be sold to produce revenues exactly equal to expenses. Sales above the break-even point produce a profit; below produces a loss.)

Capital Yes No

(Money invested in a business by its owners. On the bottom or right side of a balance sheet. Capital also refers to buildings, machinery, and other fixed assets in a business. A capital investment is an investment in a fixed asset with a long-term use.)

Cost of sales, cost of goods sold Yes No

(The expense or cost of all items sold during an accounting period. Each unit sold has a cost of sales or cost of the goods sold. In businesses with a great many items flowing through, the cost of sales or cost of goods sold is often computed by this formula: Cost of Sales = Beginning Inventory + Purchases During the Period - Ending Inventory.)

Discounted cash flow Yes No

(A system for evaluating investment opportunities that discounts or reduces the value of future cash flow.)

Fixed cost Yes No

(A cost that does not change as sales volume changes (in the short run.) Fixed costs normally include such items as rent, depreciation, interest, and any salaries unaffected by ups and downs in sales.)

Invested capital Yes No

(The total of a company's long-term debt and equity.)

Present value Yes No

(A concept that compares the value of money available in the future with the value of money in hand today. For example, \$78.35 invested today in a 5% savings account will grow to \$100 in five years. Thus the present value of \$100 received in five years is \$78.35. The concept of present value is used to analyze investment opportunities that have a future payoff.)

Return on investment (ROI) Yes No

7.2 Appendix 2: Excel files with the single results without graphs

(Please refer to attachment)



D:\PROJECTS\
REEPRO\Data collecti

8 References

Technical assistance to the Lao People's Democratic Republic for advisory assistance on small and medium-sized enterprises and private sector development (TAR: LAO 35301). ADB. 2003

Results of National Population and housing census 2005. National Statistics centre. 2006.

NPGES, 2005

National census 2005. NSC 2006