

Appendix 13
Rural Development

**MASTER PLAN STUDY
ON
INTEGRATED AGRICULTURAL DEVELOPMENT
IN
LAO PEOPLE'S DEMOCRATIC REPUBLIC**

VOLUME III

APPENDIX-13

RURAL DEVELOPMENT

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CHAPTER 1 SOCIO-ECONOMIC SETTING IN RURAL AREA

1.1 Population in Rural and Urban Villages

1.1.1 Definitions of Rural and Urban Villages

The definition of urban and rural areas is not very clear in Lao PDR. According to the Lao Census 1995 prepared by SPC, this is defined that an urban village must satisfy at least three of five conditions below, and any village that can not satisfy at least three of the five conditions is defined as a rural village.

- 1) There is a market in the village,
- 2) There is a road for motor vehicles to get access,
- 3) The village must lie in the municipal vicinity where the district or provincial authority is located,
- 4) The majority of households in the village are electrified, and
- 5) There is a tap water supply in service to the majority of households.

1.1.2 Distribution of Villages by Urban/Rural Areas

According to the above definition, there are about 11,000 villages of which about 9,950 villages or 91% of the total villages are rural villages as shown in Table 1.1.1.

There are only three exceptional provinces in which the proportion of rural villages is lower than the national average of 91%. These provinces are Xaignabouri in the Northern Region, Vientiane Municipality in the Central Region and Champasak in the Southern Region.

1.1.3 Distribution of Population by Urban/Rural Areas

In terms of population distribution, about 83% are live in the rural area as shown in Table 1.1.2. The proportion of urban population is considerably large in Vientiane Municipality and more than 60% of the total population live in the urban area. However, the proportion is lower than 20% in all the provinces.

Urbanization seems to be advanced only in and around provincial capitals located in lowland plains, e.g. Vientiane City, Khanthabouri in Savannakhet province and Pakxe in Champasak province.

Based on Tables 1.1.1 and 1.1.2, an average size of population per village is calculated for urban and rural areas in each province as shown in Table 1.1.3. In general, the population per village is small, and only about 380 in rural and 810 in urban areas on the national average.

1.2 Socio-economic Setting in Rural Area

1.2.1 Rural Social Structure

Lao rural society is characterized by semi-independent villages engaged in subsistence agricultural production. Ethnic, geographic, and ecological differences create variations in the pattern of village life from one part of the country or even one part of the province to another. Except near the larger towns and in the rich agricultural plains such as in Vientiane and Savannakhet Provinces, villages are spaced several kilometers apart and the intervening land is variously developed as rice paddy and swidden fields and sometimes maintained as buffer forest for gathering NTFPs (cardamom, benzoin, rattans, etc.).

Occupational specialization in rural area is low; virtually everyone is a farmer first (see Table 1.2.1). Some may have special skills in weaving, blacksmithing, or religious knowledge, but these skills are supplementary to the basic task of growing sufficient food for the family. Social and economic stratification tends to be low within one village. Status accrues to age, wealth, skill in specific tasks, and religious knowledge. Factions based on kinship or political alliance might exist in a village but usually, do not obstruct overall village cooperation and governance. Still, one of the most certain indicators of socioeconomic status in villages is the amount of the paddy land held or number of livestock possessed by each household according to the result of Quantitative and Participatory Analyses made by SPC under ADB assistance (October 2000).

1.2.2 Consumption, Income and Employment in Rural Sector

About 83% of the population in Laos reside in rural area and among them, 66% are relying on subsistence agriculture. Thus, there are approximately 620,000 families dependent on agriculture of which 492,000 families are reliant on subsistence agriculture (based on 1995 Population Census). The average consumption baskets of the households in the rural area are totally different from those in urban area as the table below shows. The dependency on own products in food in rural area without road access is as high as 72% (see the table below).

Share in Percent of Total Consumption by Area 1997/1998

Item	Urban Area	Rural Area with Road Access	Rural Area without Road Access
Food Consumption	51	61	68
Rice	16	30	35
Transport	13	11	8
Imputed rent, housing	18	4	3
% of own products in food	18	60	72

Source: Lao Expenditure and Consumption Survey 1997/98 (LECS 2)

As Lao Expenditure and Consumption Survey 1997/98 (LECS 2) tells, 60% of income in rural area comes from agriculture, followed by business (12%), wages (12%), and transfers (10%) (see Table 1.2.2). This indicates that most farmers' cash income is derived from sale of livestock with significant income from non-farm and other sources of income. Households with any income from business in rural area are 44% on average (see Table 1.2.3). Meanwhile, many farms are involved in subsistence rice production with the majority of households experiencing rice deficits in a certain period of time each year (see Table 1.2.4).

As the urban-rural dis-aggregated data in employment is not available, the distribution of households for employment by activity is not clear. But by looking at the time spent for income generating activities by adults in rural area, it can be deemed that dominant time of rural dwellers is spent for agricultural production as shown in the table below.

Adults Time Use on Income Generating Activities in Rural Area

Item	Urban Area (%)	Rural Area with Road Access (%)	Rural Area without Road Access (%)
Work as employed	35	9	6
Own business	33	12	6
Agriculture	21	52	52
Firewood, water, hunting, fishing	6	19	28
Handicraft	5	8	8
Total	100	100	100

Source: Lao Expenditure and Consumption Survey 1997/98 (LECS 2)

1.2.3 Some Key Social Indicators

Overall, in rural area access to markets, schools and health facilities is seriously limited (see Table 1.2.5). Only around 50% of national roads and less than 2% of provincial roads are paved, and the access becomes more severe during the wet season. Underdevelopment of rural roads is a nation-wide problem. As for water supply, less than 50% of rural population has access to safe drinking water (see Table 1.2.6). The accessibility to water supply is more serious in mountainous area than lowland area. The average literacy rate in rural area is 64% (89% in urban area), and the gender gap in literacy is distinct in rural area: 49% of female are literate in rural area while 82% in urban area (see Table 1.2.7). Only 5% of

existing schools are in good physical condition in rural area. The electrification rate is rather low in rural area, too. Only 8% of rural households are connected to the electricity grid. Without grid connection, people have to pay high price for battery recharge.¹ Some other important key social indicators are summarized in the table below.

Key Social Indicators

	Urban Area	Rural Area
Health		
Access to piped water or protected well*	77%	45%
Without toilet*	25%	80%
Immunization coverage**	95%	86%
% village with pharmacy	--	36%
Education		
Complete primary school**	60%	42%
Textbook availability**	67%	83%
Mean years of schooling	5.5	3.0
Female literacy rate	82%	49%
Male literacy rate	96%	79%

Note: * % of households, ** % of villages

Source: Lao Expenditure and Consumption Survey 1997/98 (LECS 2)

1.2.4 Poverty Alleviation

Poverty is measured either by consumption or income. If measured by income, poverty is measured as the percentage of individuals in the population whose incomes fall below a pre-determined poverty line. If measured by consumption per capita real consumption of food and non-food items is used based on a poverty line constructed using nutritional requirements. Poverty measured by consumption has the advantage of presenting a more stable result than income due to less annual variation and is also more precise. Measured by consumption, 45% of the Lao PDR population lived in poverty in 1992-93, whereas in 1997-98, the percentage of poor fell to 38.6% (see table below).

¹ Figures are based on FAO (1999), Promoting Sustainable Rural Development, Vol. V, Working Paper 5

Percentage of Poor by Regions and Provinces - 1992-93 and 1997-98

Region/Province	1992-93	1997-98	Annual Growth Rate
Vientiane Municipality	24.4	12.2	-13.9
Northern Region	58.4	52.5	-2.1
Phongsaly	68.7	64.2	-1.3
Louangnamtha	60.3	57.5	-1.0
Oudomxai	51.1	73.2	7.2
Bokeo	63.5	37.4	-10.6
Louangphrabang	62.7	49.4	-4.8
Houaphan	78.4	74.6	-1.0
Xaignabouri	30.1	21.2	-7.0
Central Region	39.5	34.9	-2.5
Xiangkhouang	57.3	34.9	-9.9
Vientiane Province	28.1	24.3	-2.9
Borikhamxai	10.6	25.8	17.8
Khammouan	43.7	41.6	-1.0
Savannakhet	45.7	37.1	-4.2
Xaisomboun-SR		55.0	
Southern Region	45.9	38.4	-3.6
Saravan	36.7	39.6	1.5
Xekong	65.9	45.7	-7.3
Champasak	43.6	35.6	-4.1
Attapu	72.2	45.3	-9.3
All Lao PDR	45.0	38.6	-3.1

Source Fighting Poverty through Human Resource Development, Rural Development and People's Participation, Government Report to the Seventh Round Table Meeting, November, 2000.

The incidence of poverty varies substantially between regions and provinces. The Northern region has the highest percentage of the poor at 58.4% in 1992-93 and declined to 52.5% in 1997-98. In contrast, the incidence of poverty in Vientiane municipality has been the lowest: 24.4% in 1992-93 down to 12.2% in 1997-8. There are also differences in poverty between provinces. Houaphan in the northern region is identified as the poorest province with 74.6% living in poverty. Of the 18 provinces, five had a poverty incidence exceeding fifty percent in 1997-98. Of these five, four are located in the northern region, namely Phongsaly, Louangnamtha, Oudomxai and Houaphan. In three provinces namely Oudomxai, Borikhamxai and Saravan, the incidence of poverty increased between the two periods (see table above).

Urban-rural disparity in the incidence of poverty is large. In 1997-98, for urban areas, the incidence was 26.8% while for rural areas it was 41.0%. Large differences in the percentages of the poor between urban and rural areas occur between regions and provinces (see table below).

Incidence of Poverty by Regions and Rural and Urban Areas

Region	Urban Areas		Annual Growth Rate	Rural Areas		Annual Growth Rate
	1992-93	1997-98		1992-93	1997-98	
Vientiane Mni.	22.5	16.7	-5.9	30.1	4.5	-38.2
North Region	48.9	43.3	- 2.5	60.4	53.5	-2.4
Central Region	37.4	27.6	-6.1	39.9	35.9	22.1
Southern Region	27.6	35.8	5.2	49.6	38.7	-5.0
Lao PDR	33.1	26.8	-4.2	48.6	41.0	-3.4

Rapid Poverty Assessments undertaken in 1997 and consumption expenditure surveys establish the reliability of the characteristics of poor rural farmers. A significant number of households do not produce enough rice to feed themselves throughout the year and more than 80% of villages report that the most important crop is eaten not sold. The degree of rice self-sufficiency is the primary determinant of poverty. Off-farm activities are an important factor to supplement household incomes. About 20% of rural households had to supplement their farm income with off-farm sources such as handicrafts or NTFPs to be able to meet all their food needs. The households deficient in food were due to the low input, low output system where irrigation is rare, double cropping scarce with land holding on average of only 1.4 hectares. The reasons for the low productivity were a combination of supply and demand factors. Lack of arable land (both paddy and swidden), livestock disease, poor health, need to hire labor, and lack of technical knowledge and skills, lack of accessibility (especially roads) and poor housing were determinants of poverty. Access to funds and the lack of credit for ploughing were identified as the main credit need followed by credit for forest activities. Absence of credit facilities as well as lack of confidence in loan procedures for group loans was given as an important factor for low productivity. While extension services were available, the quality of the service was not considered good, as visits were mainly to monitor production targets.

The Rapid Poverty Assessments of 1997 showed that it was widely accepted by farmers that facilitating the access of the poorest to agricultural extension services would have a critical bearing on the social impact of agricultural change and modernization and consequently on poverty alleviation. In addition, most Lao farmers do not use modern inputs such as fertilizer and pesticides. These problems are reflected in the low level of marketing – 50% of Lao villages do not market any of their three most important crops.

The most important policy related objective in the government's overall agricultural development strategy is rural poverty alleviation and the development of household food security. In this regard further analysis in the World Bank poverty study showed that the higher the level of education of the household head, the lower the incidence of poverty. Poverty declines with the age of the household head and poverty in female-headed households was less than in male-headed households. The findings also show that in many areas the integration of the rural people into the market economy is marginal, and that there are limited

opportunities for diversification. Improving the standard of living of the rural population requires development of rural infrastructure, particularly access roads, increased public sector investment to support agricultural development and actions to foster rural factor market development. In keeping with these objectives the top priorities among agricultural investments from the point of view of poverty alleviation are:

- 1) Resolution of the rice cultivation issues, in particular, increase the amount of production land. This could be achieved, amongst others, through implementation of enforceable tenure rights for land and forest resources,
- 2) Increase in livestock holdings, solving livestock disease problems, and providing funding mechanisms for increasing livestock holdings;
- 3) Reliable production of cash crops;
- 4) Access to rural factor markets; specifically, lifting any restrictions on the free movement of people within Lao PDR to develop efficient rural labor markets; and
- 5) Development of access roads.

In addition, the following objectives should be pursued:

- 1) Human resource development in matters of extension services regarding farming systems and livestock to respond to farmers needs;
- 2) “Trial and error” experimentation in the upland areas, where poverty is most acute and identification of the most appropriate farming systems; and
- 3) Support for small-scale farmers in market driven lowland areas.

CHAPTER 2 RURAL DEVELOPMENT BY FOCAL SITE APPROACH

2.1 Rural Development Policy

In March 1994, the GoL adopted a resolution on rural development. The goals and objectives of rural development as laid out in this resolution are:

- a) to identify and utilize natural and social potential of rural areas mobilizing the sense of ownership by people of all ethnic groups in order to shift from traditional ways of living to the new ways which are in accordance with guidelines for the improvement of the people's living conditions, and
- b) to change the characteristics of rural areas through development activities so that rural areas eventually become the firm basis for the task of national defense and construction of the new regime.

The guidelines for future activities outlined in the resolution include the promotion of agricultural production, introduction and transfer of advanced and more effective methods of production, the provision of technical advice to farmers, and involvement of farmers in practical activities such as intensive agriculture, animal raising and planning industrial and other cash crops.

GoL then formulated the National Rural Development Program (1996-2000) in which plans for the development through focal site approach are stated. The background of rural development program in Lao PDR is presented in Figure 2.1.1.

2.2 Focal Site Approach to Rural Development

The focal sites can be defined as “centers of change and learning” for the rural development. The ultimate goal of rural development (through the focal site approach) is poverty alleviation in remote and isolated areas. A bottom-up participatory planning and implementation process was adopted for its development. In order to achieve coordinated and cooperative joint programs between line agencies at the national and provincial levels, a Leading Committee for Rural Development (LCRD) was established under the Prime Minister's Office, and in 1994 a Provincial Rural Development Committee (PRDC) was established in each province. The mandate and authority of PRDC cover all aspects of rural development in each province. The PRDC is responsible for overall rural development in the province, and in particular for the focal site areas. The PRDC coordinates the work of the line ministries, while planning and coordination outside the focal sites continue to be under the purview of the Provincial Socio-Economic Plan, administered by the SPC. A Rural Development Office at the central level and in each province has established to assist LCRD and PRDC in their work.

For focal site development, provinces submitted lists of potential areas (focal sites) that were selected based on criteria proposed by central government as follows:

- a) Urgency for poverty alleviation;
 - Areas with isolated communities,
 - Remote areas with difficult access,
 - Presence of malnutrition and illnesses,
 - Soil conservation problems, and
 - Need to counter land degradation due to high incidence of slash-and-burn agriculture,
- b) Potential areas justifying investments in view of creation of development poles;
 - Availability of land resources, and
 - Possibility for irrigation accessibility,
- c) Risk areas with;
 - Opium plantation,
 - UXO, and
 - Flood hazards.

The 1996-2000 Rural Development Program planned to establish 87 focal sites with an expected investment of Kip 154 billion (Kip 30.8 billion per year on average). However, the actual expenditure for 1995/96 and 1996/97 was far less than expectation, with only Kip 1.1 and Kip 9.76 million, respectively. All the works for the focal site development were carried out by the LCRD initiatives with only local funds. Due mainly to this funding shortage, the focal sites were insufficiently developed and only 59 focal sites are now operational as of February 2001. The number of villages involved in the 59 focal sites is 948 with a population of 321,800 as shown in the table below.

Summary List of Focal Sites

No.	Province	Focal Site (No.)	Districts Involved (No.)	Villages (No.)	Households (No.)	Population (persons)
1	Phongsali	2	2	12	481	2,460
2	Louangnamtha	3	3	11	833	4,154
3	Oudomxai	3	3	35	2,303	12,940
4	Bokeo	3	3	53	3,330	17,897
5	Louangphrabang	3	3	79	4,600	27,742
6	Houaphan	3	2	62	1,773	13,745
7	Xaignabouri	3	3	44	2,377	17,590
8	Vientiane Mun.	3	3	28	3,101	18,511
9	Xiangkhouang	3	3	57	3,995	26,692
10	Vientiane	3	3	39	3,302	20,705
11	Borikhamxai	4	3	114	5,233	33,678
12	Khammouan	4	3	88	4,289	21,127
13	Savannakhet	4	4	65	2,959	15,934
14	Xaisomboun	4	4	38	5,404	13,917
15	Saravan	5	5	107	7,127	33,978
16	Xekong	3	4	42	1,789	11,928
17	Champasak	3	4	54	4,623	21,767
18	Attapu	3	3	20	1,325	6,992
	Total	59	58	948	58,844	321,757

Source: LCRD - Monitoring of Focal Sites - up-dated to July 2000

Major works for the focal site establishment were rural infrastructure development/improvement. Based on area specific conditions, these include irrigation facility, school buildings, health facilities, feeder roads, water supply facility, etc. However, it is likely that the bottom up participatory planning process and capacity building of relevant staff have not been fully adopted in the implementation process.

Beside the above 59 focal sites, similar rural development activities are being carried out directly by provincial governments using their own funds or allocated funds from central government. Foreign assistance including NGOs is of considerable importance in these types of rural development activities. However, reliable data on the work activities are not available (even in LCRD), and actual progress is totally unknown.

2.3 Issue of On-going Rural Development

On-going rural development through the focal site approach is a worthy government effort from the following viewpoints:

- a) Integrated planning and implementation of rural development that is difficult to carry out by line agencies are expected to be undertaken through this approach.

- b) The most effective use of a limited budget and of scarce local government human resource capacity are expected.
- c) The adoption of the bottom-up participatory planning and implementation process approach in the focal sites is essential for the rural development.

However, after more than five-year's of operations of the focal sites, several issues remain. These are as follows:

- a) The selection of focal sites is too heavily biased toward poverty areas and politically important areas, and there is insufficient emphasis on potential areas for development. A re-examination of the selection criteria is needed.
- b) The roles and responsibilities of PRDCs and their relationship with line agencies are unclear on matters concerning planning and coordination. These should be clarified.
- c) Although the focal sites are defined as "centers of change and learning", monitoring and evaluation systems have not yet been developed. Appropriate systems should be established.
- d) In addition, there is need to establish clear operational targets for financial disbursement and to develop a monitoring system to track operational progress.
- e) The staff capacity in PRDCs and PRDOs are inadequate for planning, management, coordination and supervision activities. Further strengthening of their capacity is needed.

CHAPTER 3 OBJECTIVES AND STRATEGY FOR RURAL DEVELOPMENT

3.1 Objectives of Rural Development

According to results of the Lao Expenditure and Consumption Survey 1997/98 (LECS), there is a wide disparity between the rural and urban areas in Lao PDR in socio-economic indicators. For example, households with access to clean water (piped or protected well) are 77% in urban and 45% in rural, villages with access to main road are 100% in urban and 44% in rural (in rainy season), villages with electricity are 91% in urban and 19% in rural, and villages with complete primary school are 60% in urban and 42% in rural. In the light of such poor infrastructure availability in rural areas where more than 80% of the population live, rural development has been an important issue for a long time in Lao PDR. From the above point of view, a similar program for on-going rural development through the focal site approach should be implemented continuously in the future. This program for the rural development would be implemented in remote and isolated poor villages with the object of developing rural infrastructure in order to alleviate rural poverty and improve the livelihood of the rural population. With this program, several types of social infrastructure such as rural roads, school buildings, health facilities, and water supply facilities would be constructed based on the needs of local populations live in the isolated poor villages.

In case of potential rural areas for agriculture development, however, a different approach aimed at economic development would be needed, because the above poverty alleviation approach does not always give priority to the economic development. In this approach, priority would be given to market-driven agriculture development in potential area. Rural roads are thus major rural infrastructure to be provided under this approach. Rural roads are an essential element for accessibility improvement in remote areas. The result of analysis made on LECS data shows that there is a high correlation between poverty (including agriculture income) and poor accessibility². The objective of rural development under this approach is thus to promote market oriented agriculture in potential rural areas, and, through agricultural development, to increase living standards and reduce poverty in remote villages. With this approach, present subsistence agriculture in remote villages would be converted into market oriented agriculture.

² The correlation coefficients between the poverty incidence and other indicators are calculated using LECS data. As a result, the poverty incidence has high correlation between poor accessibility and expansion of slash and burn farming. It can be evaluated that many rural villages with poor access are in poverty and depend on slash and burn agriculture.

