



IFAD
INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT
Executive Board - Sixty-Fifth Session
Rome, 2-3 December 1998

REPORT AND RECOMMENDATION OF THE PRESIDENT

TO THE EXECUTIVE BOARD ON A PROPOSED LOAN TO

THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

FOR

THE XIENG KHOUANG AGRICULTURAL DEVELOPMENT PROJECT - PHASE II



TABLE OF CONTENTS

	Page
CURRENCY EQUIVALENTS	iii
WEIGHTS AND MEASURES	iii
ABBREVIATIONS AND ACRONYMS	iii
MAPS OF THE PROJECT AREA	iv
LOAN SUMMARY	vi
PROJECT BRIEF	vii
PART I THE ECONOMY, SECTORAL CONTEXT AND IFAD STRATEGY	1
A. The Economy and Agricultural Sector	1
B. Experience and Lessons Learned	2
C. IFAD's Strategy for Collaboration with Laos	2
D. Project Rationale	4
PART II THE PROJECT	4
A. Project Area and Target Group	4
B. Project Objectives and Scope	5
C. Project Components	6
D. Project Costs and Financing	7
E. Procurement, Disbursement, Accounts and Audit	8
F. Organization and Management	9
G. Economic Justification	10
H. Risks	11
I. Environmental Impact	12
J. Innovative Features of the Project	12
PART III LEGAL INSTRUMENTS AND AUTHORITY	12
PART IV RECOMMENDATION	13
ANNEX	
SUMMARY OF IMPORTANT SUPPLEMENTARY ASSURANCES INCLUDED IN THE NEGOTIATED LOAN AGREEMENT	15



	Page
APPENDIXES	
I. Country Data	1
II. Previous IFAD Loans/Grants in Laos	2
III. Logical Framework	3
IV. Quantitative Inputs, Targets and Key Project Factors	5
V. Costs and Financing	6
VI. Organization and Management	8
VII. Economic and Financial Analysis	14



CURRENCY EQUIVALENTS

Currency Unit	=	Lao Kip (LAK)
USD 1.00	=	LAK 3 700
LAK 1.00	=	USD 0.00027

WEIGHTS AND MEASURES

1 kilogram (kg)	=	2.204 pounds (lb)
1 000 kg	=	1 metric tonne (t)
1 kilometre (km)	=	0.62 miles (mi)
1 metre (m)	=	1.09 yards (yd)
1 square metre (m ²)	=	10.76 square feet (ft ²)
1 acre (ac)	=	0.405 ha
1 hectare (ha)	=	2.47 acres

ABBREVIATIONS AND ACRONYMS

APB	Agricultural Promotion Bank
DANIDA	Danish International Development Assistance
DSC	District Steering Committee
GTZ	German Agency for Technical Cooperation
LWU	Lao Women's Union
M&E	Monitoring and evaluation
NGOs	Non-governmental organizations
O&M	Operation and maintenance
PIP	Public Investment Programme
PPMU	Provincial project management unit
TA	Technical assistance
UNDCP	United Nations Drug Control Programme
UNDP	United Nations Development Programme
UNOPS	United Nations Office for Project Services