3.2 Strategy of Rural Development

In order to achieve the above mentioned objectives for rural development, the strategy to be established is as follows:

- (1) Overall Strategy
 - a. Each program for rural development should be carried out at the province level in accordance with the decentralization policy of Lao PDR.
 - b. The bottom-up participatory planning and implementation process approach should be adopted.
 - c. Weaknesses of the on-going focal site approach should be improved in the implementation of the proposed rural development programs. These include lack of clarity in roles and responsibilities among the related agencies, non-availability of monitoring and evaluation systems, inadequacy of staff capacity in relevant agencies for planning, management, coordination and supervision activities.
- (2) Strategy for Market Orientation Agriculture Development Approach
 - a. The selection of potential area is one of the important subjects under this approach. The selection should be made based on data/information related to land, water and human resources as well as those related to agricultural setting from PAFS/DAFO and road distribution conditions from MCTPC/DCTPC. High potential areas should be selected carefully by analyzing these data/information. In this context, data produced by the ongoing project of Integrated Rural Accessibility Planning (IRAP) will be very useful for the selection of potential area.
 - b. In addition, the degree of villagers' initiative or intention for the development should be carefully confirmed by applying participatory survey process. Village initiative would be a key factor for the market oriented agriculture development.
- (3) Strategy for Poverty Alleviation Approach
 - a. Target area for the development should be selected based on clearly established selection criteria. Attention should be paid to the selection of potential areas where constructed rural facilities are effectively utilized by the beneficiaries. In this context, priority for the selection should be given to comparatively high population density areas, although low population density areas are being selected under the on-going focal site approach in some areas. By selecting promising areas for development, further donor assistance would be expected.
 - b. Women's participation should be promoted in PRDCs and PRDOs in order to take measures for gender issue in bottom-up participatory planning and implementation process.

3.3 Implementation Plan

For the implementation of rural development with the above objectives and strategies, two programs are proposed for execution within the frame of the market orientation agriculture development approach: i) Village-led Agriculture Development Initiative in Remote Rural Area, and ii) Integrated Agricultural and Rural Development Project in Boloven Plateau. In addition, within the frame of the poverty alleviation approach, iii) Area-based Integrated Rural Development Program is also proposed for execution.

(1) Village-led Agriculture Development Initiative in Remote Rural Area

This program is proposed for the promotion of market-driven agriculture development in potential rural areas. This program focuses more on potential area development than the latter program which focuses more on poverty alleviation. The degree of village initiative would also be an important criterion for the selection. The program will focus on the rural road rehabilitation and/or development. However, other rural infrastructure such as small-scale irrigation facilities, marketing infrastructure, electrification and water supply facility will be also provided based on people's needs that will be confirmed in the participatory survey to be carried out at the initial stage of the implementation. Agricultural extension and micro-finance services will be provided together with rural infrastructure/facilities for the promotion of commercial production, including agro-processing. In the extension service, therefore, empowerment of the rural population for market-driven agriculture development will be an important element. In order to do this, demonstration plots and farmer field school will be provided using farmer fields in the selected villages. In this context, training program for PAFS/DAFO staff will be another important component of the program. It is possible to combine this program with other projects/programs proposed for the market-oriented agriculture development, including the Agricultural Commodity Market Intelligence Project, Fruits Crop Promotion Program, and Sericulture Development Project. At this stage, the target number of villages to be covered by the program is set at 300 for the first 9 years and another 300 for the remaining 10 years.

(2) Integrated Agricultural and Rural Development Project in Boloven Plateau

This project was formulated by the master plan and feasibility study conducted by JICA during 1995-96 period. The present study reviewed feasibility study outputs based on changes of socio-economic conditions in the Boloven Plateau. The review was carried out covering several aspects including agriculture, agro-economy and engineering. Participatory survey was also carried out for the review of farmers' needs for the development. As a result, two schemes of Upper Champi and Upper Tapoung are proposed for the pilot implementation among the proposed 16 schemes by the previous feasibility study. The proposed components include i) rural road rehabilitation, ii) demonstration farm construction,

iii) irrigation and drainage system construction, iv) NAFRI satellite office/farm construction, v) social infrastructure construction (school buildings, domestic water supply facilities, market facilities, etc.), vi) technical assistance for detail design and construction, vii) technical assistance for management of NAFRI, and viii) technical assistance for agriculture development such as extension, water management and marketing management. Among these components, the NAFRI satellite office/farm construction is newly proposed aiming at establishing cropping technology for the stabilization of shifting cultivation in the Boloven Plateau, although this is not included in the proposed plan in the feasibility study. In addition, the market facilities in the social infrastructure are also new component for the improvement of marketing system.

(3) Area-based Integrated Rural Development Program

The Area-based Integrated Rural Development Program would be implemented within the framework of the on-going focal site strategy. However, there is still considerable scope for improvement as described above. These should be improved in the implementation. Under the program, rural infrastructure/facilities such as rural roads, school buildings, health facilities, and water supply facilities would be improved based on the needs of local population in selected poverty villages. All infrastructure/facilities will have to be provided aiming at improving social indicators in selected villages. In order to operate and manage the program effectively, training of staff in PRDCs/PRDOs and in relevant district offices will also be provided under the program. In addition, the program will provide villagers training on operation and maintenance of the project facilities. The target number of villages set tentatively at this stage is 1,500 for the first 9 years and another 1,500 villages for the remaining 10 years. These targets are decided referring to the number of beneficiary villages set at 950 in the on-going rural development program for the period of 1995-2000.

3.4 Expected Results

(1) Rural Development by Market Orientation Agriculture Development Approach

The proposed extension and micro-finance services will ensure the production of commercial produce not only in irrigated land to be rehabilitated in the project, but also in other upland and lowland agricultural lands. The improved rural road will then support the farmers in their marketing of products. Marketing information on potential products will also be provided through the extension service. Although commercial sale will be a small scale at the initial stage of the project, this will be increased gradually by using collection points to be provided by the program. The collection points will possibly organize the farmers into a marketing group for sale of their products jointly. Moreover, proposed micro-finance will encourage farmers in investment in creation of alternative

income sources in which livestock, fishculture, poultry, cultivation of fruit trees, and even agro-processing business would be included. From the above points of view, the expected results or benefits from the proposed project are enumerated as follows:

- a. Expanded market-oriented agriculture in remote rural areas,
- b. Improved farmers' production technology in high value produce,
- c. Increased supply of market-oriented produce both to external and internal markets,
- d. Increased income and improved living standard of farm households,
- e. Improved capacity of PAFS/DAFO staff in project planning and implementation.

(2) Poverty Alleviation Approach

The primary goal of the proposed program is poverty alleviation in rural areas where social development indicators are far below the urban areas. The proposed program is thus implemented principally for the development or improvement of rural infrastructure that brings better living environment for rural population. Although the expected impacts would differ much in different target villages (or target village clusters), the proposed program would improve the rural conditions regarding health & sanitation, education, transportation and communication. In addition, similarly with the another program of Village-led Agriculture Development Initiative in Remote Rural Area, the provision of rural roads would accelerate income generation activities in remote rural areas. Moreover, empowerment of villagers and village communities is expected in operation and maintenance of the project infrastructure/facilities.

Table

Table 1.1.1 Distribution of Villages by Urban/Rural Areas and Province

No.	Province	Urban (No.)	Rural (No.)	Total (No.)	Urban (%)	Rural (%)	Total (%)
Northern Region							
1	Phongsaly	41	562	603	6.8	93.2	100.0
2	Louangnamtha	23	382	405	5.7	94.3	100.0
3	Oudomxai	48	677	725	6.6	93.4	100.0
4	Bokeo	28	346	374	7.5	92.5	100.0
5	Louangphrabang	56	895	951	5.9	94.1	100.0
6	Houaphan	40	817	857	4.7	95.3	100.0
7	Xaignabouri	63	480	543	11.6	88.4	100.0
Central Region							
8	Vientiane Mun.	233	259	492	47.4	52.6	100.0
9	Xiangkhouang	30	482	512	5.9	94.1	100.0
10	Vientiane	37	546	583	6.3	93.7	100.0
11	Borikhamxai	26	305	331	7.9	92.1	100.0
12	Khammouan	63	740	803	7.8	92.2	100.0
13	Savannakhet	120	1,423	1,543	7.8	92.2	100.0
14	Xaisomboun	2	83	85	2.4	97.6	100.0
Southern Region							
15	Saravan	26	695	721	3.6	96.4	100.0
16	Xekong	19	245	264	7.2	92.8	100.0
17	Champasak	92	822	914	10.1	89.9	100.0
18	Attapu	15	194	209	7.2	92.8	100.0
Total or Average		962	9,953	10,915	8.8	91.2	100.0

Source: SPC, 2000

Table 1.1.2 Distribution of Population by Urban/Rural Areas and Province

No.	Province	Urban (prn)	Rural (prn)	Total (prn)	Urban (%)	Rural (%)	Total (%)
Northern Region							
1	Phongsaly	8,658	144,190	152,848	5.7	94.3	100.0
2	Louangnamtha	19,621	95,120	114,741	17.1	82.9	100.0
3	Oudomxai	31,678	178,529	210,207	15.1	84.9	100.0
4	Bokeo	5,870	107,742	113,612	5.2	94.8	100.0
5	Louangphrabang	39,675	325,165	364,840	10.9	89.1	100.0
6	Houaphan	14,404	230,247	244,651	5.9	94.1	100.0
7	Xaignabouri	21,110	270,654	291,764	7.2	92.8	100.0
Central Region							
8	Vientiane Mun.	330,798	193,309	524,107	63.1	36.9	100.0
9	Xiangkhouang	14,103	186,516	200,619	7.0	93.0	100.0
10	Vientiane	50,065	236,499	286,564	17.5	82.5	100.0
11	Borikhamxai	10,218	153,371	163,589	6.2	93.8	100.0
12	Khammouan	36,605	235,858	272,463	13.4	86.6	100.0
13	Savannakhet	100,278	571,480	671,758	14.9	85.1	100.0
14	Xaisomboun	4,607	49,461	54,068	8.5	91.5	100.0
Southern Region							
15	Saravan	16,073	240,158	256,231	6.3	93.7	100.0
16	Xekong	9,968	54,202	64,170	15.5	84.5	100.0
17	Champasak	63,463	437,924	501,387	12.7	87.3	100.0
18	Attapu	4,559	82,670	87,229	5.2	94.8	100.0
Total or Average		781,753	3,793,095	4,574,848	17.1	82.9	100.0

Source: Lao Census 1995, Country Report, SPC

**Table 1.1.3 Average Size of Population per Village
by Urban/Rural Areas and Province**

No.	Province	Urban (prn)	Rural (prn)	Average (prn)
Northern Region				
1	Phongsaly	211	257	253
2	Louangnamtha	853	249	283
3	Oudomxai	660	264	290
4	Bokeo	210	311	304
5	Louangphrabang	708	363	384
6	Houaphan	360	282	285
7	Xaignabouri	335	564	537
Central Region				
8	Vientiane Mun.	1,420	746	1,065
9	Xiangkhouang	470	387	392
10	Vientiane	1,353	433	492
11	Borikhamxai	393	503	494
12	Khammouan	581	319	339
13	Savannakhet	836	402	435
14	Xaisomboun	2,304	596	636
Southern Region				
15	Saravan	618	346	355
16	Xekong	525	221	243
17	Champasak	690	533	549
18	Attapu	304	426	417
	Average	813	381	419

Source: Lao Census 1995, Country Report, SPC

**Table 1.2.1 Main Economic Activities for Population More Than 10 Years Old
by Province and Region 1997/98**

(Unit: %)

Region	Main economic activity last 12 months							Employed and farmers by main activity last 7 days				
	Em- ployed	Farmer	Unempl oyed	Student	Homem aker	Retired / too old	Unable to work	Paid employee	Employ er	Self employed	Subsistenc e farmer	Unpaid family worker
Lao PDR	13	54	1	24	2	4	1	10	0	13	67	10
<i>Urban</i>	39	17	2	32	4	4	1	37	1	24	26	12
<i>Rural</i>	8	63	0	23	2	5	1	6	0	11	74	9
North	8	62	0	23	2	4	1	6	0	8	80	5
1 Phongsaly	6	66	0	19	5	3	2	4	0	8	83	6
2 Louangnamtha	7	74	0	15	1	3	0	4	0	8	80	8
3 Oudomxai	6	69	0	20	1	4	1	5	0	4	88	3
4 Bokeo	10	60	0	22	3	4	1	7	0	16	68	9
5 Louangphrabang	13	49	0	28	4	4	2	11	0	11	72	6
6 Houaphan	4	69	0	21	2	3	1	2	0	9	85	5
7 Xaignabouri	8	62	1	24	1	5	1	8	1	5	82	5
Center	18	48	1	26	2	5	1	14	0	17	56	3
8 Vientiane M.	36	21	2	33	4	4	1	35	0	19	35	10
9 Xiangkhouang	9	52	0	29	2	7	1	10	0	7	76	6
10 Vientiane P.	15	46	2	31	1	5	1	8	0	20	51	21
11 Borikhamxai	7	62	1	27	1	2	0	5	0	4	79	12
12 Khammouan	13	59	0	23	1	3	1	7	1	12	65	14
13 Savannakhet	10	63	1	18	1	6	1	8	0	22	57	13
14 Xaisomboun SR	10	59	0	26	1	3	1	7	0	6	85	2
South	11	59	0	23	2	5	1	9	0	11	72	8
15 Saravan	10	64	0	19	1	5	2	9	0	8	78	5
16 Xekong	6	71	0	19	1	2	1	5	0	4	87	3
17 Champasak	12	55	0	25	2	5	1	10	0	13	66	10
18 Attapu	11	57	0	25	1	6	1	9	0	7	78	6
Lao 1992/93 (15+)	14	66	0	9	2	9	←					
Urban (15+)	36	33	1	16	5	9	←					
Rural (15+)	6	77	0	7	1	9	←					

Source: Lao Expenditure and Consumption Survey 1997/98 (LECS 2)

Table 1.2.2 Income, Redistribution and Safety Nets by Province and Region 1997/98

Region	Net income agriculture %	Own cons. share	Imputed rent, %	Business net income, %	Wages %	Property income %	Income fr transfers %	Total income %	Taxes	Remittances	
										Received	Paid
Lao PDR	45	0.6	4	20	15	2	13	100	0.2	11	2
<i>Urban</i>	10	0.5	6	37	24	6	17	100	0.3	15	2
<i>Rural</i>	60	0.6	3	12	12	1	10	100	0.1	10	2
North	56	0.6	4	21	14	1	4	100	0.3	4	1
1 Phongsaly	81	0.8	2	12	4	0	2	100	0.0	2	1
2 Louangnamtha	60	0.9	3	9	26	1	2	100	0.1	2	2
3 Oudomxai	71	0.8	8	8	10	0	3	100	0.3	1	2
4 Bokeo	60	0.7	10	14	12	1	4	100	0.1	4	1
5 Louangphrabang	54	0.6	2	25	13	1	5	100	0.2	4	2
6 Houaphan	51	0.8	5	35	4	0	4	100	0.0	4	1
7 Xaignabouri	51	0.5	4	21	18	2	5	100	0.7	5	1
Center	39	0.6	5	15	20	3	17	100	0.1	16	2
8 Vientiane M.	24	0.4	5	18	22	3	28	100	0.1	25	1
9 Xiangkhouang	62	0.8	7	2	20	1	8	100	0.0	7	5
10 Vientiane P.	49	0.6	6	24	13	1	6	100	0.1	6	4
11 Borikhamxai	51	0.7	4	17	26	1	1	100	0.1	1	1
12 Khammouan	42	0.7	6	21	13	3	15	100	0.1	14	7
13 Savannakhet	50	0.8	5	3	22	8	10	100	0.2	10	2
14 Xaisomboun SR	79	0.6	3	6	5	0	6	100	0.1	6	1
South	46	0.5	2	30	9	1	11	100	0.1	9	2
15 Saravan	77	0.5	2	3	4	4	11	100	0.2	11	2
16 Xekong	59	0.8	2	4	4	0	32	100	0.0	30	1
17 Champasak	35	0.5	2	42	10	1	10	100	0.0	7	3
18 Attapu	56	0.7	3	17	17	1	6	100	0.0	5	1

Source: Lao Expenditure and Consumption Survey 1997/98 (LECS 2)

Table 1.2.3 Household Business by Province and Region 1997/98

(1000 KIP/household)

Region	Business % H'holds	Revenues Trade	From Pro-duct ion	Comm. work	Others	Costs for Material s	Goods resale	Operation al cost	Wages	Equip. tools	Others	Operational surplus
Lao PDR	47	2 880	680	400	220	100	2420	420	70	50	70	1050
<i>Urban</i>	<i>64</i>	<i>7230</i>	<i>2200</i>	<i>850</i>	<i>550</i>	<i>330</i>	<i>6150</i>	<i>1250</i>	<i>270</i>	<i>70</i>	<i>210</i>	<i>2540</i>
<i>Rural</i>	<i>44</i>	<i>1560</i>	<i>220</i>	<i>260</i>	<i>120</i>	<i>30</i>	<i>1290</i>	<i>160</i>	<i>10</i>	<i>50</i>	<i>30</i>	<i>590</i>
North	49	1860	280	350	170	70	1460	150	20	70	50	840
1 Phongsaly	40	600	80	40	30	0	410	20	0	0	0	310
2 Louangnamtha	27	1310	150	90	170	10	1150	40	0	40	0	480
3 Oudomxai	47	830	160	80	70	90	770	70	0	0	10	200
4 Bokeo	44	1310	170	190	40	10	970	110	10	10	10	590
5 Louangphrabang	57	1820	460	170	430	150	1530	230	20	110	20	830
6 Houaphan	42	3730	70	110	10	0	2390	30	0	0	50	1450
7 Xaignabouri	63	2140	360	1010	100	50	1800	240	70	140	140	1170
Center	49	3630	810	420	300	150	3360	620	100	30	70	820
8 Vientiane M.	58	7100	1700	540	770	420	6600	1220	170	60	140	1490
9 Xiangkhouang	48	850	160	120	20	0	800	230	20	20	10	80
10 Vientiane P.	62	3550	520	300	110	20	3000	370	80	10	40	970
11 Borikhamxai	40	1830	460	110	370	0	1460	210	20	10	0	1070
12 Khammouan	42	2310	330	960	150	50	2340	210	90	20	30	1030
13 Savannakhet	43	1990	550	300	60	70	1950	570	80	10	80	130
14 Xaisomboun SR	38	860	350	170	70	0	620	250	0	350	0	230
South	39	2700	1090	410	90	20	1550	330	90	60	100	2140
15 Saravan	45	1430	370	220	110	0	1470	310	10	110	110	130
16 Xekong	16	1190	120	140	50	40	950	20	30	0	10	450
17 Champasak	37	3790	1690	590	60	30	1760	390	160	40	110	3650
18 Attapu	43	1330	480	150	150	20	880	220	40	40	30	890

Source: Lao Expenditure and Consumption Survey 1997/98 (LECS 2)

Table 1.2.4 Rice Prices, Market Exposure and Rice Stocks by Province and Region 1997/98

Region	Rice price	No own production of rice, % of hhkds	Stock of rice for selling % of hhkds	Selling to market % househ.	Income earners % of adults in hhhd	Rice stocks	Duration	
	Selling to markets					Village Kg	Private Kg	months
Lao PDR	410	24	9	82	13	62000	1015	5
<i>Urban</i>	500	64	4	78	25	54600	484	3
<i>Rural</i>	400	16	10	83	11	62400	1126	5
North	345	12	11	84	12	56600	1059	6
1 Phongsaly	318	17	14	70	2	33300	1033	5
2 Louangnamtha	291	4	3	59	12	39600	1170	6
3 Oudomxai	328	10	18	86	7	54400	1252	7
4 Bokeo	345	4	9	80	10	26000	941	6
5 Louangphrabang	433	25	11	94	15	45400	825	6
6 Houaphan	265	5	9	76	12	64900	1299	7
7 Xaignabouri	419	5	8	93	19	132700	1556	7
Center	467	31	10	80	14	70000	1143	5
8 Vientiane M.	565	55	16	78	25	136200	1196	4
9 Xiangkhouang	318	16	9	72	10	67100	1389	6
10 Vientiane P.	461	13	18	95	10	129700	1818	6
11 Borikhamxai	554	20	1	77	20	18800	473	3
12 Khammouan	471	41	7	87	8	30400	829	4
13 Savannakhet	461	21	7	76	10	69300	1085	5
14 Xaisomboun SR	492	27	3	80	12	59100	566	4
South	450	30	3	86	13	57200	483	3
15 Saravan	406	24	5	86	13	96800	672	4
16 Xekong	377	19	2	61	21	6700	264	3
17 Champasak	492	37	2	89	12	40700	376	2
18 Attapu	462	7	3	83	13	57900	725	5

Source: Lao Expenditure and Consumption Survey 1997/98 (LECS 2)

Table 1.2.5 Electricity, Communication and Market Access by Province and Region 1997/98

Region	Electricity % villages	Permanent market % villages	Periodical market % villages	6+ km to main road % villages	Access in rainy season % villages	Access in dry season % villages	Scheduled passenger tr. % househ.	Bus fare to common market KIP/one way
Lao PDR	31	9	5	35	53	79	50	950
<i>Urban</i>	91	33	4	9	100	100	93	400
<i>Rural</i>	19	4	5	41	44	75	42	1 100
North	14	6	6	45	40	56	40	660
1 Phongsaly	5	4	6	42	32	44	25	400
2 Louangnamtha	7	9		42	31	41	27	430
3 Oudomxai	14	0		66	36	50	32	320
4 Bokeo	8	9	20	38	41	77	37	720
5 Louangphrabang	19	2		48	45	49	47	330
6 Houaphan	16	15	18	66	36	40	36	1440
7 Xaignabouri	15	8	6	27	47	82	57	780
Center	50	12	4	29	66	96	61	1100
8 Vientiane M.	100	14		21	100	100	91	640
9 Xiangkhouang	18	9	7	11	43	85	41	980
10 Vientiane P.	53	11	2	47	74	95	58	1440
11 Borikhamxai	34	18	12	23	49	89	51	1120
12 Khammouan	33	14		38	44	95	45	1440
13 Savannakhet	32	7	4	31	57	100	38	1270
14 Xaisomboun SR	8	27	17	39	45	68	36	1600
South	17	6	5	32	46	78	42	750
15 Saravan	15	5	3	19	51	100	47	750
16 Xekong	10	7		39	57	69	30	410
17 Champasak	20	5	7	37	43	68	46	770
18 Attapu	11	17		32	35	78	18	850
Lao 1992/93	28	7			50	78		

Source: Lao Expenditure and Consumption Survey 1997/98 (LECS 2)

Table 1.2.6 Health Environment and Prevention by Province and Region 1997/98

Region	Piped water or protected well % households	Without toilet % households Census 1995	Fetching water in rural areas min/day & person	Immunization program % villages	Health development project % villages
Lao PDR	50	71	14	87	27
<i>Urban</i>	77	25	4	95	32
<i>Rural</i>	45	80	15	86	26
North	32		12	84	28
1 Phongsaly	27	88	8	80	27
2 Louangnamtha	27	71	17	87	24
3 Oudomxai	32	84	9	82	39
4 Bokeo	45	82	15	86	11
5 Louangphrabang	37	75	10	86	35
6 Houaphan	23	64	9	75	20
7 Xaignabouri	33	30	15	100	30
Center	64		18	92	22
8 Vientiane M.	89	30	10	95	35
9 Xiangkhouang	37	56	13	85	33
10 Vientiane P.	61	55	23	88	20
11 Borikhamxai	65	78	17	91	12
12 Khammouan	38	86	19	88	27
13 Savannakhet	66	89	21	95	12
14 Xaisomboun SR	39	81	11	81	4
South	48		16	86	40
15 Saravan	39	96	22	94	52
16 Xekong	43	86	29	34	16
17 Champasak	58	86	11	100	40
18 Attapu	30	89	10	59	0
Lao 1992/93	33	68			2

Source: Lao Expenditure and Consumption Survey 1997/98 (LECS 2)

Table 1.2.7 Knowledge Level and Time for Education by Province and Region 1997/98

Region	No. of years completed				Time use for education hours/day				Literacy rate 15+		Lack of know-ledge
	Female	Male	F 15-19	M 15-19	F -14	M -14	F 15-19	M 15-19	Female	Male	
Lao PDR	3	4	4	5	3.1	3.7	1.9	2.4	55	82	7
<i>Urban</i>	5	6	7	7	4.3	6.3	3.9	5.4	82	96	8
<i>Rural</i>	2	4	4	5	2.9	3.3	1.5	1.9	49	79	7
North	2	3	3	5	2.1	1.8	1.3	3.2	44	74	9
1 Phongsaly	1	2	3	3	1.0	2.5	0.9	1.2	33	55	11
2 Louangnamtha	1	2	2	3	1.0	1.0	0.5	0.9	19	51	5
3 Oudomxai	1	3	2	4	1.8	2.9	0.2	1.9	36	78	10
4 Bokeo	1	2	3	4	3.2	2.8	2.1	2.9	33	70	17
5 Louangphrabang	2	4	4	5	2.4	4.9	1.8	1.8	50	77	6
6 Houaphan	2	3	3	4	1.9	2.9	1.3	1.4	38	72	8
7 Xaignabouri	3	4	5	6	2.8	3.2	1.3	2.6	68	87	10
Center	3	5	5	6	3.6	3.8	2.3	2.6	64	87	7
8 Vientiane M.	5	7	8	8	4.5	5.5	4.2	4.8	84	96	3
9 Xiangkhouang	3	4	4	6	1.9	2.2	1.3	2.2	58	83	0
10 Vientiane P.	4	5	6	7	4.4	5.3	2.9	3.1	69	89	6
11 Borikhamxai	3	4	5	6	4.1	4.0	1.9	2.0	63	87	8
12 Khammouan	2	4	4	5	3.3	3.4	1.6	1.6	60	87	12
13 Savannakhet	2	4	4	4	3.8	3.0	1.5	1.6	50	81	10
14 Xaisomboun SR	2	3	3	5	2.8	2.9	0.9	3.6	43	76	1
South	2	4	4	5	3.8	4.4	1.7	2.6	51	84	5
15 Saravan	2	3	3	4	2.2	3.9	0.6	1.7	41	78	3
16 Xekong	1	2	2	3	2.2	3.4	1.0	1.8	37	72	7
17 Champasak	3	4	4	6	9.6	4.8	2.5	2.7	57	89	5
18 Attapu	2	4	4	5	5.2	5.2	3.3	4.1	57	81	10

Source: Lao Expenditure and Consumption Survey 1997/98 (LECS 2)

Figure

Figure 2.1.1 Background of Rural Development Program in Lao PDR

1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
<p>(1) Rural development priorities were given to the national rice self-sufficiency and restricting shifting cultivation before the commencement of Focal Site approach. (2) Bottom-up and participatory planning approaches were rarely taken in the rural development activities.</p>					<p>▲ Focal Sites Strategy was adopted (Mar)</p> <p>Focal sites identification</p> <p>Rural Dev. by Focal Site Approach</p>							
<p>The Rural Dev. Program Formulation project was coordinated by UNDP.</p>					<p>(1) Focal Site Approach which is the basis of the Rural Development Program stems aims more at alleviation of rural poverty through participatory approaches. (2) Selected Focal Sites locate in the most deprived areas so as to establish "centers of change and learning" for the transition from a subsistence agriculture to a market-oriented one. (3) Major components are material improvements such as rural roads, schools, small reservoirs, small-scale irrigation schemes.</p>							
<u>Organizational Arrangement</u>					<p>▲ Leading Committee for Rural Development (LCRD) at Central level</p> <p>▲ Provincial Rural Dev. Committees (RDC) Rural Dev. Offices at Province level</p>			<p>▲ LCRD Members are fixed: Minister of Prime Minister Office as a chairman, and Minister of MAF, Vice-presidents of SPC and National Front, Deputy Heads of Personnel, Central Party Committee, and Vice-Ministers of Defence, Vice-ministers of Education, Finance as members</p>				
<u>Law, Regulation, Vision and Strategy</u>					<p>▲ Focal Site Strategy (Mar) was adopted as the main part of National Rural Dev. Program</p>			<p>AL (Dec)</p> <p>Strategic Vision (Dec)</p> <p>2020 Vision</p>				
<u>ODA of Japan</u>												
Development Progress in Value												
PIP (Actual in million Kip)							5,640	9,760	36,100	40,710	43,830	
PIP (Actual in million US\$)							6.10	10.23	16.91	9.53	#DIV/0!	

AP13T-1

Appendix 14
Irrigation Development

**MASTER PLAN STUDY
ON
INTEGRATED AGRICULTURAL DEVELOPMENT
IN
LAO PEOPLE’S DEMOCRATIC REPUBLIC**

VOLUME III

APPENDIX-14

IRRIGATION DEVELOPMENT

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**MASTER PLAN STUDY
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APPENDIX-14
IRRIGATION DEVELOPMENT**

**CHAPTER 1 BACKGROUND AND CURRENT PROGRESS OF IRRIGATION
DEVELOPMENT**

1.1 General

The history of Lao's irrigation can be traced back some hundred years in the northern mountainous areas. These irrigation systems are based on primitive water intakes made by logs, soils and/or stones, and have been well managed by communities. From 1960's, modern irrigation systems with concrete weirs and well designed canals have been rapidly constructed with technical and financial assistance from foreign donors. The irrigation developments in Lao PDR are regionally classified into three types: (i) northern mountainous areas, (ii) Vientiane plain; and (iii) major plain along the Mekong River where most of the plain is flood-prone. The characteristics of each are as follows;

(1) Northern mountainous area

Approximately 90 % of Irrigation schemes in this area are gravity system and traditional weir constructed by timber, stone and soil. All the system has been effectively managed by farmers themselves. Though project scale is scattered from 1 ha to more than 300 ha, almost all the project is primarily small and its average area is 6 ha. The project has been properly operated by community in their own manner, not by the government. Each project has water users' group (WUG).

The traditional weir is temporary structure and it needs to be repaired after every flooding in wet season which is attributing to deforestation in and around the area. Many NGO, for instance, Quaker Service Laos (QSL), has much experiences of developing small-scale community managed irrigation (CMI) in mountainous areas and they achieved successful result. The cause of success of the project depends on i) low project cost, ii) active farmers' participation from project

planning, construction, O&M and also iii) appropriate support services from PAFO and DAFO.

(2) Vientiane Plain

Vientiane plain is the area where it has been producing major part of food supply to Vientiane. Irrigation development therefore has actively been progressed in recent years. Particularly in Vientiane municipality, more than half of paddy field is under irrigation with wide variety of the size from large to medium size. In western hilly area of the plain, there are two large-scale irrigation schemes, which are one on the largest schemes in the country named Nam Souan and Nam Hum with which water source is dam and reservoir. Additionally 60 pump irrigation schemes developed before National Pump Installation and Management Program (NPIMP) in 1996 is still under operation. However those facilities were constructed over twenty years ago thereby those are already deteriorated and needs to be rehabilitated.

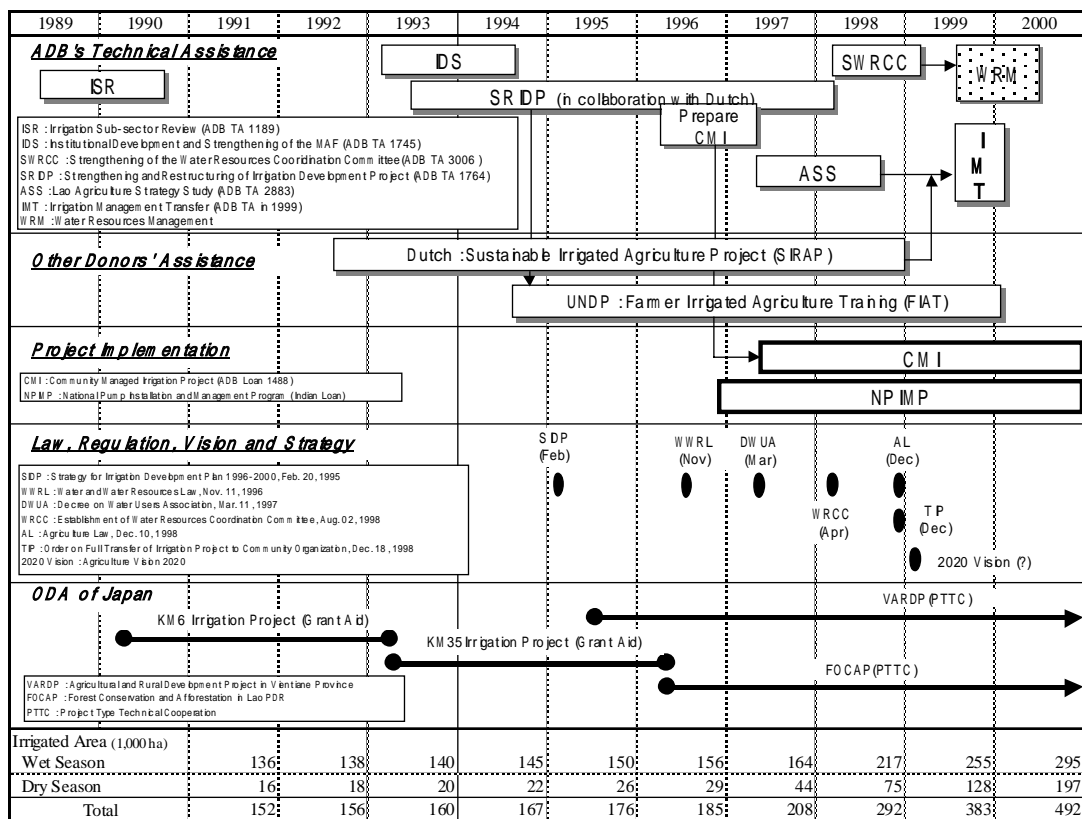
(3) Major Plain along Mekong River Corridor

Seven major plains include Vientiane, Borikhamxai, Sebanfai, Sebanghiang, Sedon, Champasak and Attapu. Those areas are one of the important granaries in the country and identified as priority river basin under government socio-economic development plan. Recently, GOL has been broadly developing pump irrigation scheme under NPIMP particularly located along Mekong River and its tributaries since 1996. Due to the adverse effect from wet season flooding, irrigation development for dry season cropping is actively implemented in recent years, which drastically increase the food production in the country.

1.2 Background

The background of irrigation development in Lao PDR is summarized below. Since the 1990s the ADB and the Government of the Netherlands played an influential role in the irrigation sector. Irrigation & water-related laws and strategy were established through a series of assistance program, which are now being followed by GOL. Strengthening and Restructuring of Irrigation Development Project (SRIDP) and Sustainable Irrigated Agriculture Project (SIRAP) aided by both agencies have virtually established the present irrigation development policy. Those projects basically aimed to develop the irrigation sector through a combination of institutional strengthening and rehabilitation of facilities by beneficiaries' participation. The conclusion of both SRIDP and SIRAP are assimilated as part of the Irrigation Management Transfer (IMT) program, which

is now a key policy of GOL in the irrigation sector. IMT is to transfer ownership of irrigation schemes so that all the responsibility of operation and maintenance (O&M) activities are taken over by beneficiary farmers, resulting in reducing the Government's expenditure.



Background of Irrigation Development in Lao PDR

The irrigation sector has been given an important mandate to achieve national food security. In 1997, GOL initiated a drastic measure to increase rice production by distributing a number of irrigation pumps in the lowland paddy areas, called “National Pump Installation and Management Project” (NPIMP). The pumps installed by 2000 amounted to more than 7,000 units. This project boosted the paddy production remarkably, from about 1.4 million tons in 1996 to 2.2 million tons in 2000, thanks to the increased irrigated crops in the dry season. GOL declared food self-sufficiency in 2000.

(2) Current Progress of Irrigation Development

As of 1999/2000 there are 19,170 irrigation schemes with a service area of about 295,000 ha in the wet season and 197,000 ha in the dry season. The irrigation area has gradually increased as shown in the Table on the right. The regional distribution of the existing irrigation schemes by type are shown in Table below and their location are shown in Figure 1.2.1. Also the detail data including area and irrigation type classified by province is attached in Table 1.2.1.

Irrigation Area in the Country

Unit: 1,000 ha

Year	Wet Season	Dry Season	Total
1991	136	16	152
1992	138	18	156
1993	140	20	160
1994	145	22	167
1995	150	26	176
1996	156	29	185
1997	164	44	208
1998	217	75	292
1999	255	128	383
2000	295	197	492

Source : DOI, MAF

Regional Distribution of Existing Irrigation Schemes and Types

Region	Total			Irrigation Type (in number)					
	No.	Area (ha)	Ave. ha	Weir	Reser-voir	Pump	Gate & dike	Trad. Weir	Gabion
Northern part	11,397	66,059	6.0	3.5%	0.4%	7.1%	0.1%	88.5%	0.4%
Central part	5,947	176,953	30.0	3.0%	1.6%	13.1%	0.7%	80.9%	0.7%
Southern part	1,826	52,523	29.0	3.5%	0.9%	94.5%	0.2%	0.9%	0.1%
Total	19,170	295,535	15.4	-	-	-	-	-	-

Source : Statistics of Irrigation 2000, DOI, MAF

This indicates that majority of irrigation schemes is of traditional weir type in the northern and central regions where the mountainous areas prevail, while pump irrigation is concentrated in the southern region.

An on-going major irrigation scheme is the Community Managed Irrigation Sector Project (CMISP) funded by ADB and OPEC. The CMISP was formulated by special study conducted during SRIDP. The CMISP is to improve more than 40 existing irrigation schemes in the central and northern regions. The communities are responsible for the management of improved facilities by organizing water users associations (WUAs). The CMISP is expected to continue the project on a phased basis targeting to develop CMI schemes in central and northern province. Two similar schemes are to start in 2001; one is the Decentralized Irrigation Development and Management Sector Project (DIDMP) funded by ADB and France, and the other is the Agricultural Development Project (ADP) funded by the World Bank (WB). The DIDMP is characterized as a pilot project exercising the IMT process, focussing on pump irrigation schemes in six selected provinces. The ADP, covering four southern provinces, is really a rural development project including not only improvement of irrigation systems but also market oriented community development using village investment funds.

(3) Flood Damages and Mitigation

The lowlying lands along the Mekong River and its tributary suffer flood and inundation damages more or less in every wet season. The flood prone areas are shown in Figure 1.2.2. Though the floods provide positive impact to natural systems like feeding soil fertility, adverse effects are widely observed such as damage to agricultural production, housing and health, together with loss of life and infrastructure including irrigation facilities. The DOI that is responsible for monitoring flood and inundation gives an information on paddy field affected by floods in 2000 as shown in Table on the right.

Flood Area and Loss in 2000

Province	Total Area (ha)	Paddy field affected by flood (ha)	
		Affected	Lost
Vientiane province	37,500	300	150
Vientiane municipality	48,500	1,000	300
Borikhamxai	25,282	3,546	1,500
Khammouan	48,112	22,080	20,840
Savannakhet	105,000	18,920	15,000
Champasak	84,530	22,730	17,270
Saravan	47,716	4,462	1,000
Attapu	12,500	1,200	500
Total	409,140	74,238	56,560

Remarks: Area includes both irrigated and rainfed fields.
Source : DOI, MAF

Since 1996, the Mekong River Commission Secretariat (MRC) in collaboration with FAO has been collecting the flood data of the Mekong River and its tributaries as a regional cooperation program in the Mekong River Basin. Countries along the Mekong River join this program, and the DOI is the counterpart in Lao PDR. The results of flood monitoring indicate that the length of river courses bringing about flooding along the Mekong tributaries within Lao PDR is estimated to be 300 km in total in Vientiane Municipality and seven central - southern provinces. After gathering these flood data in the lower Mekong basin, the MRC is to start shortly an assistance program to prepare short, medium and long-term strategies for the flood management and mitigation including an action plan for the Mekong basin countries; Lao PDR, Cambodia, Thailand and Vietnam.

The Vientiane Municipality implemented “Vientiane Plain Flood Protection Project (Urgent Phase)” in 1995 to 1997 with assistance from EU. The project rehabilitated and strengthened the flood protection dike along the Mekong River between Kaolieo and Chinaimo with 46 km in length. This protection dike is well functioning to protect the city from floods from the Mekong River since 1997. However, areas along Mekong tributaries in other Provinces are lack of even primitive flood protection facilities. Actions are required for flood mitigation, damage and disaster management in those areas, following the above MRC’s strategy study.

1.3 PAST AND ON-GOING IRRIGATION DEVELOPMENT PROJECT

1.3.1 Strengthening and Restructuring of Irrigation Development (SRIDP)¹

In 1990, ADB conducted irrigation sub-sectoral review and emphasized that the necessity of strengthening of related organization for irrigation development. In this regard, ADB and the Government of the Netherlands formulated SRIDP as grant aid technical assistance. The Project was implemented from 1993 to 1998 to assist DOI to strengthen its capacity to enable it to meet the trend of rapid expansion of community managed, government-supported irrigation development in line with GOL policy. In this context, the Project was operated focussing on (i) the development of effective strategies and programs for irrigation development in Lao PDR and (ii) the strengthening of DOI technical and management capability to implement effective strategies and programs. The main project activities includes (i) the role of women and other group in the project activities, (ii) environmental issue, (iii) water legislation, (iv) institutional development, (v) formulation of strategies and programs for irrigation development and (vi) human resource development. The project detail outputs are itemized as (i) conduct workshops on the topic of women, irrigated agriculture and development, (ii) preparation of manual to support environmental issues and environmental checklist for small-scale irrigation development, (iii) preparation of draft recommendations for irrigation sub-sector decree, (iv) preparation of recommendations for DOI organization development, (v) assistance for preparation of National Framework for Irrigation development, (vi) assistance for preparation of strategies for irrigation development 1996-2000, (vii) assistance for the second irrigation donor meeting in August 1996, (viii) assistance for the publication of the glossary of irrigation technical terms and standard for survey, design and construction of irrigation schemes in Lao language.

Additionally during the Project, Project Preparation Technical Assistance (PPTA) was conducted to formulate CMISP, which is now being implemented with financed by ADB.

¹ Asian Development Bank / Royal Netherlands Government (1998), SRIDP Project Completion Report

1.3.2 Sustainable Irrigated Agriculture Project (SIRAP)²

SIRAP was implemented by the grant assistance from Netherlands with Mekong River Commission Secretariat (MRC) targeting both Lao PDR and Thailand. The Project was phased into three stages as shown below:

- Mekong Irrigation Program Phase I (MIP1; 1988 to 1992)
- Sustainable Irrigated Agriculture Project (SIRAP; 1992 to 1996) and
- SIRAP Consolidated Phase (1997 to 1998)

SIRAP supported work related to IMT at a total of about 30 sub-project sites in 3 provinces in Lao PDR. The major activities are as follows: (i) water users' association (WUA) development, (ii) agricultural and income generating development, (iii) irrigation water management-institutional set up, training and workshop, (iv) scheme economics - socio-economic indicators for scheme monitoring and scheme socio-economic analysis, (v) gender development, (vi) environmental issue - integrated pest management, watershed improvement and (vii) improvement of the IMT process - legalization of WUO, improve and implement IMT, elaboration of a nationwide IMT strategies.

SIRAP applied partial IMT, however, the potential, systematic process of IMT were introduced as well as limitations and constraints of IMT were identified through the Project and this is one of the foundation to implement IMT process in the future.