GOVERNMENT OF THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

Fiscal Year

1 October - 30 September



MAP 1: MAP OF LAOS AND THE PROJECT AREA

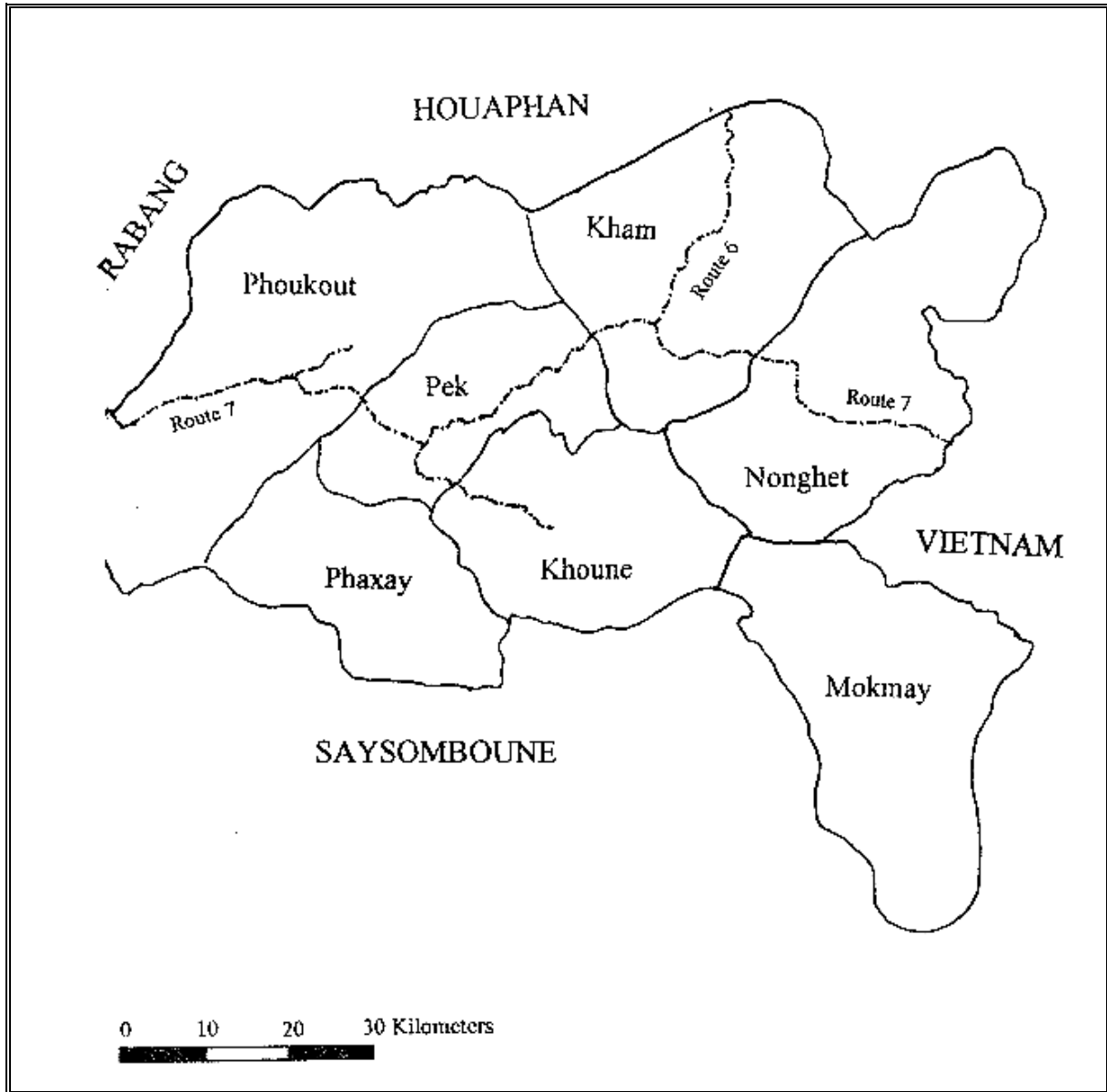


Source: IFAD's Appraisal Report

The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.



MAP 2: MAP OF XIENG KHOUANG PROVINCE AND THE DISTRICTS



Source: IFAD's Appraisal Report

The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.



LAO PEOPLE'S DEMOCRATIC REPUBLIC
XIENG KHOUANG AGRICULTURAL DEVELOPMENT PROJECT - PHASE II
LOAN SUMMARY

INITIATING INSTITUTION:	IFAD
BORROWER:	Lao People's Democratic Republic
EXECUTING AGENCY:	The Government of Xieng Khouang Province, Laos
TOTAL PROJECT COST:	USD 9.05 million
AMOUNT OF IFAD LOAN:	SDR 4.95 million (equivalent to approximately USD 6.93 million)
TERMS OF IFAD LOAN:	40 years, including a grace period of ten years, with a service charge of three fourths of one per cent (0.75%) per annum
COFINANCIER:	United Nations Drug Control Programme (UNDCP)
AMOUNT OF COFINANCING:	USD 0.91 million
TERMS OF COFINANCING	Grant
CONTRIBUTION OF THE BORROWER:	USD 0.74 million
CONTRIBUTION OF THE BENEFICIARIES:	USD 0.47 million
APPRAISING INSTITUTION:	IFAD
COOPERATING INSTITUTION:	United Nations Office for Project Services (UNOPS)



PROJECT BRIEF

Who are the project beneficiaries? The project beneficiaries will be the 83% of the total population (165 000 people or 24 400 households) in the province who are not food sufficient and live below the national poverty line. The beneficiaries are the subsistence-based ethnic minority groups with less than 350 kg of rice per capita per year, an annual income below LAK 285 000 (USD 237) and no more than 0.12 ha of paddy land per capita. Women will be an important part of the beneficiary group.

Why are they poor? The beneficiaries are poor because they are faced with the following major constraints: (i) limited productive resources due to mountainous terrain and many hidden unexploded ordnance; (ii) the extensive practice of shifting cultivation and low agricultural productivity; (iii) lack of extension services and technical options for mid and upland agriculture; (iv) high maintenance cost of traditional irrigation facilities and inefficient use of water resources; (v) limited crop and income diversification opportunities; (vi) widespread animal diseases and low livestock productivity; (vii) limited access to rural financial services, marketing and essential social services; and (viii) isolated and remote areas with limited access to road communication.

How to benefit the target group? The project is designed to overcome these constraints through: (i) use of beneficiary participation and development approach to enhance beneficiary ownership of the project; (ii) improvement of traditional irrigation schemes to reduce scheme maintenance costs and make efficient use of water resources; (iii) provision of non-traditional extension services and farmers training through the network of village workers; (iv) demonstration of alternative upland crops and technology to increase farm productivity and reduce opium production; (v) improvement of the existing cattle bank programme, animal disease control and animal feed management; (vi) provision of savings and credit services to diversify income-earning opportunities; (vii) provision of safe drinking water supply to improve health and productivity of the local population, particularly women; (viii) improvement of rural access roads to remove the isolation of the remote villages for new development opportunities; and (ix) provision of systematic training to empower the local communities and beneficiaries and to improve the institutional capacity of the key government service providers for effective delivery of their services.

How will they participate in the project? All ethnic communities, especially women and midland and upland population, will participate in the project activities through the participatory planning and development arrangements. The beneficiaries will express their demands and aspirations during the participatory planning exercises in the targeted villages. They will identify crop and livestock extension options to be undertaken by the line agencies and decide what to take up at their farm level for demonstration or production. They will participate in the construction of irrigation and drinking water supply facilities with labour and local materials and be responsible for subsequent maintenance. Beneficiaries will be employed in the labour-based construction of rural access road and road maintenance on contracts with the Government to earn cash income for investment in productive activities that will further enhance beneficiary participation in the project. They will be empowered by organizing themselves into community-based groups in social or productive activities, such as savings and credit groups, irrigation water user groups or drinking water user committees. In addition, beneficiaries will be trained to strengthen the network of village agricultural and livestock workers who will provide complementary extension services to their fellow villagers. Elected beneficiary representatives, including women, will be members of the district steering committees so that they will be involved in the decision-making process and have a say in what services and assistance the project should provide to them.