1.3.3 Farmer Irrigated Agriculture Training (FIAT)³

The First National Irrigation Conference held in June 1993 emphasized the necessity of irrigation scheme to be transferred from state controlled development with large public schemes to a more farmer-driven development of small scale to medium scale programs. SRIDP has the character to operate more at the macro-level in terms of policies, strategies and institutional aspect. On the other hand, FIAT was implemented as a nationwide program with more at the grass-root level and concerning more with training activities to farmers. The Project was started in August 1994 under UNDP grant of \$ 1.7 million over 5 years with the purpose to build up the capacity of both government and farmers to meet the IMP policy introduced by the Government. The summary of Project achievement are (i) establishment of training of farmers for integrated irrigated agriculture

² NEDECO/Bureau d' Etude Lao (BEL) / Cargill Technical Services (CTS) (1998), SIRAP Consolidated Phase Completion Report

³ UNDP (1999), FIAT Final Evaluation Report

development on the central level, (ii) development of the training curriculum for Master Trainers (MTs), provincial Trainers (PTs), District Trainers (DTs) and Farmers respectively, (iii) organization and strengthening of Water Users' Association (WUA) as well as stabilization of leadership of WUA and relevant extension function, (iv) increase the production in the Pilot area which is now well operated and maintained by farmers and (v) construction of mutual coordination between central, provincial, district and farmers organization. The most important contribution through FIAT was establishment of logical, practical and very effective training method which included 4 main components such as the system, cycle, process and community organizing for management and productivity.

1.3.4 Community Managed Irrigation Sector Project (CMISP)⁴

Increased agricultural productivity to ensure food security and to reduce dependence on shifting cultivation is a major goal of the Government. In the food deficient upland areas, the development of CMI schemes in valley areas has been identified as an effective measure to increase agricultural production and to stabilize shifting cultivation. CMISP was originally formulated by special TA of project preparation during SRIDP phases. The Project was commenced by the assistance of ADB and OPEC from 1997 with the total cost of US\$24.1 million. The character of CMISP can be illustrated as significant community participation from the sub-project selection, design, implementation and subsequent O&M of irrigation systems. The objectives are to (i) increase in rice yield from 2.2 t/ha to 3.0 t/ha in wet season and to 3.2 t/ha in dry season, (ii) introduction and promotion of cash crops, (iii) strengthening of WUA, (iv) reduction of shifting cultivation, (v) increase in per capita income from US\$15 to US\$90 and (iv) improve accessibility to markets. The Project has 44 sub-project sites scattering in Houaphan, Vientiane, Borikhamxai, Xiangkhouang Province and Xaisomboun S/R with 3,500 ha in total. The Progress is 87 % as of the end of June 2001. In succession with this phase-I Project, second phase targeting to develop central and northern CMI Project is expected.

1.3.5 National Pump Installation and Management Program (NPIMP)

DOI has been implementing National Pump Installation and Management Program (NPIMP) to provide large number of pumps nationwide especially

⁴ Nippon Koei Co., Ltd. In association with NIA Consult, Inc. and Burapha Group (2000), Midterm Review Report of Community Managed Irrigation Sector Project

central to southern part of the country along Mekong river and its tributaries from 1996 with the purpose to increase irrigated field particularly in the dry season for securing food production in the country at an estimated cost US\$ 30 million. Under NPIMP GOL at first purchased 7,154 sets of pumps, which comprises 7,144 sets of pontoon type India pumps and 10 sets of pontoon type Australian pumps by their own budget. In succession, 147sets of Chinese pumps

Summary of Pump Distribution under NPIMP

Phase	Number of Pumps (set)	Irrigation Area (ha)
1996 (Phase-1)	1,427	18,583
1997 (Phase-2)	1,782	22,497
1998 (Phase-3)	381	16,484
1998 (Phase-4)	3,554	22,971
1999 (Phase-5)	143	N.A.
2000 (Phase-6)	104	N.A.
Total	7,391	(80,535)

Source: NPIMP Office

Note: The Irrigation Area of 1999 and 2000 hasn't been compiled thereby the total planned area is the amount from 1996 (Phase-1) to 1998 (Phase-4).

were distributed in 1999 and 2000. The record of pump distribution is shown above⁵ and the details classified by province is attached in Table 1.3.1. The Program implementation procedure is (i) site reconnaissance of proposed project site and preparation of request by WUA and PAFO, (ii) examination of request sent to headquarters of MAF through NPIMP project office and (iii) designing, pump installation and main facilities construction by PAFO and (iv) project monitoring and evaluation. In case of large-scale project, construction works are implemented under the supervision of DOI. After the installation of pumps and construction of main facilities, the project is to be transferred to WUA and initial investment is to be reimbursed to GOL in accordance with the “ Order on Full Transfer of Irrigation Project to Community Organization”.

The Project has been contributing to expand irrigation area and increase food production since its commencement. Though maintenance center has been established in collaboration with GOL and pump manufacturer, the monitoring system of the Project and the progress of related facilities construction by PAFO, DAFO and WUG is insufficient, which threaten the sustainability of the Project.

1.3.6 Agricultural Development Project (ADP)⁶

The Project is to be commenced within year 2001 under the assistance of World Bank. The Project is really not the irrigation project but integrated rural development project including irrigation component. The target area is in southern 4 provinces, Champasak, Khammouan, Saravan and Attapu. The purpose of the

⁵ Pump distribution record compiled by NPIMP office

⁶ Agriculture Development Project (2000), Project Report (Main)

project is to enhance agricultural productivity through rehabilitation of irrigation facilities, encouraging crop diversification, and thereby increasing overall agricultural production as well as improving living standard by construction and upgrading of the rural infrastructure such as village access road, water supply by taking community based approach. The major components of the Project is (i) rehabilitation of irrigation facilities, (ii) village access tracks construction, (iii) village water supply facilities construction, (iv) establishment of village-based investment for agriculture development, (v) establishment of village investment fund (VIF), (vi) agriculture services and (vii) project implementation support. It is expected to improve living standard and alleviate poverty at target area with 62,000 nos. of villagers in terms of access to transport and market, access to credit, improved inputs and draft power, access to social services.

1.3.7 Decentralized Irrigation Development and Management Project (DIDMP)⁷

The Project will be implemented under the assistance of ADB and French Government. The Project is actually the pilot Project exercising IMT process at selected Project in 6 central-southern Provinces focussing on pump scheme constructed under NPIMP. The components of the Project includes (i) assisting irrigators through WUAs, to organize themselves, (ii) provision of appropriate extension services, (iii) rehabilitating irrigation systems in cooperation with WUAs, (iv) assisting with the provision of necessary support services and GOL capacity to provide management support during IMT process, (v) providing capacity enhancement to PAFs and DAFOs and (vi) support to the VDF process for cost recovery. The Project is expected to achieve (i) 10 % increase in irrigation area, (ii) increase in crop yield at from 2.0 t/ha to 3.2 t/ha in wet season rice, 3.0 t/ha to 5.0 t/ha in dry season rice, 3.0 t/ha in maize and 0.7 t/ha in soybean and (iii) increase in the area of non-rice crops per year at 50 %.

⁷ BMB Management Consultants, Arcadis Euroconsult and SMED (1999), Decentralized Irrigation Development and Management Project Draft Final Report

1.3.8 Others

The description of other major Project is tabulated below.

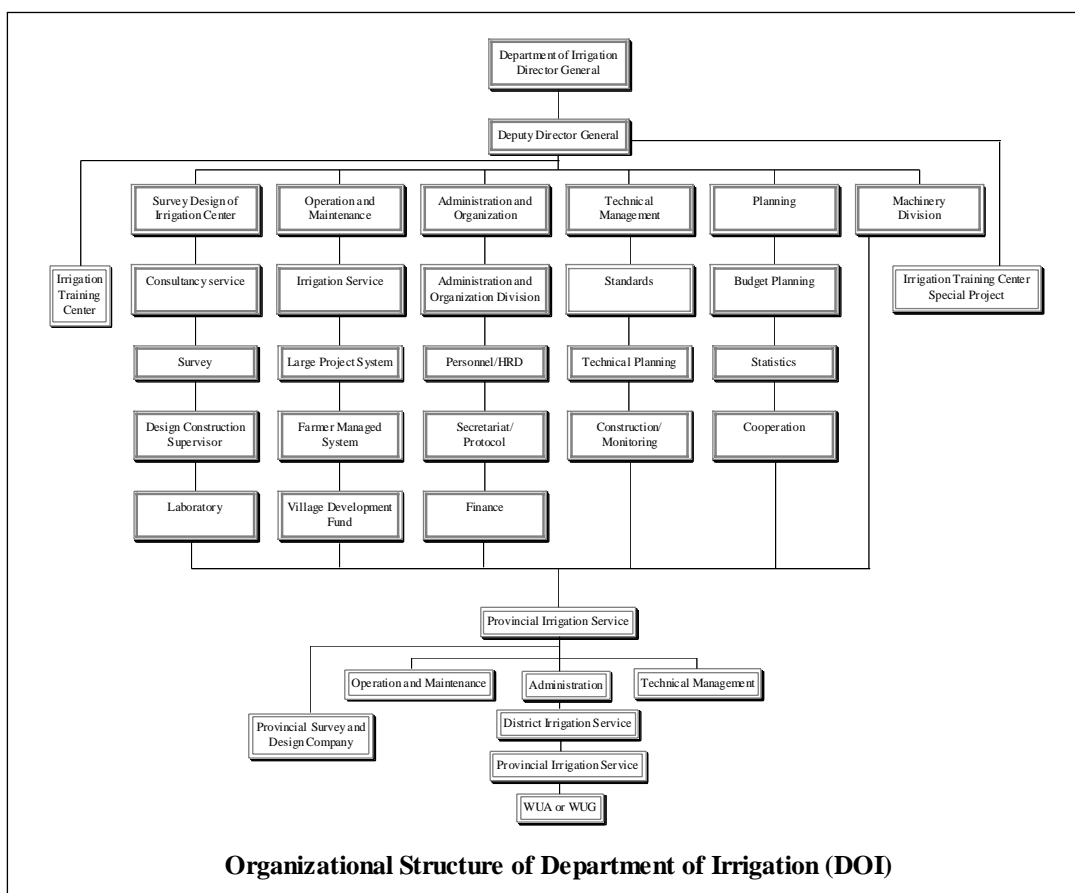
Outline of Other Major Irrigation Project

Project Name	Donor	Cost (US\$)	Period	Description
Nam Tan Scheme Rehabilitation Project	UNDP / UNCDF / Netherlands	7,486,000	1990-97	The purpose of the Project was to increase food production as well as improvement of access to market by construction of irrigation facilities for 2,000 ha area and road.
Xiengkouang Agricultural Development Project	IFAD	9,225,000	1991-98	The Project was integrated agricultural development comprising livestock, commercial crops development, irrigation, access road construction etc. with the purpose of ensuring food security for poor households, increasing agricultural productivity, elimination of opium production, with major emphasis on sustainability and stabilizing shifting cultivation through a beneficiary participation.
Small Scale Irrigation Project	UNDP / UNDF	5,791,000	1990-96	The purpose of the Project was to improve and upgrade small-scale irrigation scheme in Louangnamtha and Oudomxai. The Project includes rehabilitation of the facilities and training of PAFO and DAFO staff through OJT basis.
Agricultural and Rural Development Project in the Suburbs of Vientiane (KM-6)	Japan	20,000,000	1990-94	The Project was implemented to increase rice production and ease chronic shortage of rice in Vientiane municipality and its neighboring area.
Integrated Agricultural Rural Development Project in Savannakhet Province	Japan	20,000,000	1993-1995	The purpose of the Project was to increase agricultural production, creation of employment opportunities and increase in per capita income by expanding agricultural land and improving farming system of KM-35 irrigation Project in Savannakhet Province.
Nam Ngum Pump Irrigation Project	EU	7,597,000	1990-97	This Project was comprised of technical assistance and grant aid assistance to develop pump irrigation scheme with the area of 1,800 ha along Nam Ggum River.
Upland Agriculture Development	Australia	5,010,000	1989-96	The Project was technical assistance with the component of research, extension, rehabilitation and O&M of facilities for upland crop development in Champasak, Saravan, Xekong and Vientiane Province.
Vietnamese Water Resources Study	SR Vietnam	-	1997-2000	The study was implemented under the technical cooperation program between Vietnam and Lao to formulate water resource development planning in the major plains along the Mekong River. Through the study approximately 400,000 ha should be developed by year 2015.

1.4 Present Situation of Operation and Maintenance (O&M) and Related Regulations

1.4.1 Organization of Department of Irrigation (DOI)

The organization of Department of Irrigation (DOI) was reviewed under SRIDP and reorganized in January 1995. The present organization is shown below.



The department is composed of five divisions and two technical centers, of which function is tabulated as shown below.

Division Function of DOI

Division	General and Function
Administration and Organization Division	The division is responsible for all the administrative aspect of the department such as document control, accounting, financial and operates the budgeting for both local and overseas, grant and loan assistance. The division consists of administration and organization section, personnel / human resources section, secretariat / protocol section and financial section.
Planning Division	The division is in charge of management of statistical data of irrigation schemes in the country, implementation planning, monitoring evaluation of the project. Its function also includes the coordination with foreign countries and international agencies and private sectors for proceeding irrigation development as well as monitoring and evaluation of the cooperation and assistance.

(to be continued)

Division	General and Function
Technical Management Division	The division provides technical support for irrigation development and management, preparation of criteria/standards for study, design and construction supervision.
Operation and Maintenance (O&M) Division	The Division composed of irrigation service section, large project system section, farmer managed system section and village development fund section. This division takes lead to proceed IMT.
Machinery Division	The Division was established in 2000 with the aim of the inspection of machinery relating to the irrigation schemes. Especially the division take a roll of maintenance of pumps provided under NPIMP.
Study, Survey and Design Center (SSDC)	SSDC formally functioned as National Survey and Design Company. After the reorganization of DOI in 1995, it has become the part of DOI to take charge of providing technical services to PAFSO and DAFSO. The division has the role for i) planning and designing of large scale irrigation scheme, ii) conducting Feasibility Study (F/S), iii) repairing of survey equipment, iv) conducting environmental impact assessment, v) training of provincial staff and etc.
Academic Irrigation Center and Irrigation College	Buildings were originally constructed in 1980 as farmer training institute. In 1999 the organization were refurbished to commence as the Academic Irrigation Center and Irrigation College. The purpose of this center is to prepare the design criteria in collaboration with DOI as well as educate young generation for irrigation skills.

Source: MAF (1999), Roles and Functions of Department Irrigation

The number of staff relating to irrigation sector is shown in Table 1.4.1 which is classified by the educational background. It can be clarified that the number of staff is insufficient that cannot meet with the requirement to implement the Project smoothly.

1.4.2 Present Situation of Operation and Maintenance

Decisions concerning planning and financing of irrigation are made from central government level while implementation takes place at the local level. In case of large-scale irrigation, however, central government is in charge from planning to implementation and the scheme is transferred to local government, PAFO and DAFO after completion of the Project. On the whole community managed small-scale irrigation schemes have been taking care of their O&M reasonably well. With regard to government-owned irrigation schemes, the schemes are operating well below capacity due to the lack of staff capability, design and construction deficiencies, lack of tertiary canals and related structures to convey water to the farm and so on. Since 1990s, the series of Project has been implemented to aim of transferring the management and ownership of these irrigation schemes to farmers' organization. However limited schemes has been

transferred to farmers while none had been transferred to farmers for their ownership.

1.4.3 Farmers' Organization

Farmers' organization can be classified into two such as Water Users' Group (WUG) and Water Users' Association.

Number of WUA and WUG

As of March 1999

Area	No. of WUG and WUA			Total	
	Weir	Reservoir	Pump	No. of WUG	No. of WUA
Northern (7 provinces)	342	27	171	538	2
Central (7 provinces)	189	248	377	786	28
Southern (4 provinces)	92	10	250	352	0
Total	623	285	798	1,676	30

Source: Department of Irrigation, MAF

WUG is the organization established by each village authority, which is non-formal organization and the ownership of irrigation facilities still belongs to the government. WUA is, to the contrary, the legal entity registered by District Authority Office of the Prime Minister in accordance with Ministerial Decree for the Establishment of Water User Association (WUA). The irrigation facilities are fully transferred to WUA and managed by them. To cover the entire O&M costs, each WUA are supposed to re-fix the ISF including the establishment of VDF. However the establishment progress of WUA is not smooth so that the further support of WUA establishment during the IMT process is necessary. Number of WUG and WUA is shown above and the details are given in Table 1.4.2.

1.4.4 Relevant Regulation

The preparation of irrigation and water-related law, regulation has been progressed through the assistance of ADB and other international organizations in 1990s. Main related-law established so far are itemized as follows:

Related Law, Decree and Organization

Related Law, decree and organization	Year
Water and Water Resources Law	November 1996
Ministerial Decree for the Establishment of Water User Association	March 1997
Establishment of Water Resources Coordination Committee (WRCC)	April 1998
Order on Full Transfer of Irrigation Project to Community Organization	December 1998

DOI prepared Water and Water Resources Law consisting of 49 articles in 10 clauses referring the output of SRIDP and enacted in November 1996. This law is the framework status of rules and measures in administration, exploitation, use and development of water resources and their watersheds, water resources

planning and the prevention of water pollution through coordination of relevant organizations.

Ministerial Decree for the Establishment of Water User Association (WUA) was enacted in March 1997. This decree aims to clarify the role of WUA and to assist the establishment of WUA in accordance with the Decree's clauses.

Establishment of Water Resources Coordination Committee (WRCC) in 1998 targeted to realize two key activities that are to develop & manage the strategies and coordinate of the water sector. The committee consists of direct water-related body and those regulator such as STEA, MAF, MIH, MCTPC, Ministry of Public Health, Ministry of Justice, MRC. To help in developing better water resource coordination and management arrangement as well as realizing the purpose of committee establishment and strengthening, ADB provided finance for Technical Assistance on "Strengthening of the WRCC" conducted in 1998.

IMT policy was formulated through the series of assistance in 1990s that user initiated and managed schemes have lower capital and O&M costs and attention needs to be is given to the organization, motivation and training of farmers. On this basis, Prime Minister Office promulgated "Order on Full Transfer of Irrigation Project to Community Organization". This order is at present the key policy of irrigation development and management in the country.

1.5 Irrigation Management Transfer (IMT)

1.5.1 Background and Outline of IMT

Knowing that traditional irrigation systems have been efficiently managed by farmers' communities and also out of economic necessity the GOL has to reduce subsidies to the agricultural sector, it set up a policy to transfer the ownership and associated costs of irrigation to the farmer users. Encouraged by the SIRAP experience, the GOL issued a Prime Minister's order No. 26/PM on the full transfer of irrigation projects to community organizations dated December 18, 1998. The purposes of the decree are to: promote and support the role and responsibility of WUAs in the management of irrigation systems; assist in the reduction of the responsibilities of GOL agencies in the routine management of irrigation systems; ensure the smooth transition of the full transfer of ownership of all irrigation infrastructure to WUAs; and improve the efficiency of operations, management and water distribution on all irrigation systems.

A most important issue of IMT is cost recovery. After IMT is achieved, the WUA is responsible for O&M of the irrigation system and also responsible for the

collection of water fees from farmers or from other organizations. One part of the water fees collected has to be transferred to the Village Development Fund (VDF) as the investment cost recovered by GOL, and the other part is kept by WUA as an Irrigation Service Fee (ISF) to be used for operation and maintenance of the system.

The GOL's guideline indicates that the cost recovery to VDF is made over a 20 year period or less in case of full cost being recovered earlier. Payments to VDF are rated according to paddy yield per ha depending on the type of irrigation. VDF is further split into two sub-funds, one remain with VDF given to the District Finance Office and the other is paid to GOL. The unit rate and the division of fund is shown in the following Table.

Unit Rate and Division of VDF

Type of Irrigation	Unit Rate of VDF (Kg of paddy/ha/year)		Division of VDF	
	Production of rice crops	Production of other crops	Remain with VDF	Repayment to GOL
Reservoir, weir, and diversion boxes / turnouts without water pump	200	100	80%	20%
Electrical pump schemes	150	80	85%	15%
Diesel engine pump schemes	100	50	90%	10%
Aqua-culture ponds	0	500	50%	50%
Agriculture & aquaculture receiving water indirectly or leakage water	70% above	70% above	100%	0%

Source : Prime Minister Decree No. 26/PM

The above guidelines are still in draft form and are subject to further amendment. The announcement by the Politburo in December 1999 suggested that for the time being all VDF collected by WUAs should remain at the local level and for the exclusive use of the WUA.

ISF is to support the full funding of routine operations and maintenance costs. The amount payable to ISF will vary from system to system depending on the type of irrigation and site conditions. The WUA will set the rate of ISF on an annual basis with an assistance of DAFO. The draft final report on DIDMP estimates the ISF requirements ranging from US\$25 to US\$65 per ha per year among those studied, corresponding to the paddy of 270 kg/ha to 700 kg/ha per year. Thus, the maximum water fee levied on a farmer is calculated to be about 1,000 kg/ha per year including VDF.