**REPORT AND RECOMMENDATION OF THE PRESIDENT OF IFAD
TO THE EXECUTIVE BOARD ON A PROPOSED LOAN TO
THE LAO PEOPLE'S DEMOCRATIC REPUBLIC
FOR
THE XIENG KHOUANG AGRICULTURAL DEVELOPMENT PROJECT - PHASE II**

I submit the following Report and Recommendation on a proposed loan to the Lao People's Democratic Republic for SDR 4.95 million (equivalent to approximately USD 6.93 million) on highly concessional terms to help finance the Xieng Khouang Agricultural Development Project - Phase II. The loan will have a term of 40 years, including a grace period of ten years, with a service charge of three fourths of one per cent (0.75%) per annum. It will be administered by the United Nations Office for Project Services (UNOPS) as IFAD's cooperating institution.

PART I - THE ECONOMY, SECTORAL CONTEXT AND IFAD STRATEGY¹

A. The Economy and Agricultural Sector

1. Laos is the 28th poorest country in the world in terms of gross national product (GNP) per capita, with a Human Development Index of 0.459, 136th out of 175 countries. It is a land-locked country with a total area of 231 800 km², divided into 17 provinces. 80% of the country is mountainous and only about 3% of the area is under cultivation. In 1996, the population was 5 million with over 80% of the population living in rural areas and 56% of the population below the age of 15.

2. The New Economic Mechanism introduced in November 1986 set in motion the process of reform and economic and trade liberalization. Since 1989, the economy has undergone a period of rapid adjustment from a centrally planned to a market-based economy. In 1996, nominal gross domestic product (GDP) was USD 1 857 million, equivalent to USD 400 of GNP per capita. Between 1990-96, the Lao economy grew at an annual rate of 6.7%. In 1996 GDP growth was 6.8%. The agricultural sector accounted for 51.9% of GDP, industry 20.5% and services 27.6%. The current account deficit was USD 227 million, or 12.2% of GDP, while debt-service accounted for 6.3% of the total exports of goods and services. The inflation rate was about 11% at the end of 1997. The current crisis in Southeast Asia, particularly in neighbouring Thailand, has adversely affected Laos with unforeseen inflationary effects and rapid devaluation of the LAK in line with the Thai Baht.

3. Agriculture is the most important economic sector, employing more than 85% of the workforce. In 1996, crops accounted for 47%, livestock and fishery 40% and forestry 13% of agricultural GDP. Rice is the most important crop with nearly 80% of the 800 000 ha of land under cultivation devoted to paddy production, which was estimated as 1.4 million tons in 1996. This is only basically sufficient to meet domestic needs. Tobacco and coffee are the most important non-rice crops followed by maize, root crops, groundnut, soybean and cotton.

4. Agriculture is dominated by subsistence farming on an individual family basis using extensive cultivation practices and shifting cultivation on almost one third of the cultivated area. The average cultivated area per rural family is about 1.2 ha, with fairly equitable land distribution among the rural population. Crop yields and cropping intensity are generally low. There is a potential to

¹ See Appendix I for additional information.



expand irrigated agriculture and improve farm productivity. Farmers rarely use improved production technology and inputs, especially in the uplands, and prepare most land using draught animals or manually. Fertilizers, chemicals and machinery have been used recently but only on a small-scale. With an increasing pressure of population in the mountains, the area under shifting cultivation will increase. The Government is concerned about enforcing the policy of stabilization of shifting cultivation.

5. Agricultural development is critical to the country's future economic performance. Yet between 1990 and 1996, the sector has had a constrained overall economic growth averaging 4.4% per annum in the agricultural sector, compared to 6.7% per annum for GDP. The sector is vulnerable to bad weather, such as periodic floods and droughts. With poor rural infrastructure some farmers have retreated into subsistence farming rather than responding to the market incentives embodied in the economic reforms. A further problem facing the sector is that rural credit is far from adequate to meet farmers' needs.

B. Experience and Lessons Learned

6. By the end of 1997, IFAD had provided six project loans to Laos with three projects ongoing. These are having a positive impact on the food and income security of target-group households. In the past few years the progress in project implementation and loan disbursement has improved. The main lessons learned from the first phase of the Xieng Khouang Agricultural Development Project indicated the following needs: (i) improving the project targeting of both villages and within villages; (ii) training and reorienting the government service providers and the project management towards managing poverty-alleviation programmes in a demand-driven and participatory manner; (iii) improving and strengthening the extension system through staff and farmer training and strengthening the network of village extension workers; (iv) following the successful approach of involving beneficiaries in all stages of the development and operation of the irrigation schemes and the recovery of a proportion of the irrigation investment costs to further enhance the beneficiary ownership of project investments; (v) continuing the successful labour-based road construction programme to provide the poor population in remote areas with access to marketing and social services and to transfer resources to the local communities for investment in productive activities; and (vi) focusing on improving livestock productivity and the operation of the cattle banks.

7. In addition, the project design has also incorporated the following lessons learned from IFAD's experience elsewhere in the country: (i) project design should be flexible to allow for subsequent adjustments, as experience is gained and constraints and opportunities are further identified; (ii) project implementation should be decentralized as far as possible to the provinces, districts, villages and local communities and phased in accordance with existing local capacity; (iii) the use of grants and loans needs careful coordination to obtain the maximum synergy; (iv) effective arrangements should be made for operation and maintenance (O&M) of public investments; (v) systematic training should be provided to strengthen the institutional capacity of local communities and key government service providers; and (vi) government service providers should be trained and reoriented to provide services to the beneficiaries on a demand-driven and participatory basis.