1.5.2 Progress and Constraints of IMT

IMT is at a very initial stage at present. According to the announcement from O&M division of DOI, MAF, 437 irrigation schemes with 43,000 ha, which is approximately 20 % of total irrigation area in the country, has already been transferred to WUA. However, the monitoring system is nor insufficient and it is not confirmed that the irrigation schemes are still well managed by WUA themselves. Considerable constraints and risks are identified in carrying out the IMT process. A recent JICA assisted field investigation on farmers' capacity on IMT also found several constraints to carrying out the IMT process. These are identified as follows:

- insufficient promulgation of IMT into local authorities as well as farmers;
- lack of accountability in management of VDF and controversial use of funds;
- inflexible rating of IMT fees;
- lack of data base on physical and institutional conditions of existing irrigation schemes that require rehabilitation and upgrading before/during the IMT process;
- delay in land tenure registration, resulting in reducing farmers' incentive to invest in farming;
- lack of design standard for construction and rehabilitation of facilities;
- slow progress in forming WUAs; and
- lack of agricultural support services (research, extension, credit, etc.) as a prerequisite for the sustainable IMT process.

CHAPTER 2 DEVELOPMENT PLAN OF IRRIGATION SUB-SECTOR

2.1 Objective

Based on the “Government’s Strategic Vision”, the objective for irrigation development and management is listed as follows.

- (1) To ensure food security by improvement of productivity under irrigated agriculture
- (2) Alleviation of poverty in remote areas by generating cash income through introduction and promotion of crop diversification under irrigation
- (3) Stabilization in the area of shifting cultivation and protection of watersheds
- (4) To assist the Water Users’ Association (WUA) through training, organizational strengthening and institutional set-up under IMT process

2.2 Strategy

Since the issue of Prime Minister Decree on “Full Transfer of Irrigation Project to Community Organization” in 1998, the government has been trying to adopt IMT policy nationwide for all the irrigation schemes to transfer the ownership as well as associated cost to beneficiary farmers to reduce subsidies of irrigation sector from the government. At present, however, because of the deterioration of existing irrigation & other related facilities and a lack of farmers’ incentive due to low market price of rice or alternative crops and also the market availability particularly in the rural area, cropping intensity in the dry season under irrigation is quite low. Therefore the rehabilitation of existing facilities in parallel with strengthening of WUAs to recover and upgrade their functions is thoroughly important before IMT is materialized.

According to the government strategy, on the other hand, irrigation area should actively be continued to expand in the future to achieve the target area of 800,000 ha in wet season and 400,000 ha in dry season respectively by 2020. However, the preliminary Projection on Paddy/Rice Balance for 2010 and 2020 in Table 3.5.1 shows that the self-sufficiency can be maintained basically by improving the productivity of existing irrigation schemes. Also those irrigation activities should be conducted under IMT as mentioned above. On this basis, to rehabilitate, upgrade and strengthen the existing irrigation scheme should be implemented before the large-scale new irrigation development is commenced. However at the same time, it should be considered that the potential area as well as resources,

such as the water resources to be exploited by other sector could be effectively utilized for agricultural sector. Therefore those area should also be considered for future development, since the market status not only in Lao but other neighboring in the future is opacity and thus there might be the necessity to increase the food production drastically.

In addition, emphasis should also be put on the situation that not a small agricultural production, field and related-properties including irrigation facilities has been getting adverse effect from wet season flooding at flood-prone area along Mekong River tributaries in Vientiane and central-southern provinces. Therefore flood mitigation measures should be also urgently executed under irrigation sub-sector to secure the food production in the country.

The Action Plan (A/P) for the irrigation sub-sector is therefore formulated with the following concepts:

1. *Rehabilitation of existing small-scale irrigation schemes in parallel with required supporting to WUAs should be carried out to improve the productivity under the IMT process.*
2. *Effective utilization of water resources with introduction and promotion of high-value crop production to generate cash income of the farmers should be considered.*
3. *Protection of agricultural production and properties including irrigation facilities at flood-prone area along tributaries of Mekong River should be urgently implemented.*

2.3 Proposed Project / Program

Based on these concepts, the following major sub-components are proposed:

- (1) Small-Scale Irrigation Development and Management through supporting Irrigation Management Transfer (IMT) (Implementation)

To succeed in the implementation of IMT, small-scale irrigation rehabilitation works with WUAs strengthening, institutional set-up should actively be continued to recover and upgrade the function of existing schemes. This should subsequently be implemented in a strategic manner, based on the information to be given by TA of IMT supporting Program mentioned in 2). In this program, mountainous areas such as the northern region, where shifting cultivation is being practiced, should also be considered to stabilize those activities as well as secure the food production.

- (2) Supporting of Irrigation Management Transfer (IMT) (Technical Assistance; TA)

There is no detail database for the country's irrigation activities at present. Therefore this TA is recommended as the IMT supporting program to collect specific information and recommendations. The item include construction of irrigation database including natural and human resources conditions, constraints and needs for improvement in agricultural production, irrigation area, facility condition, farmers' organization activities, rehabilitation needs and other necessary information. Within this TA, prioritization of irrigation development covering the whole country is also to be made so that the IMT process can be implemented step by step in the future.

- (3) Best irrigation use of exploited water resources with the promotion of Diversified Agriculture

This program deals with the construction of medium and large-scale irrigation schemes at potential area to maintain self-sufficiency as well as encourage crop diversification, thereby increasing overall agricultural production by effective use of water exploited by other sector activities such as large-scale hydro-power development. Through the reconnaissance by MAF, PAFS and the series of assistance by international donor, the potential area in the country is assessed. The Government of SR Vietnam, for instance, has completed a study on water resources development planning in the major plains along the Mekong River under the technical cooperation program over the period 1997 to 2000. According to this result, approximately 400,000 ha in seven major plains, which comprise both paddy and upland fields, are proposed for implementation by 2010s. Therefore some of those potential areas should be considered under this program.

- (4) Groundwater Irrigation Development

This program is to introduce and promote particularly high-valued crops by adopting groundwater as a supplemental irrigation water supply. The program comprises the investigation of groundwater potential, construction of pilot groundwater irrigation schemes with introduction of high-valued crops and extension of groundwater irrigation schemes linking with rural development programs.

- (5) Flood Disaster Mitigation Program

The purpose of this project/program is to secure agricultural production and properties at flood-prone area along tributaries of Mekong River from wet

season flooding. The program composes of detail assessment of damage at flood-prone area, selection of priority area, planning, designing and construction of flood protection facilities.

2.4 Implementation Process

In total, 11 projects which are listed for the irrigation sub-sector under the strategies mentioned above. The implementation plan is basically divided into three phases; short, middle and long term.

The project/program, which should be commenced in the short-term is that on-going small-scale irrigation rehabilitation schemes, such as CMISP, DIDMP and ADP, should proceed in order to recover and upgrade their functions with institutional strengthening through assisting IMT process. In parallel, IMT supporting TA shall be conducted to implement IMT process strategically in the future covering the whole country. Also, the program for flood disaster mitigation is to be implemented in earlier stage, since the tributaries of Mekong River in Vientiane and central-southern provinces are affected by serious damage in every wet season.

In the middle term, some of the on-going projects for rehabilitation small-scale irrigation schemes should be continued. In addition Community Managed Small Scale Irrigation Project utilizing IMT process should fully be commenced from this phase based on the information, recommendation and prioritization prepared by IMT supporting TA to be implemented before 2005. This program shall be continued step by step over a long period up to 2020 since the target shall cover the whole country.

The self-sufficiency as well as basic crop diversification should be achieved by the end of the middle term through the initial phase activities mentioned above. The long-term strategy, more active promotion of crop diversification and high-valued crops, should be subsequently implemented to consolidate commercialized agriculture in the potential area through construction of medium and large-scale irrigation scheme and introduction of ground water irrigation development.

However future situation for agriculture sector in Lao with neighboring countries might be changed, thus this proposed Action Plan (A/P), the strategy and the implementation schedule should be periodically reviewed.

2.5 Expected Result

The following result will be expected through the implementation of the proposed projects/programs.

- (1) Food self-sufficiency will be continued continuously maintained.
- (2) Small-scale irrigation schemes covering approximately 100,000 ha of the area scattered around the country will be recovered and well operated under IMT by year 2020.
- (3) Farmers' income will be increased, particularly for those staying in remote rural areas, by farming diversification.
- (4) Shifting cultivation will be stabilized by irrigation activities.

Table

Table 1.2.1 Irrigation Area and its type in 1999/2000

No	Province names	Weir			Reservoir			Pump			Gate and dike			Traditional weir			Gabion			Total		
		No.	Area (ha)		No.	Area (ha)		No.	Area (ha)		No.	Area (ha)		No.	Area (ha)		No.	Area (ha)		No.	Area (ha)	
			Wet season	Dry season		Wet season	Dry season		Wet season	Dry season		Wet season	Dry season		Wet season	Dry season		Wet season	Dry season		Wet season	Dry season
I	Norther part	403	18,634	8,631	40	3,107	1,422	804	4,985	3,319	14	682	193	10,087	37,434	16,881	49	1,217	412	11,397	66,059	30,858
1	Phongsali	13	564	362	2	45	-	32	123	2				360	4,498	980				407	5,230	1,344
2	Louangnamtha	26	1,954	788	4	351	155	40	1,360	645	2	108	35	219	3,216	1,816	37	885	318	328	7,874	3,757
3	Oudomxai	76	3,568	1,082	2	289	55	89	580	510	7	428	135	1,486	3,535	1,922				1,660	8,400	3,704
4	Bokeo	43	3,523	840	10	522	98	106	170	10	2	64	11	1,265	3,242	637	7	207	34	1,433	7,728	1,630
5	Louangprabang	124	2,373	2,134	2	510	510	132	1,108	1,108				2,144	5,570	5,565				2,402	9,561	9,317
6	Houaphan	53	2,096	745	7	160	50	82	343	50				2,683	7,873	888	5	125	60	2,830	10,597	1,793
7	Xaignabouri	68	4,556	2,680	13	1,230	554	323	1,301	994	3	82	12	1,930	9,500	5,073				2,337	16,669	9,313
II	Central part	176	20,448	7,488	93	16,483	9,853	778	111,699	87,683	42	4,058	932	4,818	22,882	12,198	40	1,383	349	5,947	176,953	118,503
8	Vientiane Mun.	3	600	171	7	6,130	4,983	89	26,555	20,520	2	300	170	2,500	5,267	5,267				2,601	38,852	31,111
9	Xiangkhouang	49	5,362	1,065	18	1,269	80	32	237	70	1	100	50	1,457	5,272	-				1,557	12,240	1,265
10	Vientiane	56	9,483	4,514	8	2,075	1,045	78	14,365	10,634	3	206	85	252	5,668	1,556	6	375	170	403	32,172	18,004
11	Borikhamsai	10	1,380	560	9	2,378	1,255	158	10,338	10,363	2	2,000	-	231	3,659	3,659	5	120	73	415	19,875	15,910
12	Khammouan	11	1,485	424	5	470	233	176	21,007	17,250	10	230	140	-	445	445				202	23,637	18,492
13	Savannakhet	40	1,840	696	37	3,942	2,254	158	38,650	28,657	23	1,197	487	-	1,271	1,271				258	46,900	33,365
14	Xaisomboun	7	298	58	9	219	3	87	547	189	1	25	-	378	1,300	-	29	888	106	511	3,277	356
B	Southern part	64	9,082	7,107	16	614	475	1,724	36,643	34,267	4	389	365	17	5,785	5,552	1	10	5	1,826	52,523	47,771
15	Saravan	27	5,595	4,637	10	155	55	237	9,192	7,703				6	43	10				280	14,985	12,405
16	Xekong	7	305	237	4	444	410	2	350	350	4	389	365	-	1,761	1,761				17	3,249	3,123
17	Champasak	27	2,452	1,603	2	15	10	1,274	23,731	23,624				1	3,781	3,781				1,304	29,979	29,018
18	Attapu	3	730	630				211	3,370	2,590				10	200	-	1	10	5	225	4,310	3,225
Total		643	48,164	23,226	149	20,204	11,750	3,306	153,327	125,269	60	5,129	1,490	14,922	66,101	34,631	90	2,610	766	19,170	295,535	197,132

Source: Statistics of Irrigation (2000), DOI, MAF

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**Table 1.3.1 Record of Pump Distribution
under National Pump Installation and Management Project (NPIMP) (1/2)**

Province	Scheme Nos.	Irrigated Area (ha)	Diesel Driven Pump (HP)												Sub-Total	Electric Driven Pump (Kw)								Sub-Total	Total																	
			5	7	14	32	43	46	50	65	85	126	1	11		37	45	55	75	90																						
All Phases total																																										
1 Phongsaly	0	40	30	25	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60																				
2 Luangnamtha	7	527	10	15	15	6	0	0	0	4	5	4	59	5	0	0	0	0	0	0	0	5																				
3 Oudomxai	3	135	10	93	5	5	0	0	0	0	0	0	113	0	4	14	0	0	0	0	0	131																				
4 Borkeo	0	90	20	55	40	0	0	0	0	0	0	0	115	0	0	0	0	0	0	0	0	115																				
5 Luangphabang	4	758	0	93	34	0	0	0	0	0	0	0	129	0	0	6	0	4	4	6	20	149																				
6 Hourphan	0	313	0	34	33	0	0	0	0	0	0	0	67	0	6	14	0	0	0	0	0	20	87																			
7 Xaiyabouly	10	1,176	64	130	121	10	0	0	0	8	0	0	333	0	8	2	0	0	6	0	16	349																				
8 Vientiane Mun.	36	5,035	80	146	47	4	1	0	0	7	0	0	285	60	47	12	0	0	98	2	219	504																				
9 Xiengkhouane	0	55	26	23	14	0	0	0	0	4	0	0	67	0	0	0	0	0	0	0	0	67																				
10 Vientiane	52	6,130	80	130	20	0	0	0	0	16	0	0	246	20	48	15	0	0	53	0	136	382																				
11 Borlikhamxai	125	10,228	95	260	150	2	0	0	0	136	0	12	655	20	12	55	6	4	58	4	159	814																				
12 Khammouane	170	13,455	93	183	100	6	10	0	0	104	0	0	496	20	84	56	0	0	104	6	270	766																				
13 Savannakhet	112	17,212	100	680	250	4	0	0	4	82	0	0	1,120	200	100	82	0	0	72	10	464	1,584																				
14 Special Region	4	180	0	55	20	6	4	0	0	19	0	0	104	0	0	4	0	0	0	0	4	108																				
15 Salavan	81	8,882	40	89	30	4	0	0	0	65	0	2	230	0	20	20	0	0	53	0	93	323																				
16 Sekong	0	32	0	43	15	0	0	0	0	0	0	0	58	0	0	0	0	0	0	0	0	58																				
17 Champasaack	199	13,906	100	548	477	31	18	5	22	241	0	0	1,442	28	0	12	0	0	45	2	87	1,529																				
18 Attapeu	15	2,381	50	70	70	0	0	0	0	42	0	0	232	0	0	8	0	0	6	0	14	246																				
Others	0	0	12	18	7	0	0	0	0	2	0	0	39	2	0	6	0	0	4	4	16	55																				
Total	818	80,535	810	2,690	1,453	78	33	5	26	730	5	20	5,850	355	329	306	6	8	503	34	1,541	7,391																				
1st Phase (1996)																																										
1 Phongsaly		40		5	5								10									10																				
2 Luangnamtha		40		5	5								10									10																				
3 Oudomxai		75		25									25									25																				
4 Borkeo		90		25	10								35									35																				
5 Luangphabang		58		20	10								30									30																				
6 Hourphan		68		15	9								24									24																				
7 Xaiyabouly		116		17	13								30									30																				
8 Vientiane Mun	12	2,380		46	15								61						34		34	95																				
9 Xiengkhouane		55		10	5								15									15																				
10 Vientiane	26	2,510		30	10					16			56		18				21		39	95																				
11 Borlikhamxai	30	2,436		30	20	2				34			86		12	14			6		32	118																				
12 Khammouane	35	2,750		28	10					26			64		84				18		102	166																				
13 Savannakhet	23	3,657		230	100					46			376						20		20	396																				
14 Special Region													0								0	0																				
15 Salavan	11	1,790		39	20	4				7		2	72						10		10	82																				
16 Sekong		32		20	15								35								0	35																				
17 Champasaack	43	2,486		57	81	2			5	33			178						11	2	13	191																				
18 Attapeu				40	20								60								0	60																				
Others				8	2								10								0	10																				
Total	180	18,583	0	650	350	8	0	5	0	162	0	2	1,177	0	114	14	0	0	120	2	250	1,427																				
2nd Phase (1997)																																										
1 Phongsaly													0									0																				
2 Luangnamtha													0									0																				
3 Oudomxai				21	5								26		4						4	30																				
4 Borkeo				30	30								60									60																				
5 Luangphabang				23	24								47									47																				
6 Hourphan		217		19	20								39		6						6	45																				
7 Xaiyabouly		130		40	83								123									123																				
8 Vientiane Mun	15	2,100			1								1	10					30		40	41																				
9 Xiengkhouane				8	9								17								0	17																				
10 Vientiane	9	1,500											0	20					16		36	36																				
11 Borlikhamxai	25	1,993		50	80					30			160						8		8	168																				
12 Khammouane	45	2,620		5	40					28			73	20	10				24		54	127																				
13 Savannakhet	26	4,855		200	100					30			330	50	50	40			15		155	485																				
14 Special Region				20	10								30								0	30																				
15 Salavan	20	1,942								12			12	20					19		39	51																				
16 Sekong													0								0	0																				
17 Champasaack	63	5,840		71	243					80			394	20					20		40	434																				
18 Attapeu	8	1,300		10	50					20			80								0	80																				
Others				3	5								8								0	8																				
Total	211	22,497	0	500	700	0	0	0	0	200	0	0	1,400	100	100	50	0	0	132	0	382	1,782																				
3rd Phase (1997/1998)																																										
1 Phongsaly													0									0																				
2 Luangnamtha	7	487				6							5	4	15						0	15																				
3 Oudomxai	3	60				5							5		2						2	7																				
4 Borkeo													0								0	0																				
5 Luangphabang	4	700											2	2					4	2	6	8																				
6 Hourphan													0								0	0																				
7 Xaiyabouly	3	360				10							10						4		4	14																				
8 Vientiane Mun	2	180				4	1						5						4		4	9																				
9 Xiengkhouane													0								0	0																				
10 Vientiane	8	1,360											0		4				12		16	16																				
11 Borlikhamxai																																										

**Table 1.3.1 Record of Pump Distribution
under National Pump Installation and Management Project (NPIMP) (2/2)**

Province	Scheme Nos.	Irrigated Area (ha)	Diesel Driven Pump (HP)											Sub-Total	Electric Driven Pump (Kw)								Sub-Total	Total
			5	7	14	32	43	46	50	65	85	126	1		11	37	45	55	75	90				
4th Phase (1997/1998)																								
1	Phongsaly		30	20											50						0	50		
2	Luangnamtha		10	10	10										30	5					5	35		
3	Oudomxai		10	47											57						0	57		
4	Borkeo		20												20						0	20		
5	Luangphabang			50											50						0	50		
6	Hourphan	28			4										4						0	4		
7	Xaiyabouly	7	570	60	73	25							8		166		8				2	10	176	
8	Vientiane Mun.	7	375	80	100	31							7		218	50	47	4			30	131	349	
9	Xiengkhouane		20												20						0	20		
10	Vientiane	9	760	80	100	10									190	20	10	7			37	227		
11	Borlikhamxai	35	2,400	95	180	50							60		385	20					30	50	435	
12	Khammouane	55	4,683	93	150	50							50		343						36	36	379	
13	Savannakhet	38	4,790	100	250	50									400	150	50	20			20	240	640	
14	Special Region	1	50		35	10									58							0	58	
15	Salavan	48	5,000	40	50	10							44		144						20	20	164	
16	Sekong				23										23							0	23	
17	Champasaack	58	3,895	100	420	153									741	8					10	18	759	
18	Attapeu	4	420	50	20										81							0	81	
Others				12	7										19	2		2			4	8	27	
Total		262	22,971	800	1,535	403	0	0	0	0	261	0	0	0	2,999	255	115	33	0	0	152	0	555	3,554
5th Phase (1999)																								
1	Phongsaly														0							0	0	
2	Luangnamtha												4		4							0	4	
3	Oudomxai														0		8					8	8	
4	Borkeo														0							0	0	
5	Luangphabang														0		2					2	2	
6	Hourphan														0		4					4	4	
7	Xaiyabouly			4											4		2					2	6	
8	Vientiane Mun.														0		8				2	10	10	
9	Xiengkhouane			6	5								4		15							0	15	
10	Vientiane														0		4					4	4	
11	Borlikhamxai												2		2		14					14	16	
12	Khammouane														0		14					14	14	
13	Savannakhet												2		2		12					12	14	
14	Special Region														0		4					4	4	
15	Salavan														0		10					10	10	
16	Sekong														0							0	0	
17	Champasaack												22		22		10					10	32	
18	Attapeu														0							0	0	
Others															0							0	0	
Total		0	0	10	5	0	0	0	0	0	34	0	0	0	49	0	0	92	0	0	0	2	94	143
6th Phase (2000)																								
1	Phongsaly														0							0	0	
2	Luangnamtha														0							0	0	
3	Oudomxai														0		4					4	4	
4	Borkeo														0							0	0	
5	Luangphabang														0		4				2	6	12	
6	Hourphan														0		10					10	10	
7	Xaiyabouly														0							0	0	
8	Vientiane Mun.														0							0	0	
9	Xiengkhouane														0							0	0	
10	Vientiane														0						4	4	4	
11	Borlikhamxai														0		6				2	8	8	
12	Khammouane														0		12				6	18	18	
13	Savannakhet														0							0	0	
14	Special Region														0							0	0	
15	Salavan												2		2		10					10	12	
16	Sekong														0							0	0	
17	Champasaack												6		6		2				4	6	12	
18	Attapeu														0		8				6	14	14	
Others													2		2		4					4	8	10
Total		0	0	0	0	0	0	0	0	0	10	0	0	0	10	0	0	60	0	0	24	10	94	104

Remarks: Irrigated Area data of 5th and 6th phase has not been compiled yet.