C. IFAD's Strategy for Collaboration with Laos

8. **Laos' policy for poverty eradication.** Rural poverty in Laos is primarily a reflection of low agricultural productivity, inadequate food supply, lack of access to education and markets and limited opportunities for income diversification. A World Bank study based on 1992-93 conditions showed poverty at an alarmingly high level of 46% nationally, 53% in rural areas and 24% in urban areas. The total number of rural poor is estimated as 2 million, with the largest numbers of poor concentrated in the north and centre. The incidence of poverty is highest among farming households (52.5%) and generally more widespread among mid and upland farmers who practice shifting cultivation. The Government is committed to promoting poverty alleviation and equitable



development. At the 1995 World Summit for Social Development, the Government endorsed the declaration to fight poverty by promoting full employment, secure and sustainable livelihoods and social integration. Poverty-alleviation programmes have been incorporated into the Fourth Five Year Plan (1996-2000) and the National Rural Development Programme.

9. **The poverty eradication activities of other major donors.** External assistance plays a major role in the social and economic development and poverty-alleviation programmes in Laos. The total Public Investment Programme (PIP) over the current five-year plan period is about USD 1.6 billion, of which only about 25% is internally funded. In 1996, the total external development assistance to Laos was about USD 399 million. About 42.3% came from bilateral sources, 54.5% from multilateral agencies including the UN system and European Union, and the rest from non-governmental organizations (NGOs). About 42% of the external aid in 1996 was for investment project assistance, 33% for technical assistance (TA), 20% for balance of payments support, 3% for food aid and 2% for humanitarian aid and relief. The transport sector received about 36% of external assistance in 1996. Agriculture, human resource development, area development, energy and economic management were also major aid recipients. In 1996, the Asian Development Bank was the largest source (USD 86 million) of external assistance. The International Development Association and the Asian Development Bank have financed major road construction projects in addition to providing support for institutional and agricultural development. The former and the International Monetary Fund are assisting the Structural Adjustment Programme. The major bilateral donors include Australia, France, Germany, Japan, Switzerland, Thailand and the United States. They are providing grant-aid in TA, infrastructure and rural development, area development and humanitarian aid and relief. External NGOs are active and encouraged by the Government. There are no local NGOs at present because of the Government's restrictive policy.

10. **IFAD's strategy for collaboration with Laos.** A Country Strategic Opportunities Paper was prepared in June 1996 to lay the strategic groundwork for IFAD's overall operations in Laos. The main thrusts of IFAD's country strategy for Laos are to: (i) provide continued support to area-based rural development programmes, which focus on poverty alleviation, increased household food and income security and sustainable management of productive resources; (ii) target assistance particularly to the mid and upland poor farmers in the central and northern regions of the country; (iii) build on successful development experience and proven technologies to improve farm productivity; (iv) initiate policy changes to help develop sound rural credit services; (v) provide rural access roads and social infrastructure to remove the isolation of the remote areas; (vi) initiate a process of reorientation and change of the work culture among the key government service providers in order for them to provide services to the beneficiaries on a demand-driven and participatory basis; and (vii) strengthen the institutional capacity of the local communities and the service providers to plan and manage poverty-alleviation programmes through systematic professional and management training.

11. The project has linkages to the thrusts of IFAD's corporate strategy in the following areas: (i) project design is built upon beneficiary participation and ownership, with beneficiaries and community-based groups playing a major role in the implementation of project activities to be determined by the beneficiaries during village participatory rural appraisal exercises; (ii) project design is flexible and aimed at building local capacity through the provision of farmers and staff training; (iii) project design has a balanced gender focus to ensure women's participation in all project activities; (iv) extensive peer review in the quality control and improvement of the project design has been done; (v) in areas of policy initiatives, the Government has agreed that the Agricultural Promotion Bank (APB) will change its rural lending policy from subsidized to market rates of interest in the province to improve the sustainability of APB. The Government also agreed to adopt a consistent policy for irrigation development in the province based on the policy initiative of the first phase on partial cost



recovery of irrigation investment; and (vi) the project will promote partnership with other international organizations, in particular the United Nations Drug Control Programme (UNDCP), the German Agency for Technical Cooperation (GTZ), the Danish International Development Assistance (DANIDA) and the United Nations Development Programme (UNDP)

D. Project Rationale

12. The first phase of the project improved the livelihood of the local population and had sufficient impact to encourage further investment. The project will build on the successful experience and the existing institutional capacity developed in the first phase to bring about a further change in the management and work culture of the key service providers. They will provide the services required by the beneficiaries in a demand-driven and participatory manner. In addition, the forthcoming improvements to the main road links to Vientiane and Viet Nam will provide the communities in the remote upland villages with access to markets and open up new opportunities for social and economic development. There are agricultural and off-farm investment opportunities that can further increase the household food security and incomes of the poor and improve their nutrition. Opportunities for increased farm productivity exist from irrigation development, crop diversification, livestock vaccination, improved livestock production of all classes of animals and on and off-farm income-generating activities. Opportunities also exist to provide further benefits to the target group from investment in village water supply to improve the health, nutrition and productivity of the population through a reduction of the incidence of water-borne diseases. With project assistance targeted to poor villages and project activities implemented in a coordinated fashion, the expected project impact on poverty alleviation and improvement of household food and incomes security and nutrition will be enhanced.