Source: Office of National Pump Installation and Management Project (NPIMP), DOI, MAF

Table 1.4.1 Number of Staff relating to Irrigation Sector

Province	Educational Background						Women	Men	Total
	Dr. & Master	Bachelor	College	Prof. School	Secondary School	Others			
Northern Provinces									
1. Phongsaly			3	6	1			10	10
2. Luangnamtha			9	11	0		1	19	20
3. Oudomxai			7	11	15			33	33
4. Borkeo			6	5	1			12	12
5. Luangphabang			23	16	11			50	50
6. Hourphan			11	16	4			31	31
7. Xaiyabouly		1	14	23	3			44	44
Sub-Total	0	1	73	88	35		1	199	200
Central Provinces									
8. Vientiane Mun.			37	27	7		4	67	71
9. Xiengkhouane		4	7	6	2		2	17	19
10. Vientiane			21	19	2		2	40	42
11. Borlikhamxai		3	16	15	5		5	34	39
12. Khammouane		3	23	12	18		5	51	56
13. Savannakhet		5	18	26	23		7	65	72
14. Special Region			10	7	2			19	19
Sub-Total	0	15	132	112	59		25	293	318
Southern Provinces									
15. Salavan			9	13			1	21	22
16. Sekong			13	9	1		1	22	23
17. Champasaack			19	20	4		5	38	43
18. Attapeu			9	6	1			16	16
Sub-Total	0	0	50	48	6		7	97	104
MAF									
19. Dept. of Irrigation	6	8	60	27	12		19	94	113
Sub-Total	6	8	60	27	12		19	94	113
Total	6	24	315	275	112		52	683	735

Source : Statistics of Irrigation (2000), DOI, MAF

Table 1.4.2 Number of Water Users' Association (WUA) and Water Users' Group

As of March 1999

Province	Weir Irrigation			Reservoir Irrigation (Gravity)			Pump Irrigation			Total	
	No. of Organization	Area (ha)		No. of Organization	Area (ha)		No. of Organization	Area (ha)		WUG nos.	WUA nos.
		Wet	Dry		Wet	Dry		Wet	Dry		
Northern Provinces											
1. Phongsali	11	388	175	2	45	0	6	45	25	19	0
2. Luangnam	25	3,343	890	2	231	34	8	2,690	2,690	35	0
3. Oudomxai	58	6,331	501	3	190	0	28	1,755	1,175	89	0
4. Borkeo	36	4,477	84	7	437	12	0	0	0	43	0
5. Luangphabang	121	4,660	1,766	0	0	0	54	209	104	174	1
6. Houaphan	35	2,975	1,298	1	656		69	830	300	105	0
7. Xaiyabouly	56	6,363	1,184	12	693	112	6	620	620	73	1
Sub-total	342	28,537	5,898	27	2,252	158	171	6,149	4,914	538	2
Central Provinces											
8. Vientiane	3	220	106	5	9,055	2,220	80	22,955	10,797	69	19
9. Xiengkhouang	50	6,970	955	17	740	15	2	73	0	69	0
10. Vientiane	31	3,642	1,022	7	1,040	30	41	8,041	7,351	76	3
11. Borlikham	43	1,298	369	184	1,406	40	56	6,011	4,671	283	0
12. Khammouang	16	2,637	447	5	250	110	136	11,061	4,373	156	1
13. Savannakhet	31	1,530	480	29	2,575	761	42	9,805	7,815	97	5
14. Special Region	15	1,520	372	1	50	40	20	1,252	952	36	0
Sub-total	189	17,817	3,751	248	15,116	3,216	377	59,198	35,959	786	28
Southern Provinces											
15. Salavan	26	4,528	2,502	7	49	25	38	2,195	1,985	71	0
16. Sekong	18	1,740	987	3	256	0	1	100	100	22	0
17. Champasak	25	4,066	3,529	0	0	0	202	8,240	4,470	227	0
18. Attapeu	23	2,872	55	0	0	0	9	1,210	503	32	0
Sub-total	92	13,206	7,073	10	305	25	250	11,745	7,058	352	0
Total	623	59,560	16,722	285	17,673	3,399	798	77,092	47,931	1,676	30

Figure

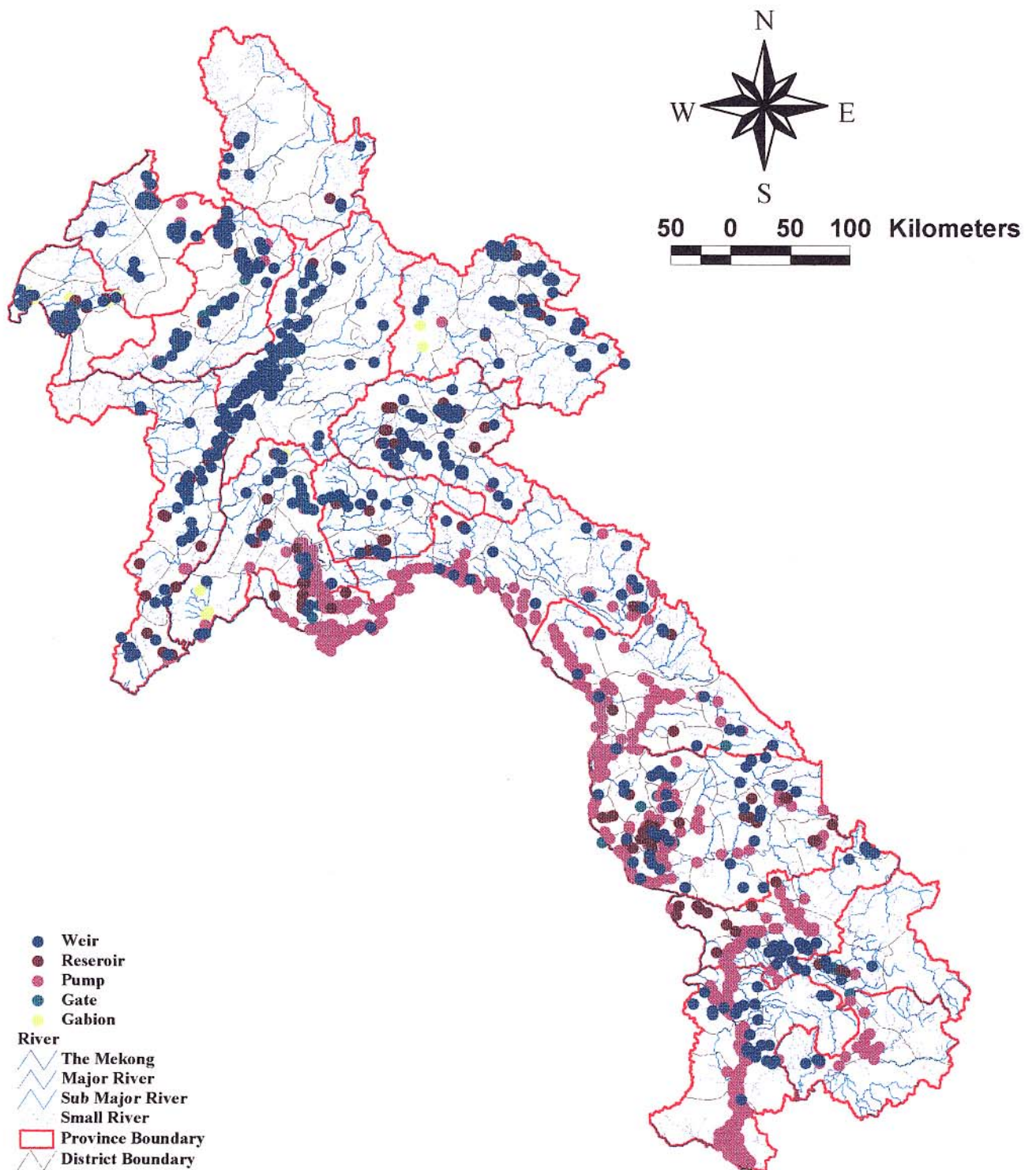
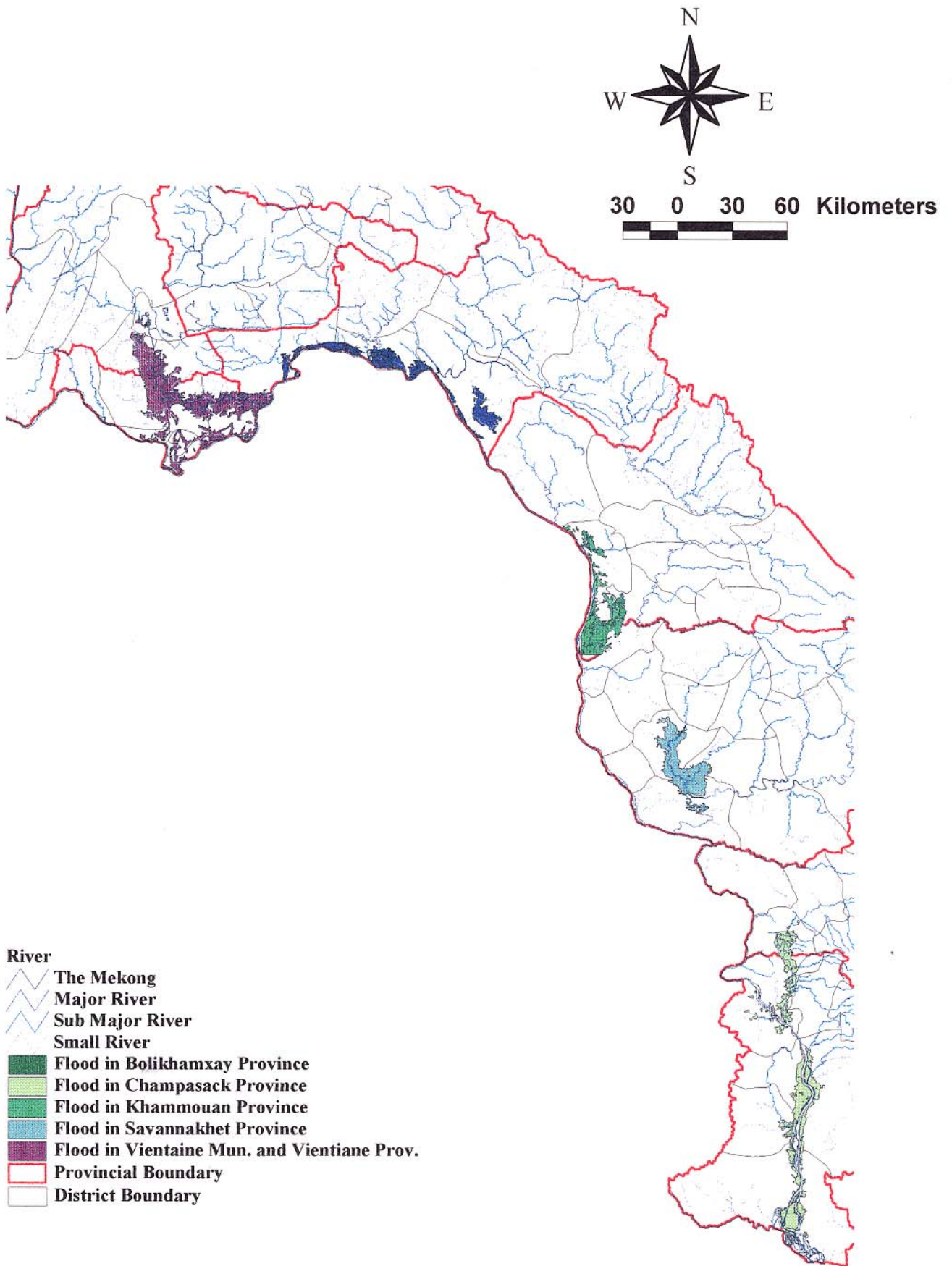


Figure 1.2.1 Location of Irrigation Scheme



Data Source: Department of Irrigation (DOI), Ministry of Agriculture and Forestry (MAF)

Figure 1.2.2 Flood-prone Area along Mekong River

Appendix 15
Social Aspects in Agriculture
and
Rural Development

**MASTER PLAN STUDY
ON
INTEGRATED AGRICULTURAL DEVELOPMENT
IN
LAO PEOPLE’S DEMOCRATIC REPUBLIC**

VOLUME III

APPENDIX-15

SOCIAL ASPECTS IN AGRICULTURE AND RURAL DEVELOPMENT

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APPENDIX-15
SOCIAL ASPECTS IN AGRICULTURE AND RURAL DEVELOPMENT**

1. Social Dimension of Poverty Analysis

Presently, the most widely used official data with regard to poverty analysis in Lao PDR is the LECS (1992/93 and 1997/98) by National Statistical Center. World Bank's report entitled Social Development Assessment and Strategy (1995) relies on LECS data and Poverty Reduction Strategy Paper, which is under preparation by SPC, is also using the same data frame of LECS¹. In 2000 the ADB conducted Participatory Poverty Assessment (PPA)². As some of the quantitative aspects of rural poverty are already discussed in the main report chapter 2, social dimensions of poverty, which should be held in mind when planning and implementing agriculture and rural development projects, is described in this section.

First, in some reports, it is said that "there is very little grinding poverty in the rural area of Lao PDR"³, as rural population can count upon natural resources including forest products when the harvest is bad, but it does not mean that there is no need for intervention to uplift the living standard in rural area. Large parts of the rural population, especially in geographically isolated areas, are suffering from chronic malnutrition and infectious diseases especially in rainy season. Since it is partly true that social system or social structure is not strongly manifested in Laos, physical or natural conditions such as geography and climatic conditions are regarded as the determinants of poverty. As in many other countries, however, the correlation between poverty, or economic difficulty, and the ethnicity might exist, though this issue has not yet been studied or examined to date. At the same time, it is also the fact that provinces bordering with Thailand have an advantage through its economic interaction with the neighboring country, and the dominant group is the Lao people in those provinces.

In addition, one of the most difficult issues in poverty assessment is in balancing the notion of money economy, i.e. measuring poverty by expenditure and

¹ Interim Poverty Reduction Strategy Paper was presented in December 2000.

² ADB is also supposed to launch a T/A in the development of poverty indicators and monitoring system in 2001.

³ For example, FAO (1999), Promoting Sustainable Development, Volume 1 p. 5

consumption levels, with the notion of Laos' own rural dynamics. For example, in the World Bank's report, it is described that the high rates of poverty are observed among households headed by young persons as found from many other countries. But, as rural families are going through domestic cycles of expansion, young married couples are accumulating resources such as lands with small dependent children. Even if they have separate household, they cooperate with the parents' household over a range of economic and ritual activities, and they are the part of a multi-household family. Also, in Laos some ethnic groups have matrilineal society while others have patrilineal one, which indicates that it requires attention to look at the correlation between the poverty and female-headed or male-headed household.

Likewise, it is oftentimes observed that many outsiders are concluding that in rural Laos people have free access to land, thus land ownership is irrelevant to poverty. It is true that for long years villagers cleared and cultivated a piece of land with the rights remaining during the fallow period. Recent population pressure, however, leads people to practice farming in a more sedentary manner, along with government's initiative for land use planning and land allocation. In general upland farming requires more surface area of land by rotating annually to meet ends need of household than in lowland, but it is also reported that even in a certain area of lowland about 20% of the population being landless⁴. In some other areas of the country, those who are well-off, are now accumulating the lands. Thus, land ownership will become increasingly important indicator with regard to poverty.

The other problematic concept is that division of village households into three categories, i.e., well-off, middle, and poor. Often they are based on the income level of farmers, but in practice, it is technically very difficult to grasp the farm income level only by asking the farmer face to face. The interviewees are often rushed to answer and those extracted data is not reliable. These outcomes can not be used for targeting of beneficiaries, or for designing programs, neither. Even though it is required to identify those who are disadvantaged, it would be more appropriate to understand the poverty situation by using criteria such as housing situation, rice sufficiency, years of schooling of children, infant mortality rate, number of items possessed as asset, and number of cattle possessed at the household level.

2. Ethnicity

There are four major ethno-linguistic families in the country, namely, Tai-Kadai, Mon-Khmer (Austroasiatic), Hmong-Mien, and Tibeto-Burmese, while further ethnic breakdown is rather variable depending on documents. If non- Tai-Kadai

⁴ FAO (1999), *ibid. cit.*, volume II, Working Paper 2, p. 4

people are defined as “ethnic minority”, its share in population by province is shown in the table below.

Ethnic Minority Percentages by Province

Region	Province	Population (1997)	Minority (%)
North	Phongsali	161.9	95.7
	Louangnamtha	121.5	97.7
	Oudomxai	222.7	90.9
	Bokeo	120.3	86.6
	Louangphrabang	386.4	71.4
	Xaignabouri	309.0	81.0
	Sub-total	1,321.8	87.21
Central	Vientiane Municipality	555.1	7.4
	Vientiane Province	303.5	59.8
	Xaisomboun S. Z.	57.3	80.6
	Sub-total	915.9	49.2
East	Houaphan	259.1	70.7
	Xiangkhouang	212.5	55.7
	Borikhamxai	173.3	59.8
	Khammouan	288.6	46.6
	Sub-total	935.5	58.02
South	Savannakhet	711.5	42.5
	Saravan	271.4	40.0
	Champasak	68.0	15.2
	Xekong	531.1	91.4
	Attapu	92.4	63.1
	Sub-total	1,731.7	50.44

Source: ILO (2000) Policy Study on Ethnic Minority Issues in Rural Development, p. 4

Ethnic diversity can be linked to biological diversity. In Laos it has led to stable agro-ecosystem and sustainability through diversity of production niches in various topographical settings. This condition has led to a variety of cultural premises regarding production which may be simply stated as a premise of enough or optimization for the wet rice cultivating Lao of the lowlands versus one of maximization for the highland swiddeners with variations in between. Such premises indeed clash when highlanders are moved into lowland areas.

As other studies show tell, the general conclusion is that agriculture production system and food security are influenced more by natural resource bases than by ethnicity, and there are no significant design modifications required based on ethnic group specific information.⁵ However, when it comes to specific project activities which are designed through village-based planning, the special needs and activities of different ethnic group, if any, will arise during bottom-up process, including relations between each ethnic group’s belief and practices, and labor calendars and livestock activities. To encourage this process, it will be preferable that all ethnic groups be adequately represented in the village development committee. Likewise, village-based planning will need to ensure that cultural and language obstacles are given due consideration. Even if the ethnic groups maintain

⁵ For example, ADB (1999) Shifting Cultivation Stabilization Pilot Project, Appendix 11

their social and cultural identity, their desire to take development opportunities and improve their living standard is rather tangible.

3. General Social and Gender Issues in Designing Project

Social and gender consideration itself can not be the project, but there are some points to be examined even briefly in project designing for targeting beneficiaries. Some important social and gender aspects to be integrated to agricultural and rural development are summarized as follows.

- 1) By understanding gender roles and their implications for project strategies, main actors (or stakeholders) can be identified and targeted. Components and interventions to further project goals can be reliably identified;

<ul style="list-style-type: none">- <i>What are the gender roles and existing gender division of labor?</i>- <i>How men and women farm differently?</i>
--

- 2) Credit, inputs, and extension can be made available for those doing activity being promoted. Incentives increase when the person doing the work benefits from the revenue. In doing so, eligibility to receive project inputs and services and to participate in project should be analyzed;

<ul style="list-style-type: none">- <i>Are there gender differences in eligibility to receive project inputs and services and to participate in project activities?</i>- <i>How men and women's access to resources differ?</i>
--

- 3) Outreach capability should be examined so that research will be informed by the technology needs of farmers; e.g. drugs can be developed and made available for small animal and poultry kept by women;

<ul style="list-style-type: none">- <i>Do institutions and services have direct contact with men and women farmers?</i>

- 4) For achieving greater acceptance of technical packages and activities, which will help realize project's full potential, the appropriateness of proposed technical packages, messages, and technologies should be assessed;

<ul style="list-style-type: none">- <i>Are they appropriate for both men and women?</i>

- 5) Women can be more likely to support the project if the benefit by gaining an independent source of income. Thus, the distribution of benefits and incentives from the project should be examined;

<ul style="list-style-type: none">- <i>Will both men and women receive benefits and incentives from the project?</i>
--

Furthermore, SWOT (Strength, Weakness, Opportunity, and Threat) analysis was done in terms of gender by selected agricultural sub-sectors in current Lao context (Attachment 1). Although there are limitations in the matrix since this is based on secondary references and is not field based analysis, the outcome can be used in designing specific programs/projects integrating social and gender dimensions.

4. Village Location and Resettlement

Resettlement is observed across the ethnic groups in Lao PDR. Traditionally, the settling process did not mean permanent settlement, and if the Lao-Tai populations give the closest representation of permanent settlement sites, they equally show a great flexibility throughout the country⁶. While resettlement has been undertaken voluntarily as many villages see the advantages of being closer to markets and social services such as health centers and schools, recent resettlement is mainly the consequence of the programs to stabilize or shifting cultivation and hydroelectric power projects⁷. Although the exact number is not clear, there is also a case where a whole village is displaced by a private developer for commercial purpose, e.g. resort development⁸.

With respect to social service delivery, rural village location, resettlement, is one of the government's major concerns. For example, in Louangphrabang, the provincial government is planning to decrease the total number of villages by integrating smaller clusters of settlement, defined as clusters less than 50 households, into nearby larger villages. The provincial government's target is that present existing 1,160 villages in the whole province will go down to 960 by the year 2005.