PART II - THE PROJECT

A. Project Area and Target Group

13. **Project area.** The project area covers all seven districts of Xieng Khouang Province (Pek, Kham, Nonghet, Khoun, Mok, Phoukout and Phaxay). The total area is about 1.6 million ha, of which 58% is slopes in excess of 55%, unsuitable for agriculture. The total population of the province is 197 776 (29 245 households) in 506 villages. The effective population density is 28 persons per km², well above the national average of 20 persons per km². The population comprises three ethnic groups: the lowland (Lao Loum), 73%; the midland (Lao Theung), 2%; and the upland (Lao Soung), 25%.

14. The cropped area is 28 742 ha, of which paddy accounts for 44%, upland rice 29% and other upland crops, mainly maize, 27%. Crop yields are generally moderate to low. Average paddy yields are 2.9 t/ha and upland rice 1.6 t/ha. Livestock makes a considerable contribution to family incomes in the province. Average numbers of large ruminants are 1.7 buffalo and 2.7 cattle per household. Forage is adequate in the wet season but inadequate and of poor quality in the dry season. Most families keep pigs on a small-scale, normally looked after by women. Poultry are also kept by women on a minimum input basis. Animal diseases are common.

15. The APB has a single branch in Phonsavan, which presently operates in 224 villages with 4 000 customers and a total lending portfolio of LAK 884 million in 1997, or USD 353 600 (52% lending at market rates) for agricultural and off-farm income-generating activities. The APB is unable to meet the demand for credit which reflecting in part the lack of savings mobilization. In the province, less than 10% of villages are reported to have safe drinking water supplies. Cholera and dysentery are common. Road communications are difficult and costly in the mountainous terrain. Most roads become impassable for periods during the wet season.



16. The Xieng Khouang Provincial Government is completely dependent on the National Government for investment funds under PIP. Line agencies in the province are under-funded and only able to carry out very limited work programmes in the absence of external financing. The total Government allocation for agricultural and rural development activities in 1996-97 was about LAK 1 billion (USD 400 000).

17. **Target group.** Xieng Khouang Province remains one of the poorest provinces in Laos with 83% of households below the poverty line. Its productive resources are limited by the mountainous terrain and many unexploded ordnance hidden in the otherwise productive land. The province has a rice deficit with much of crop production subsistence-based. Many poor households live in remote areas in the uplands without access to markets, roads, irrigation facilities and financial services. The main assets of the poor rural families are land and livestock, comprising about 65%, with houses and forests accounting for the balance. The main economic activity of the poor population is rice production. Crop yields and livestock productivity are low. Frequent flood and drought take another toll on their farm production and daily livelihood.

18. The project will target the 83% of the population (about 165 000 people or 24 400 households) in the province, who are not food sufficient and live below the national poverty line. The target group will be the subsistence-based ethnic minority groups with less than 350 kg of rice per capita per year, an annual income below LAK 285 000 (USD 237) and no more than 0.12 ha of paddy land per capita. Women will be an important part of the target group. The project will target clusters of villages in which 65-70% of households are not rice self-sufficient. Wealth ranking will be conducted in the selected villages during participatory rural appraisals to further facilitate targeting the project assistance to the poor and women. Priorities will be given to the midland and upland resource-poor households. Selection criteria for targeted village clusters, irrigation and drinking water supply have been developed, while the project's credit activities will be self-targeting involving the creation of self-help groups and the provision of small loans which will not be attractive to the more wealthy households.

19. **Gender situation.** Women are traditionally overburdened with household chores, a major part of the on and off-farm productive activities and fetching water from sources far away. Women are responsible for raising pigs and chickens and men for large animals. Men and women share crop-production activities with women doing most of the weeding. Harvest is another shared activity except for the opium harvest which is very labour-intensive and generally done by women. Vegetables are marketed by women and other crops and livestock by men. Gathering of non-timber forest products is a shared activity. Although women frequently look after cash, most applications for credit have to be made by the male who is the recognized household head. In addition, women are responsible for off-farm income-generating activities such as weaving, sewing, broom and basket making. They are also the principal landowners in the lowland.

B. Project Objectives and Scope

20. The overall objectives of the project are to reduce poverty; increase household food and income security, improve nutrition for the poor and increase the availability of alternatives to opium poppy cultivation. The project objectives will be achieved by: (i) encouraging agricultural development, including irrigation, crop and livestock production; (ii) providing income-diversification opportunities through savings and credit services; (iii) providing drinking water supplies to improve health, nutrition and productivity of the local population; and (iv) removing the isolation of remote and poor rural communities through the construction of rural access roads using labour-based construction methods. Project activities will be implemented in a coordinated fashion so as to improve their impact on the beneficiaries. The project strategy will consist of the following approaches: (i) targeting poor villages; (ii) allowing the villagers to decide what assistance the project should provide; (iii) encouraging women to participate in all project activities; (iv) encouraging beneficiaries to contribute labour and local materials in irrigation and water supplies to enhance their



ownership; and (v) promoting self-help savings and credit groups and water user groups for scheme construction, operation and maintenance in the case of irrigation and water supplies. Villages will be targeted in clusters with project assistance concentrated for two years before moving to another cluster of villages but with continued follow-up services thereafter. This approach will maximize benefits and impact and make efficient use of the limited human and financial resources available. The project will collaborate with the other externally funded projects, such as UNDCP, GTZ, DANIDA and UNDP, to ensure synergy and complementarity of project activities and to make certain that the upland farming-system technology developed is available for replication elsewhere in the province.

C. Project Components

21. The project has four components: (i) agricultural development; (ii) income diversification; (iii) rural infrastructure development; and (iv) institutional strengthening.

Agricultural Development

22. Agricultural development will include irrigation, crops and livestock activities.

23. **Irrigation.** The project will finance the following: (i) construction of 20 small irrigation schemes to bring new areas under command; (ii) rehabilitation of 15 traditional schemes to reduce scheme-maintenance costs; and (iii) construction of 50 microschemes, mainly in the uplands. The net incremental irrigated area will be 1 600 ha, 775 ha in the wet season and 825 ha in the dry season. The participatory planning exercises will identify possible schemes. The project will finance surveys, design and construction. Beneficiaries will contribute about 15% of the costs in labour and local materials and take up credit amounting up to 45% of scheme construction costs. O&M will be the full responsibility of the water user groups. Members will receive pre-construction, construction and O&M training. Training will also be provided for technical staff in the province and districts. The services of a United Nations volunteer rural engineer financed by UNDCP will assist irrigation development as required.

24. **Crops.** The project will demonstrate and extend options for growing dry season cash crops in the irrigated areas and alternative wet season or perennial crops in the upland areas. In the uplands, the project will promote alternative crop options and farming-systems technology developed by other projects operating in the province, which will contribute towards the development of sustainable upland rotations. The network of village agricultural workers will be strengthened through training. The choice of crops will result from the findings of the participatory planning exercises organized by the project. The project will finance imports of planting material for crops not presently grown in the province (e.g., potatoes), fruit cultivars which are not generally available and crops for which planting material is in short supply (e.g., high yielding ginger).

25. **Livestock activities.** The project will increase livestock profitability by improving smallholder understanding of livestock nutritional needs and encouraging vaccination and use of anthelmintics for all classes of stock. The project will support: a cattle-forage development programme; provision of simple extension advice for all classes of livestock (including fish and poultry); animal health; staff and farmer training; and TA in cattle-bank operation, animal health and feed management.

Income Diversification

26. The project will provide the target group with savings and credit services and at the same time improve the sustainability and financial viability of the Xieng Khouang Service Unit of APB. The project will finance a credit revolving fund of USD 738 000 for 15 years to allow APB to finance on and off-farm income-generating activities at prevailing market rates of interest without collateral but on



a group guarantee basis. The UNDCP will provide a credit adviser to assist the APB in improving its banking operations, institutional capacity and outreach to the beneficiaries. Technical support for sub-borrowers will be provided by the agricultural services. The Lao Women's Union (LWU) will play a major role in training, sensitization and social mobilization of women beneficiaries in participation in project activities and in the promotion of savings and credit programme.

Rural Infrastructure Development

27. This component will include rural water supply and rural access road construction.

28. The **rural water supply sub-component** will finance 56 gravity water supply schemes to be identified during the participatory planning exercises. These will be surveyed, designed and constructed to standard designs developed by the United Nations Children's Fund. Provision is also made for the protection of 56 springs and the digging and equipping of 240 dug wells. Village communities will contribute some 20% of total construction costs in local materials and labour and will be responsible for their O&M.

29. The **rural access road construction sub-component** will finance: (i) survey and design for 320 km of road and five Bailey bridges; (ii) construction of about 270 km of district roads; and (iii) institutional support. Labour-based methods will be used where feasible to ensure maximum resource transfer to the beneficiaries through their participation in road construction. Training will be provided in survey, design, construction supervision and quality control. An international TA roads engineer and a United Nations volunteer rural engineer financed by UNDCP will provide additional training and technical support.

Institutional Strengthening

30. The project will support line agencies and project management in the province and each district. The main focus is to provide staff training and technical assistance to introduce participatory planning and development methodology and ensure delivery of project assistance to the beneficiaries in a demand-driven and participatory manner. At the same time the project will strengthen the institutional capacity of the line agencies in the province and the districts to plan, manage and implement poverty alleviation and development programmes. Major investment will be in professional and management training with TA financed by UNDCP.

D. Project Costs and Financing

31. **Costs.** The total estimated project base cost is USD 8.33 million. Total project costs, including price and physical contingencies and duties and taxes, are USD 9.05 million, including 48% foreign exchange. Investment costs are 88.4% of the total base cost and incremental recurrent costs constitute 11.6%. Physical and price contingencies add about 9% to the total base cost. A constant purchasing power parity exchange rate has been assumed, reflecting the difference between anticipated local and foreign inflation. Taxes and duties account for about USD 0.38 million, about 4% of total project costs. Table 1 summarizes the project costs by component.

TABLE 1: SUMMARY OF PROJECT COSTS^a
(USD '000)

Components	Local	Foreign	Total	% of Foreign Exchange	% of Base Costs
1. Agricultural development	1 76	955	2 74	35	33
2. Income diversification	808	463	1 27	36	15
3. Rural infrastructure development	1 35	1 91	3 26	59	39
4. Institutional strengthening	406	643	1 05	61	13
Total base costs	4 36	3 97	8 33	48	100
Physical contingencies	112	116	228	51	3
Price contingencies	276	213	488	44	6
Total project costs	4 74	4 30	9 04	48	109

^a Discrepancies in totals are due to rounding.