The advantages of administrative accessibility need to be weighed against the effects of increased population and land pressure on the socio-economic well-being of both the families re-located and families who have to provide land for the settlers in the host village. It is the prerequisite to assess land use and land availability in the proposed village of relocation prior to resettling more people in that village area. Since a few families could be relocated year by year, an approach of gradual consolidation of village site would cause less confusion. In addition, the retention within the old village management area of a specified agricultural zone and areas for forest product collection and pasture would mitigate the difficulties caused by village relocation⁹.

Another problem is the impacts on health. As people living in highlands have meager resistance to lowland diseases and climatic conditions generally, it is reported that a large number of people died within first years after relocation. At

⁶ UNESCO/UNDP (1997) Resettlement and Social Characteristics of the New Villages – Basic needs for resettled communities in the Lao PDR, An ORSTOM Survey, Vol.1 p.10

⁷ During field survey in Vientiane Province, however, PAFSO reported that there is continuing voluntary resettlement from Xiangkhouang, Louangphrabang, and Xaignabouri Provinces into Vientiane Provinces mostly in search for the better land.

⁸ In Vientiane Province, 54 Phou Yao households were resettled near Nam Ngum reservoir by a Malaysian developer for a resort and golf facilities in 2000. This is done with the approval of the Government agency and the villagers were compensated by the Malaysian company for housing materials, foods, and improved rice seeds.

⁹ Lao Swedish Forestry Program (2001) Participatory Village Development and Sustainable Land Use System, A Component Description, "Land Use Planning and Land Allocation", p. 13

the same time, psychological problems are also evident in many relocated villages resulting from a reduction of livelihood options¹⁰.

As there is no government's legal nor policy framework regarding resettlement, in the case where any economic activity, e.g. agricultural development by the private sector, might incur involuntary resettlement in the a foreseeable future, there is a possibility that concerned villagers are not compensated appropriately. Thus, the establishment of legal framework and the formulation of government guideline for resettlement is desired.

Box: Resettlement in Hinboun District, Khammouan Province

When the Theun Hinboun Dam was constructed in Khammouan Province in 1998, Nam Sanam village was resettled and it was integrated into Khounkham-Konglor Focal Site where Theun Hinboun Power Authority is based.

Village people were consulted about resettlement for the reason of gradual flooding but their residential area was the only land involved as their cultivation areas were remained as they were used to be. While it was easier for the younger generation to move to a new location, which is approximately 1 km away from the old village, elder people preferred to stay. There are divided families; some elder family members stayed in the old house and their children and grandchildren moved to a new village where a primary school was constructed by the Power Authority. Children visit the old house of their parents. Elder people say they can not move because they have fruit trees that need tending. One of the incentives for young generation to resettle was electricity supply, as the Power Authority was committed to electrify the new village. But the electrification is still to be achieved. Villagers go to the nearby power station to recharge their batteries. Nevertheless, Ban Nam Sanam is one of the most privileged villages in the Khounkham-Konglor Focal Site due to the presence of the Power Authority. Now a health service is available and there is a regular visit of health officer from the Power Authority Health Center to the village. One villager said he would continue to visit his aged parents until they would agree to join his family in the new location. The younger generation is more receptive to the idea of moving and more favorable even to a radical change in their way of life, while older people feel more attached to their traditional values and lifestyle.

Source: Interview in Nam Sanam Village, Khammouan Province

¹⁰ State Planning Committee (2000), Poverty in the Lao PDR: Participatory Poverty Assessment, P. 8-9

Attachment

Attachment 1

SWOT Analysis in Terms of Gender by Selected Agricultural Sub-sectors in Lao Context

AP15AT-1

Sub-sector	STRENGTH	Weakness	Opportunity	Threat
Land Use & Land Registration	Land usufruct is not biased toward men. (Women can inherit land.) It is recognized that the role of women in community resource management is important. Separate meeting for women on land title is being facilitated by LWU.	Traditionally, women are less comfortable with public transactions.	It is possible to preserve women's traditional communal usufruct rights through non-discriminatory registration and titling. Women understand their land rights better through land registration.	There are cases where village authority says only the household head can attend the meeting for land use and this usually means the man. Many village heads believe that they have no responsibility for women's issues related to land titling.
Stabilization of Shifting Cultivation & Relevant Livelihood Development	Women are expressing their strong desire to attend agricultural meetings and training events with regard to new technology including fertilizer application, pesticide use, small livestock rearing, etc.	Many women who have attended technical agricultural schools end up working in office work. Project staff or district extension workers can not assume that the men attending training will always tell their wives about the training.	For training to be organized for women, they can be informed that they do not need to be able to read or write to attend in advance, so that they do not feel ashamed or embarrassed.	Shortened swidden cycle increases women's burden since it boosts the growth of grasses in fallow (Clearing of grass & shrub is considered women's work.) Due to soil depletion in short fallow, yield in relation to women's labor inputs decreases.
Extension & Training	Practical gender training related to women's and men's roles and decision-making in agriculture targeting extension staff (PAFS and DAFO levels) has been just started in some parts of the country.	Fewer women than men are agricultural technicians in the Ministry or agency staff. Fewer women than men have the educational qualification required for entry into agricultural training institutions. Agriculture staff have limited opportunities to understand women's production system and learn from women farmers. Participation percentage are not broken down by gender for different extension subject (crops, livestock, and other activities.)	Contact between male agricultural staff and rural women is not seriously restricted. There is a potential to increase girl's enrollment in secondary schools and particularly in science courses. Extension can be more demand-driven with greater cost sharing between extension agents and farmers, increasing private sector provision of services, and growing involvement of women. Women play a deciding role in <i>seed selection</i> , thus a seed multiplication project could show concrete results of the necessity of involving women in extension activities.	Posting and transfer of women as extension worker in rural areas are difficult for women to reconcile spouse/ family commitments. Some staff understand that gender is a women's issue, and therefore the duty of the LWU. Because of their various works and responsibilities, women do not have the time to attend training and demonstrations. Women living in remote villages with difficult road access are less likely to have female extension worker.

Sub-sector	STRENGTH	Weakness	Opportunity	Threat
Alternative Development for Opium Production	There are existing alternative development projects and demand reduction activities in which gender mainstreaming is incorporated. (e.g. ADB Shifting Cultivation Stabilization Pilot Project in Houaphan.)	In promoting project, there are language barriers since some target ethnic group women rarely speak Lao. In alternative development, there is a general lack of consistent gender-disaggregated monitoring data.	The gender training curriculum specializing in alternative development could be prepared and reviewed jointly by LWU and project management staff. Practical and visual training methodologies could be developed to overcome language barriers. Lesson is learned that group extension and training method would enhance the access to information and training by women farmers.	Still the dominant role of women in agricultural production has not always sufficiently recognized by the existing agricultural extension activities. Sometimes gender activities are being implemented separately.
Irrigation (Water Users Organizations)	Overall, the need for involvement of female farmers is understood by provincial and district staff.	Male staff communicates with male farmers easier and WUO committee consisting of male farmers discuss issues with the male villagers. There is a lack of well-trained gender training facilitators. The methodology of gender training and training material with regard to WUO have not yet been fully developed.	There are increasing numbers of projects providing with opportunities of training for women (e.g. FIAT).	There is no agency within MAF to support or advise for gender awareness raising. Without social preparation, introduction of new irrigation can cause women's burden of additional work of second crop.
Aquaculture	The division of labor in aquaculture has been known to a certain degree. (e.g. Post-harvest for women and preparation of ponds for men.) Investment in aquaculture is relatively profitable to date.	Although many rural people are interested in aquaculture, the extension service is limited, not to mention of women-involved extension activities.	In Laos men and women can work together in all aquaculture activities. There are few cultural constraints with regard to women's participation in aquaculture. As the interest of women in aquaculture exists there is scope to establish women fish farmer group.	If more fish were produced in a household, it could increase the time women spent daily feeding and selling fish. Credit programs with subsidized interest rates, often prove difficult to phase out and sometimes encourage capital intensive production rather than labor intensive by artificially reducing the costs of capital as compared to labor.

Notes: Analysis has been done based on the following references; Land Titling Project (1999), *Final Report on Customer Relations Services & Gender and Development*; DOI/UNDP (1999), *Gender in Development in Strengthening Water Users' Organizations*, *Gender in Development Component in Farmers' Irrigated Agriculture Project Final Report*; UNDCP/FEMCONSULT(1999), *Guidelines on Best Practices for Gender Mainstreaming in Alternative Development*, FAO (1998), *Provincial Aquaculture Development Project, Socio-economics and Gender in Aquaculture*, MAF-DOA/Novartis Foundation for Sustainable Development, Pilot Extension Project (1998), *Gender Issues in Agriculture and Agricultural Extension*,

Appendix 16
International Cooperation and Assistance

**MASTER PLAN STUDY
ON
INTEGRATED AGRICULTURAL DEVELOPMENT
IN
LAO PEOPLE’S DEMOCRATIC REPUBLIC**

VOLUME III

APPENDIX-16

INTERNATIONAL COOPERATION AND ASSISTANCE

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**VOLUME III
APPENDIX-16**

INTERNATIONAL COOPERATION AND ASSISTANCE (including NGOs)

CHAPTER 1 INTERNATIONAL COOPERATION AND ASSISTANCE

1.1 Overview of External Assistance

The total external assistance for the period 1997-2000 is US\$ 1,136 million consist of US\$ 735 million in grants and US\$ 401 million in accordance with the data prepared by Committee for Investment and Cooperation (CIC). This means that annual average is around US\$ 284 million. The highest share of external assistance is Japan (US\$ 380 million), followed by Asian Development Bank (US\$ 259 million), World Bank (US\$ 122 million), EU (US\$ 48 million), Australia (US\$ 44 million), Germany (US\$ 42 million), Sweden (US\$ 42 million), UNDP (US\$ 40 million). The annual external assistance by donor and by sector is summarized below:

Annual External Assistance by ODA Source

ODA Source	1992		1993		1994		1995		1996		1997		1998	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Bilateral	71,901	43.0	106,705	46.9	118,411	50.7	147,666	48.8	185,764	44.6	171,824	44.2	158,662	54.0
Multilateral	88,768	53.1	112,315	49.3	101,643	43.5	134,589	44.5	206,038	49.5	193,952	49.9	108,869	37.1
EU	792	0.5	2,638	1.2	4,511	1.9	8,558	2.8	11,276	2.7	10,139	2.6	14,937	5.1
NGO	5,794	3.5	5,944	2.6	9,198	3.9	11,648	3.9	13,434	3.2	12,547	3.2	11,268	3.8
Total	167,255	100.0	227,602	100.0	233,763	100.0	302,461	100.0	416,512	100.0	388,462	100.0	293,736	100.0

Source: UNDP Development Co-operation Report 1999

The above table shows that the total amount of annual external assistance has increased during 1992-96 and declined since 1996.

1.2 External Assistance for Agriculture and Rural Development Sector

The external assistance for agriculture, forestry and fishery sectors in 1998 is US\$ 29 million and around 10 % of the total external assistance. This amount is the third largest sector share, following transportation (24%) and human resource development (11%). The highest share of external assistance for agriculture, forestry and fishery sectors in 1998 is Japan (US\$ 9.1 million), followed by ADB (US\$ 3.3 million), EU (US\$ 3.1 million), FAO (US\$ 1.5 million), UNCDF (US\$ 1.5 million), Sweden (US\$ 3.8 million), Germany (US\$ 2.0 million).

The external assistance for rural development sectors in 1998 is US\$ 21 million and around 7 % of the total external assistance. This amount is the sixth largest sector share. The highest share of external assistance for rural development sectors in 1998 is EU (US\$ 7.2 million), followed by Denmark (US\$ 2.3 million), UNDP (US\$ 1.4 million), and Norway (US\$ 1.4 million).

1.3 Donor-Assisted Projects under MAF

MAF prepared a list of agricultural development projects as of fiscal year 1998/99. The listed projects are categorized by the responsible Departments and Institutions of MAF. The list of the past and current agriculture development projects are summarized below:

Past and Current Agriculture Development Projects by Responsible Department

Responsible Department	On-going Projects	Planned Project	Major Project Completed	Total Amount of External Fund ('000 US\$)
Permanent Secretariat	4	1	1	865
Department of Forestry	37	10	20	69,246
Department of Agriculture	13	2	4	9,337
Department of Livestock and Fishery	10	10	8	7,081
Department of Irrigation	10	0	6	66,878
Department of Meteorology and Hydrology	7	0	3	2,456
National Agriculture and Forest Research Institute	1	0	0	150
Total of MAF	82	23	42	156,013

Source: DOP, MAF

The above table shows that nearly 90% in terms of amount of the total investment and 60% in terms of number of projects concentrated in forestry and irrigation sub-sectors. On the other hand, only 20% are allocated for the remaining sub-sectors of livestock, fishery and others. It is noted that some of the on-going projects under DOA, DOF and DLF are being transferred to NAFRI, since the agriculture and forestry research work was concentrated into NAFRI.

1.4 Aid Policies and Strategies of Major Donors

The policies and strategies of major donors for overall assistance as well as agriculture sector is summarized below:

Japan

Since 1991, Japan has been the top-ranking donor in Lao PDR and cooperating mainly in the area of human resource development, basic human needs, agriculture and forestry and industrial infrastructure. Japan will continue to give priority to the assistance in the same areas.

For agriculture and forest sectors, emphasis is made in the following specific agriculture-related areas: a) planning and formulation of agriculture policy, b) improvement of irrigation facilities, c) improvement of post-harvest measures, d) curbing of slash-and-burn agriculture and preserving forests, and e) rural development. It is also noted that the assistance is necessary to improve Laos's ability to formulate development plans and propose and implement policies and to strengthen the country's legal and institutional infrastructure.

(Unit: Million US\$)

Japan	1995	1996	1997	1998	1999
Grant Disbursement	59.9	89.8	84.6	92.5	n.a.

ADB

ADB sets strategic directions for Lao PDR assistance, i.e. i) increasing efficiency of development activities through continued structural reforms and enhanced governance related activities; ii) the need for greater emphasis on rural development, especially the need to increase rural productivity and to reduce poverty in remote and rural areas; iii) development of human capital through initiative in education and health sectors; iv) sustainable natural resources management and environmental protection; v) geographical and integrated planning focus of project intervention in order to built synergies between its own activities and increase development impact; and vi) greater community participation in the selection and design of ADB interventions.

For agriculture sector, ADB will help the Lao Government to implement the Strategic Vision for Agriculture Sector. Further agriculture market expansion and market development throughout the country will be emphasized. Crosscutting issues related to rural poverty, gender, mass organization, rural community and possible NGO involvement, and environmental protection are specifically to be addressed in ADB operations in the agriculture sector.

(Unit: Million US\$)

ADB	1995	1996	1997	1998	1999
Grant Disbursement	5.5	3.7	4.7	5.3	
Loan Disbursement	58.1	85.2	87.0	63.6	
Total	63.6	88.9	91.7	68.9	n.a.

WB

The fundamental objective of WB for Lao PDR assistance is to reduce poverty with the goal of returning the country to sustain 6-7% GDP growth, improving its social indicators and graduating from the ranks of Least Development Countries by 2020. The WB focuses on mainly: i) stabilizing the economy, ii) deepening structure reforms, iii) investing in health and education, iv) investing rural development and natural resource management, and portfolio management.

According to the Country Assistance Strategy (CAS) of the WB, the proposed project for FY 2000-2002 for agriculture sector is Lowland Agriculture

development Project to improve agricultural support services, increase crop yield and develop livestock. The WB also seeks to include environmental concerns into sector analytical and capacity building initiative such as the proposed rural and forestry sector policy note, long-term rural development strategy, and analytical studies on rural urban linkage and WB training program.

(Unit: Million US\$)

WB	1994	1995	1996	1997	1998
Grant Disbursement	-	-	-	1.5	
Loan Disbursement	26.8	27.1	54.0	35.3	
Total	26.8	27.1	54.3	36.8	n.a.

EU

EU initiated development projects throughout entire countries. The projects focus mainly on rural development, encouraging the permanent settlement of rural communities, increasing food security, improving access to safe water, providing health care services and primary education, sustainable development of forest resource, reintegration of former refugees, economic cooperation.

For rural development, EU has funded several rural development projects including activities such as irrigation development, crop production, livestock, aquaculture and household income generation. The projects will provide training and institution capacity building to encourage farmers. The majority of the projects adapted an “integrated approach”, combining activities in many areas in order to achieve balanced and opium results. Moreover, all the projects place emphasis on promoting farmers’ organization.

(Unit: Million US\$)

EU	1995	1996	1997	1998	1999
Grant Disbursement	13.1	11.2	10.1	13.5	n.a.

UN Group

Poverty eradication is the ultimate development objective of the entire UN system in Lao PDR. Human resource development and rural development are identified as key target areas for poverty eradication. UN emphasis on the role of government to the development process, namely: national ownership of the development process, to ensure sustainability; aid coordination, for prompt, efficient, and effective use of external assistance; resource mobilization, to ensure adequate financing of capital and technical assistance requirements for national priority programs; the program approach, to be applied to the external feasibility; United Nations system cooperation and collaboration, to ensure complementarily and maximum development impact of assistance; and the integration of gender concerns into all programs and projects.

For rural development, UNDP assistance at community level will focus on income generation activities and the provision of micro-finance activities. At central level, UNDP and other UN agencies will support the Government in the formulation of a

National Rural Development Program and a national Poverty Eradication Plan. Micro-finance policy and opportunities have been identified through a UNDP/United Nations Capital Development Fund study and interministerial meetings.

(Unit: Million US\$)

UN Group	1995	1996	1997	1998	1999
Grant Disbursement	24.0	31.8	34.0	17.1	n.a.

Sweden (SIDA)

The objective for development cooperation with Lao PDR during period 1999-2003 is: i) to promote sustainable growth that can reduce poverty and counteract increasing gaps in society; ii) to develop and strengthen preconditions for democracy and human rights.

In the connection with above objective, the sustainable use of natural resource is taken as one of the priority area for development cooperation. It is noted that the sustainable use of natural resource should focus on improving the living conditions of poor small-holders in mountain regions. It is also noted that the focus on the development of the highland region, which begin in the 1990s and is based on natural resource rather than the forest program, should be strengthened still further and additional cooperative partners found to work with the forest authority.

(Unit: Million US\$)

Sweden	1995	1996	1997	1998	1999
Grant Disbursement	13.1	12.5	15.6	13.9	12.1

Australia (AusAID)

The major aide policies of AusAID are: i) poverty alleviation, ii) gender equity and (iii) sustainable environmental development. Considering these policies, AusAID are implementing the following activities; i) education activities including scholarship program, ii) health and social activities, iii) governance including land titling project, iv) infrastructure projects including route 1 and route 13 bridges, v) agriculture, vi) emergency assistance, vii) post administrative funds, and viii) support to NGOs.

AusAID has implemented some agriculture development project mainly for livestock sector. However, AusAID may not fund again for large scaled agriculture projects. At present, only one project is implementing, i.e. "Forage for small holders project".

(Unit: Million US\$)

Australia	1995	1996	1997	1998	1999
Grant Disbursement	14.6	16.0	13.5	15.9	n.a.

Denmark (DANIDA)

The overall objective of Danish assistance to assist development countries in their efforts to achieve sustainable development based on the improvement of living conditions through socially balanced growth. Under this overall objective, priority is given to three overlapping issues i.e. i) environment and sustainable utilization of natural resources; ii) women's role in the development process; and iii) human rights and public participation.

The major projects/programs can be divided into four groups, namely: i) national environmental capacity building and awareness, ii) sustainable urban and industrial environment, iii) sustainable natural resources management, and iv) regional project. In the first group, the MAF is one of the targets for capacity building. In the third group, various projects related to agriculture and rural development sector are on-going, namely, i) watershed management project, ii) national aquatic research institute project, and iii) some bio-diversity projects. Lao tree seed project is also on-going as a regional project.

(Unit: Million US\$)

Denmark	1995	1996	1997	1998	1999
Grant Disbursement	1.46	1.44	1.28	5.60	2.80

1.5 Financing Available

In the Seventh Round Table held on 22nd November 2000, 23 donors expressed commitments and financial pledges for period 2001 totaling US\$ 385 million that consists of US\$ 218 million in grant aid and US\$ 167 million in loan.

These commitments are slightly lower than the average commitments of US\$ 400 million made in the Sixth Round Table in 1997. Actual external assistance is US\$ 284 at an average for the period 1997-2000 or 70 % of the commitment in the Sixth Round Table. If the same trend is continued, around US\$ 270 million (US\$ 385 million x 70%) of external assistance will be expected at an annual average for the period 2001-2004.