32. **Financing.** A proposed IFAD loan of USD 6.93 million will finance 76.6% of the total project costs. The UNDCP will provide a total of USD 0.91 million as a grant to finance the technical assistance which is 10% of total project costs. Besides the direct cofinancing from UNDCP, an additional USD 2.8 million will be mobilized from UNDCP for activities in Nonghet district to be implemented on a parallel basis. The Government will contribute USD 0.74 million as counterpart funding for the project, to finance the following: duties and taxes; a part of the survey; design and training for irrigation development; staff salaries; maintenance of public investments; and an increasing proportion of the incremental operating costs. Project beneficiaries will contribute USD 0.47 million in the form of labour and local materials towards the construction and maintenance costs of the proposed irrigation schemes and drinking water supplies. A tentative financing plan is shown in Table 2.

TABLE 2: FINANCING PLAN^a
(USD '000)

Components	IFAD		UNDCP		Beneficiaries		Government		Total		For. Exch.	Local (Excl. Taxes)	Duties and Taxes
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%			
1. Agricultural development	2 527	83.0	-	-	279	9.2	237	7.8	3 043	33.6	1 055	1 855	133
2. Income diversification	915	71.4	338	26.4	-	-	29	2.3	1 282	14.2	470	794	18
3. Rural infrastructure development	2 897	79.9	298	8.2	191	5.3	238	6.6	3 623	40.0	2 112	1 339	172
4. Institutional strengthening	594	53.8	279	25.2	-	-	232	21.0	1 106	12.2	670	377	59
Total disbursement	6 933	76.6	915	10.1	470	5.2	736	8.1	9 054	100.0	4 306	4 366	382

^a Discrepancies in totals are due to rounding.

E. Procurement, Disbursement, Accounts and Audit

33. **Procurement.** Procurement of goods and services financed by IFAD will be undertaken in accordance with the procedures acceptable to IFAD. Goods or services costing USD 10 000 equivalent or more will be procured through local competitive bidding (LCB) open to international suppliers. Items costing USD 10 000 equivalent will be procured through local shopping. Items costing USD 60 000 equivalent or more will require prior review by IFAD or its cooperating institution prior to purchase through LCB. Given the nature and the scope of the goods to be procured under the project, international competitive bidding procedures are not considered appropriate. Whenever possible, items will be bulked into sizeable bid packages to make procurement more cost-



effective. All IFAD-financed civil works will be procured through LCB and will be open to foreign contractors where appropriate.

34. **Disbursement.** The project will be implemented over six years, with a loan closing date of 31 December 2005. A special account will be opened in a bank acceptable to IFAD with an authorized allocation of USD 500 000. Disbursement for civil works, vehicles and equipment will require detailed documentation. Disbursements for training and studies, materials, incremental operating costs and incremental credit will be made against statements of expenditure. The disbursements of the IFAD loan will be made against the financing plan presented in Appendix V, page 7.

35. **Retroactive financing.** Before the date of the loan agreement but after 31 October 1998, the Government may make payments against retroactive financing by IFAD for eligible expenditures of not exceeding: (i) USD 140 000 equivalent incurred for civil works of survey and design of rural access roads and gravelling of roads in Nonghet district; and (ii) USD 27 000 equivalent incurred for staff training.

36. **Accounts and audit.** Immediately upon loan effectiveness and prior to receipt of the initial deposit in the Special Account, the project will set up its accounting and internal control systems. The provincial project management unit (PPMU) will maintain separate project accounts in accordance with sound accounting principles to reflect the progress of the project and to identify its resources, operations and expenditures. An independent auditor, acceptable to IFAD, will audit the project accounts annually, in accordance with international auditing standards. The audited accounts and the audit report, including separate opinions on the statements of expenditure and the operations of the Special Account, will be submitted to IFAD no later than six months after the close of each fiscal year, until completion of the project.

F. Organization and Management

37. Project implementation will be the responsibility of the Xieng Khouang Provincial Government. The PPMU is already in place in the Deputy Provincial Governors' office and is responsible to a provincial and national steering committee in the Provincial Governor's and Prime Minister's office, respectively. The PPMU will manage and coordinate the project. Support will come from a district project unit in each district attached to the office of the deputy district chief, which will report to a district steering committee (DSC) established in each project district. Two beneficiary representatives (at least one a woman) will be elected from each cluster of targeted villages to be members of the DSCs. Implementation of project activities will be the responsibility of the beneficiaries, local communities and provincial and district line agencies. Line agency outreach to the villages will be assisted by completing and extending the village workers network. Rural savings and credit services will be the responsibility of the APB under a subsidiary loan agreement with the Ministry of Finance.

38. **Beneficiary participation.** The most important partners and clients in the project are the beneficiaries. The project is designed to encourage all ethnic communities, especially women and midland and upland population, to participate in the project activities through the participatory planning and development arrangements. The beneficiaries will express their demands and aspirations during the participatory planning exercises in the targeted villages. They will identify crops and livestock extension options to be undertaken by the line agencies and decide what to take up at their farm level for demonstration or production. They will participate in the construction of irrigation and drinking water supply facilities with labour and local materials and be responsible for subsequent maintenance. Beneficiaries will be employed in the labour-based construction of rural access roads and road maintenance on contracts with the Government to earn cash income for investment in productive activities, which will further enhance beneficiary participation in the



project. They will be empowered by organizing themselves into community-based groups in social or productive activities, such as savings and credit groups, irrigation water users groups or drinking water users committees. In addition, beneficiaries will be trained to strengthen the network of village agricultural and livestock workers who will provide complementary extension services to their fellow villagers. Elected beneficiary representatives, including women, will be members of the DSCs so that they will be involved in the decision-making process and have a say in what services and assistance the project should provide to them.