Loan and Grant Expressed in the Seventh Round Table

(Thousand US\$)

Donor	Grant Aid	Loan	Total
Australia	10,416	-	10,416
Belgium	7,000	-	7,000
Denmark	7,400	-	7,400
Finland	2,000	-	2,000
France	12,900	-	12,900
German	6,600	-	6,600
Japan	90,000	40,000	130,000
Luxembourg	4,300	-	4,300
Norway	5,000	70,000	75,000
South Korea	1	-	1
Sweden	10,000	-	10,000
Switzerland	1,500	-	1,500
ADB	5,500	-	5,500
EU	8,600	-	8,600
WB	-	52,000	52,000
WHO	1,100	-	1,100
Mekong River Committee	5,000	-	5,000
Nordic Fund for Development	-	5,000	5,000
UNDCP	6,000	-	6,000
IFAD	10,000	-	10,000
UNFPA	2,300	-	2,300
FAO	2,600	-	2,600
UNDP	20,000	-	20,000
Total	218,217	167,000	385,217

Source: CIC

1.6 Aid Coordination

For prompt, efficient, and effective use of external assistance, aid coordination amongst donors and government agencies is essential. In principle, the coordination of external assistance is the responsibility of Lao government. In this connection, the government defined the role and responsibility of CIC in August 2000 for coordination of all foreign assistance and monitoring of its progress with the principal of “one-stop-shop”. The CIC is working for aid coordination at both central and province levels. At the central level, the role of CIC is: i) to implement and solve all issues related to foreign and domestic investment as well as international cooperation, ii) to approve foreign and domestic investment projects and all grant aid, iii) to supervise and promote foreign and domestic investment projects as well as international cooperation, and iv) to coordinate with all parties including ministries and local authorities. At the local level, the CIC manage directly foreign and domestic investment projects as well as international cooperation. The CIC established an aid coordination and monitoring system on May 2000 under the technical assistance of ADB to improve aid coordination and standardize the monitor the outcome of international aid projects.

The Round Table Meeting (RTM) of development partners is also the important mechanism for aid coordination in Lao PDR. The sixth RTM was held on Geneva in June 1997 and the seventh RTM was held on Vientiane in November 2000. Over 250 representatives of development partner countries, the European Commission, multilateral financial institutions, UN agencies, and NGOs attended seventh RTM. The meeting confirmed that the crucial importance of aid coordination and aid management to enable the Government to make the best use of resources. It was also expressed the welcome to establishment of CIC to streamline project appraisal and approval.

Main objectives of the above system are i) to avoid overlapping of external assistance amongst donors, and ii) to monitor the progress of external assistance. It is, however, observed that the sharing of experience or lesson learned is rather weak amongst donors. For enhancement of project impact and improvement of project sustainability, the sharing system of experience or lesson learned will be required. In this connection, FAO is scheduling to formulate the network for information sharing activities and experience on food security and rural development.

CHAPTER 2 ROLES OF NGOs IN AGRICULTURAL AND RURAL DEVELOPMENT

2.1 General Performance of NGO Activities

Non-Governmental Organizations (NGOs) play an important role in the development effort in Lao PDR. While the public sector is responsible for management of most projects, actual implementation is often the responsibility of NGOs. Although Lao PDR is pursuing the policy of decentralization, the institutional and human resource capacity at local government level is weak. While the series of efforts at capacity building and technical assistance would solve this constraint in the long run, one solution can be the effective use of NGOs in delivering social services in the shorter term.

More than 60 international NGOs operate in Lao PDR in 2000¹. Most of them are small-scale and have specific mandates in their operations. According to the information of the 1999 report on Development Cooperation in the Lao PDR (UNDP, 1999), NGOs contributed more than 4% (US\$ 10,495,000) of the total external assistance. There are a large number of NGOs concerned with agriculture and rural development. As presented in the following table, nearly 40% of total investment by NGOs was for agriculture and rural development in 1998.

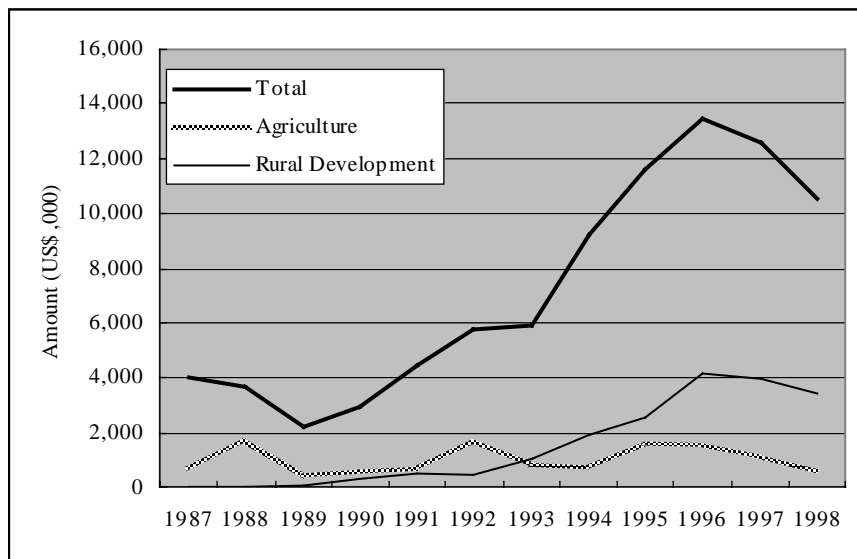
Amount of the NGO assistance by sector and its share in1998

Sector	Amount (US\$)	%
Agriculture, Forestry and Fisheries	559,000	5.3
Rural Development	3,400,000	32.4
Economic Development	296,000	2.8
Human Resource Development	1,843,000	17.6
Emergency & Humanitarian Relief	60,000	0.6
Health	3,176,000	30.3
Industry	14,000	0.1
Disaster Preparedness	135,000	1.3
Social Development	1,012,000	9.6
Total	10,495,000	100.0

Source: Summarized based on UNDP Development Cooperation Report 1999

In terms of the NGO assistance trends in last decade, as the following figure shows, the total assistance amounts increased in the early 1990s while it declined in late 1990s. Correspondingly, the investment in agriculture and rural development sector is showing decrease since 1997.

¹ There are some local groups/organizations which work in the development sector and provide assistance at different levels of the government.



Source: UNDP Development Cooperation Report 1999

NGO assistance trends in agriculture & rural development sector 1987-1998

The support that NGOs are providing to the agriculture development process includes activities associated with sustainable and organic farming practices and systems, community based natural resource management including village land use zoning, income generation activities, gender equality, human resource development including participatory method training, development of social and economic infrastructure and services, and relief and reconstruction.

NGOs generally work in close collaboration with provincial and district governments. They have an important role in community and rural development since they try to specifically target their activities to the needs the villagers and work with local people. In general, both in terms of socio-economic progress of individual households and rural development, it is critically important that local people would actively participate in development and control their livelihood and resources.

NGOs often use direct grant funds from their organization or sponsors to undertake the project. At the same time, several NGOs are implementing projects or project components with financing from bilateral or multilateral agencies in Lao PDR. In recent years, the partnership between NGOs and donors is attracting more attention, since NGOs are considered main thrust for encouraging area-based rural development and donors are aiming at achieving quality aid outcomes. Some NGOs are receiving the budget from home country only for office administration and the field office is required to secure budget for project implementation. At present it seems there are some competitions among NGOs to obtain project fund from donors. Australia, Canada, Denmark, Japan and Sweden, as well as multilateral agencies such as WFP are the main fund suppliers.

Looking at the geographical distribution, there are NGO projects in all provinces. While there are NGOs such as Action Nord Sud and FHI who are concentrating its activity in one province, more NGOs such as GAA (German Agro Action) and CARE have operations in more than one province. As the information on disbursement by province shows, both in terms of the amount and number of projects which each provinces receive, Phongsali, Louangnamtha, Xaignabouri, Vientiane, Savannakhet, and Champasak are the large recipients of NGO assistance. Oudomxai, Louangphrabang, Khammouan and Saravan are having the least number and amounts of projects. This can be partly explained by accessibility and poor communication network. Even within one province, while some NGOs are concentrating their activities on relatively accessible districts, others are endeavoring to reach the more disadvantaged villages and villagers. Project location is basically identified by NGOs and after the presentation of project proposal, the governments provide approval.

Geographic distribution of NGOs assistance in 1998 (US\$,000)

Province	Amount	Share
Nationwide	1,802	17.2%
Multi-province	2,214	21.1%
Phongsali	1,680	16.0%
Louangnamtha	488	4.7%
Oudomxai	106	1.0%
Bokeo	230	2.2%
Louangphrabang	103	1.0%
Houaphan	308	2.9%
Xaignabouri	656	6.3%
Xiangkhouang	216	2.1%
Vientiane	568	5.4%
Borikhamxai	144	1.4%
Khammouan	84	0.8%
Savannakhet	748	7.1%
Saravan	0	0.0%
Xekong	276	2.6%
Champasak	588	5.6%
Attapu	281	2.7%
Total	10,492	100.0%

Notes: The amount which Saravan Province received was not clear while there exists NGOs projects as the following table shows.

Source: UNDP Development Cooperation Report 1999

Agriculture and Rural Development Projects Supported by NGOs by Province

Province	Project	NGOs
Phongsali	Rural development	CCL
	Integrated rural development & micro projects	Mennonite Central
	Small scale irrigation	Quaker Service
Louangnamtha	Integrated agriculture promotion	ADRA
	Drug supply and demand reduction	NCA
	Participatory rural development	World Concern
	Reintegrated assistance project	ZOA
Oudomxai	Community based rural development	GAA
	Microfinance	PACT
	Small scale irrigation	Quaker Service
Bokeo	Rural development	Concern
	Rural development	NCA
Louangphrabang	Promotion of sustainable agriculture in agriculture schools	CIDSE
	Muang Ngoi integrated development	World Vision
Houaphan	Agriculture project	FHI
	Integrated rural development & micro projects	Mennonite Central
Xaignabouri	Forestry & livelihood project, Remote area development	CARE
	Rural development	CCL
	Animal raising and small enterprise, Nadou irrigation project	Consortium
	Microfinance	PACT
Xiangkhouang	Reintegrated assistance project	ZOA
Vientiane	Group guaranteed lending and saving	Consortium
	Sustainable agriculture experimentation	CIDSE
	Rural women in community development	FPA
	Vocational fisheries training for farmers	International Volunteers
	Natural farming & rice bank	JVC
	Credit and saving group	Oxfam Belgium
Borikhamxai	Integrated community development	ZOA
	Integrated training and community development	CIDSE
	Fruit tree project	GAA
Khammouan	Emergency family food project	CARE
	Small scale infrastructure, Integrated rural development	Concern
	Natural farming & rice bank, community forestry	JVC
Savannakhet	Food security, community development	Action Nord Sud
	Emergency family food project	CARE
	Small scale infrastructure	Concern
	Phine self-help rural development	CIDSE
	Fisheries in upland districts & rural development	Oxfam Belgium
Xaisomboun	Rural women in community development	FPA
Saravan	Livestock extension	CUSO
	Community forestry and plant genetic resources conservation, disaster preparedness, and community development	Community Aid Abroad (CAA)
	Community development for conservation	GAA
	Community development	World Concern
	Farmer-based integrated crop management	World Education
Xekong	Food security	Action contre la Faim
	Forest resource management, Livestock extension	CUSO
	Community forestry and plant genetic resources conservation, disaster preparedness, and community development	Community Aid Abroad (CAA)
Champasak	Environment protection and community development	CESVI
	Promotion of sustainable agriculture in agriculture schools	CIDSE
	Community development for conservation	GAA
	Village nursery & community tree planting, organic farming	Green Life Association
Attapu	Baichaing development, Nongtae Community development	World Vision
	Integrated rural development	NCA

Source: Summarized based on Directory of NGOs in the Lao PDR 2000

2.2 Government Policy Environment

All NGOs are required to register with the Department of International Organizations of the Ministry of Foreign Affairs. In 1998, the Prime Minister's decree on NGOs' administration was issued in order to present the government's regulations pertaining to the NGO operations, rights and obligations. According to this decree, NGOs are required to have operation permit, project office permit, and representative office permit from the government. To set up representative office, the budget of minimum US\$ 500,000 per project is required². NGOs are also required to submit semi-annual and annual reports on the joint implementation of the assistance projects with the relevant Lao agencies to the Ministry of Foreign Affairs.

In succession, guideline for the execution of above decree was issued in 1999. In the guideline, more specific terms were presented; at the central level, each NGO is necessary to have a total minimum program budget of US\$ 100,000 per year, and at the local level, a minimum project budget of US\$ 30,000 per year³. Assistance budget valued at less than US\$ 30,000 shall be handled by relevant Laos agency on the agreement of the both parties concerned.

² Excluding salaries, office, travel and insurance expenses.

³ Both excluding salaries, office, travel and insurance expenses.

CHAPTER 3 INTERNATIONAL COOPERATION FOR AGRICULTURE SECTOR MADE BY JAPAN

3.1 Japan's Official Development Assistance

Japan is the top donor in Lao not only for agriculture sector but also entire external assistance. Most external assistance to Lao has been made through Japan International Cooperation Agency (JICA) in the form of grant program. JICA's main activities include: i) development study; ii) training course; iii) dispatch of individual expert; iv) dispatch of Japan overseas cooperation volunteers (JOCV); v) dispatch of senior overseas volunteer (SOV); vi) follow-up program; vii) local development program; viii) survey and administration of grand aid program; ix) project-type technical cooperation; and x) partnership program with mass organization/local government/other organization.

The JICA assistance focuses on four priority areas, namely: i) human resource development, ii) support of basic human needs (BHN), iii) promotion of agriculture, and forestry and iv) improvement of social infrastructure and energy. In the promotion of agriculture and forestry, the following basic program are being implemented in Lao PDR; i) strengthening program on governmental institution in agricultural sector, ii) irrigation development and improvement program, iii) program on improvement of agricultural productivity, iv) rural development program based on the participatory approach, v) strengthening program on governmental institution in forestry sector and forestry conservation, and vi) strengthening program on livestock and fishery sector. Under the above programs, various projects or sub-programs are implemented.

In addition to JICA assistance, Ministry of Foreign Affairs provides grass root fund and grant aide fund. Grant aide fund will be utilized for infrastructure development under the supervision of JICA. Grass root fund is relatively small-scaled financial assistance and mainly utilized for facilities, equipment for supporting basic human needs.

3.2 Technical Cooperation

The following table shows the technical cooperation made by JICA in 1999.

Technical Cooperation made by JICA in 1999

Type of Technical Cooperation	Unit	Number of Technical Cooperation	Number of Technical Cooperation for Agricultural Sector
1. Training Course	person	380	Not Specified
2. Individual Expert	person	162	8*
3. JOCVs	person	78	11
4. SOCVs	person	12	4
5. Project-type Technical cooperation	Nos.	5	2
6. Development Study	Nos.	6	2

Source: JICA

Note: *; Short-term experts are not included.

In the above technical cooperation, it is noted that most local government expressed their gratitude to the working attitude and progress of experts, JOCVs and SOCVs during field survey period of the study. It is therefore expected to continue such a technical cooperation at local government level.

3.3 Grant Aid

In 1999, 9 grant aid projects are realized and two projects are related to agricultural sector; namely Food Aid (KR1), Increase of Food production (2KR). Food aid (known as KR1) is implemented to improve the condition on shortage of food in Lao PDR. In the KR1, Japanese government has been provide fund fur purchasing food and the fund amount is around US\$ 3 million in 1999.

The Japanese Government has been providing Aid for Increased Food Production (known as 2KR) as part of its grant aid since 1997. In this context, monetary grants are provided for the procurement of equipment and materials such as fertilizers, agricultural chemicals and agricultural machinery to improve production yield. In case of 2KR for Least Less Development Countries (LLDCs), the government of the recipient country is obligated to set up a bank account and deposit local currency equivalent to two thirds of the FOB value as counterpart fund. The counter fund will be put to use in a wide range of agriculture, fishery and forestry development programs implemented by the receipt country.

In Lao PDR, the fertilizer provided in 2KR is supplied to the APB and further APB supplies to the farmers. Agricultural machinery is used for agriculture development projects and governmental organizations as well as providing farmers. The agro-chemicals have been not provided to Lao PDR so far through 2KR. The following fertilizer and agricultural machinery is provided in 2000 through 2KR.

Fertilizer and Agricultural Machinery Provided in Year 2000

Goods	Quantity	Unit
<u>Fertilizer</u>		
- Urea	3,000	Ton
- NPK (15-15-15)	2,000	Ton
- NPK (16-20-0)	4,000	Ton
<u>Agricultural Machinery</u>		
- 4-Wheel Tractor	6	Units
- Trailer for 4-Wheel Tractor	6	Units
- Rotary Harrow	6	Units
- Pudding Rotor	2	Units
- Ditcher	2	Units
- 2-Wheel Tractor	25	Units
- Attachments for 2-Wheel Tractor	25	Units

Source: MAF

Accumulated deposit amount of counterpart fund is 14,165 million Kip as of October 2000. Out of accumulated deposit, 9,969 million Kip is used mainly for operation and maintenance cost for irrigation scheme and, as result, the remaining balance of counterpart fund is 4,166 million Kip.3.3

CHAPTER 4 ISSUE OF INTERNATIONAL COOPERATION

4.1 Lesson Learned from Past Donor-Assisted Projects

Based on existing donor reports, interviews to major donors and discussion in the workshops, the followings are major lesson learned from past donor-assisted projects, namely: i) shortage of implementation capacity of executing agencies, ii) low project sustainability caused by heavy donor presence, iii) lack of inter agency coordination mechanism, and iv) poor coordination among donor assisted Projects.

Shortage of implementation capacity of executing agencies

In the donor-assisted projects, the implementation capacity of executing agency depends on two factors, namely: i) counter budget arrangement for project implementation; ii) and capacity of local project staff in terms of both quantity and quality. It is often difficult for executing agencies to arrange counter budgets and project staff with suitably qualified capability for project management. It is therefore reported that the existing projects have already flowed over the implementation capacity of Lao government, since many donors give large number of the projects. In this context, it is learned that the implementation capacity of executing agency should be assessed carefully from the viewpoints of financial capability and staff availability prior to the project implementation.

Low project sustainability caused by heavy donor presence

In general, sustainability of the project assisted by donor in Lao PDR is vulnerable due to extremely high dependent rate on external financial assistance. This is closely related to shortage of the implementation capacity mentioned above. Donor sometimes arranged most of the project operation costs including the allowance of the government staff or even allowances of beneficiaries during the implementation period. In other cases, donor directly or indirectly employed many local staff for project management and implementation instead of government counterpart staff. After the donor's withdrawal from the project, executing agency or beneficiaries cannot bear operation cost or continue to employ such experienced local staff. As a result of heavy donor presence in the project implementation period, there are many cases where projects were suspended or even stopped right after the implementation.

In this context, it is learned that: i) sharing of burden amongst stakeholders for project operation or project income should be assessed from the financial viewpoints; ii) capacity building of the executing agency should be prioritized; and iii) the presence of donor should be minimized as much as possible and accordingly Lao government or people should recognize the ownership of the project.

Lack of inter agency coordination mechanism

Several programs/projects have to involve multi-agencies considering the target area and sequence of programs/projects. Some donor said that if you want to implement project successfully, multi-agencies should not be involved into the project. In the workshops, many Lao agencies expressed their experience on difficult coordination with other agencies due to sectionalism amongst concerned agencies. This is also closely related to the shortage of implementation capacity of the executing agency. In this context, it is learned that: i) setting up a working unit to coordinate activities of all agencies responsible for implementation should be considered; ii) capacity building of the executing agency for coordination should be promoted; and iii) budgetary allocations in agencies outside executing agency should be secured.

Poor coordination of donor assisted projects

Donors are showing higher concern on overlap of the projects whenever the project is formulated, while sharing of past experience or data/information in the project is not functioned well since no donor have took the initiative so far. In the agricultural sector, however, FAO is scheduling to establish the network for information sharing activities and experience on food security and rural development amongst donors including NGOs.

It is also observed that poor coordination of donor-assisted projects results in conflicting Lao government policies being pursued in different districts and provinces. For example, service delivery system is fragmented as shown in the fact that the service fee is different from project to project.

In this context, it is learned that: i) donors should take more consideration on sharing of past experience or data/information; and ii) Lao government should coordinate policies of donor assisted projects carefully including preparation of guidelines to ensure that all donor assisted project components are in conformity with government policies.

4.2 Issue to Be Addressed from NGO Activities

Despite the accessibility constraints in the rural areas, a certain number of NGOs are making efforts for the welfare of the villagers. The issues to be addressed for the future enhancement of overall NGO activities are summarized below.

Coordination

As described above, a large number of NGOs have small-scale projects nation-wide. It is often the case that more than one NGOs is operating within one district. In some cases, district staff are spending much time on NGO project work. In Savannakhet province, there was a case where one staff works for five to six projects all the time. This is justified under the condition of insufficient government's budget for extension including field allowance and transportation.

However, many projects are ongoing and there is insufficient coordination so that very often different project policies and procedures are applied in adjoining districts and villages. This could lead some confusion. For example, in opium cultivation area in Louangnamtha, one NGO is assisting the villagers to crop vegetables to increase their cash income since cash shortage occurs due to the additional purchase of opium, while UNDCP is promoting the reduction of opium cultivation in neighboring villages.

To overcome this situation, it is desired that periodical meeting would be regularized at provincial and district levels to exchange the information regarding project directions and activities.

Development of Technical Standard

In rural development, problems are encountered with technical designs and standards. In one case of an NGO, started activities in public health, then expanded to agriculture development in terms of villagers' nutrition improvement. Lacking technical staff or inputs from district staff, the organization provided extension services giving wrong information on fertilizer usage and timing. These problems can be avoided by developing technical standards. There are no design standards in rural infrastructure such as water supply, neither. This issue is also related to coordination, and there is a need to coordinate NGOs' activities with those supported by donors and the government for peer monitoring so as to further increase their effectiveness and to also ensure consistency in approach in infrastructure development.

One solution would be the development of monitoring and evaluation system by donors in a transparent manner so that the NGOs capacity with regard to both technical and management including accounting capacity. Donors are also responsible for the outcome of funds uses.

Localization

Presently, there exist only international or foreign NGOs in the country, while there are more and more organization fully operated by local staff irrelevant to project budget. This trends should be more encouraged so that the project would be more sustainable by securing personnel, since it is usual that foreign expatriate's mission is contained in a fixed period of years.