39. **Monitoring and evaluation (M&E).** The PPMU will be responsible for M&E. Regular reporting will follow government procedures. The M&E unit will carry out a baseline survey with UNDCP assistance that will be used as the basis for beneficiary monitoring and impact assessment. The baseline survey will include an assessment of the male and female income sources and use and the extent of household food security. Detailed design of the M&E system will be done with assistance provided under the Special Operations Facility of IFAD.

G. Economic Justification

40. The project will have both direct and indirect beneficiaries. Rural households in the targeted villages will benefit in more than one way. The target group members will benefit directly from the project's agricultural and credit components as well as from improved rural roads and drinking water supplies. Benefits realized will include greater household food security, improved health and nutrition, increased incomes, improved access to services and increased productivity as well as reducing the time women spend in collecting drinking water. The strengthened institutional capacity of local communities and Government services will have additional long-term benefits for the overall social and economic development of the province.

41. **Beneficiaries and benefits.** The estimated number of beneficiary households is 1 700 from new and rehabilitated irrigation; 12 000 from lowland crop extension; 11 500 from upland extension; 18 000 from livestock development; 4 800 from income diversification; 6 250 in 270 villages from improved water supplies; and 15 000 from rural roads. By project year 10, annual incremental crop production is expected to reach the following levels: 2 903 t of paddy; 265 t of maize; 700 t of ginger; 4 758 t of potatoes; 100 t of chilli; 100 t of asparagus; 1 659 t of vegetables; 1 452 t of garlic; and 450 t of tree crops. Annual incremental livestock production will be 509 cattle, 218 buffalo and 733 pigs and 3 572 chickens.

42. **Gender.** The project will impact positively on women by: (i) reducing the time taken to collect water; (ii) providing easy access to markets; (iii) using gender targeting to ensure their participation in skills and crop and livestock training; (iv) providing increased availability of alternative crops to opium cultivation, which will release women from the labour-intensive work of opium harvesting for other productive or household activities; (v) using LWU to promote savings, credit and income-diversification activities of special interest to women; and (vi) most importantly, enhancing women's awareness, confidence and empowerment in order to bring them into the mainstream of the development process.

43. **Household nutrition and food security.** The project will improve household nutrition and food security by: (i) increasing the overall availability of starch and protein crops for human consumption; (ii) enabling vegetables to be grown to generate incremental cash resources for purchasing the required food; (iii) reducing water-borne diseases; and (iv) providing an alternative means for household food security through the saving and credit programme.

44. **Financial analysis** has been undertaken for five livestock and fishery models, one handicraft (weaving) model and four crop models for crop-diversification activities for the low, mid and upland beneficiaries so as to evaluate expected financial cash flows, the return to capital and returns per labour



day. The results show that the proposed livestock and income diversification activities provide attractive returns to the investments and that the returns to incremental family labour will be well above the opportunity cost of rural labour in alternative uses in the project area. Beneficiaries in all three ethnic groupings will be substantially better off as a result of the project. All project individual activities show an attractive financial internal rate of return (FIRR) in the range of 21-145%. Financial analysis has also been pursued for irrigation development, which shows a FIRR of 29% on the full construction costs. The financial analysis of rural access road improvement shows a FIRR of 3-6%, depending on the expected increase in traffic volume.

45. **Economic analysis.** Economic benefits will accrue from all project components but these are not all capable of realistic quantification and valuation. In the analysis the incremental benefit stream is the net economic value of incremental crop and livestock production and benefits from road construction. No benefits are claimed from handicraft production in the analysis. Where appropriate these values are net of all incremental costs, including labour. The project's incremental economic costs include all project costs except transfer payments (credit funds and taxes and duties) and price contingencies and include an allowance for recurrent costs in the years following project completion. The local cost element has been adjusted using the standard conversion factor of 0.95.

46. **Economic internal rate of return (EIRR).** Using the above conservative assumptions, EIRR is 13.4%. An analysis by component shows the following returns: (i) irrigation improvement and lowland crop production 24%; (ii) upland crop production 66%; and (iii) cold chain for livestock vaccination 38%. The calculation of switching values shows that project EIRR will be resistant to unanticipated adverse events and relatively more sensitive to benefit reductions than to cost increases.

H. Risks

47. In view of the experience of the first phase of the project, there is a risk that project benefits will not reach the target group. Project design has countered this risk by doing the following: selecting target villages on the basis of food self-sufficiency and ethnic groupings; targeting irrigation development to schemes where households are not rice self-sufficient with limited land holdings; and promoting activities that are of interest to the members of the target group but not to others. The second risk is that provincial and district level staff will adapt only slowly to the role of development facilitators. Project design addresses this risk through the following: a training and orientation programme, including a visit for key project staff to an IFAD-financed project in Viet Nam where the participatory development approach is being used successfully; the provision of TA in participatory development for 45 months during the first four years of the project; and continued use of the beneficiary-group approach, successfully developed in irrigation development during the first phase of the project. The project involves rural lending at market rates which entails a risk for an institution accustomed to making loans at subsidized interest rates at the Government's behest. To counter the attendant risk, the project has made adequate provisions for improvement of APB's institutional capacity and outreach to beneficiaries supported by the LWU. In addition, risk will be alleviated through the assistance of an international credit adviser for two years at the start of the project, to be followed up by a short-term consultant during the following two years.

48.. There are no real technical or marketing risks as: (i) project design does not include radical departures from the existing farming systems or changes that will require an unrealistic incremental labour commitment from adopting households; (ii) the beneficiaries will determine which activities the project will support; (iii) upland farming-systems technology successfully developed by other projects will be made available for replication; (iv) livestock development will improve performance of existing stock by involving those measures farmers have already identified as necessary; and (v) Xieng Khouang can expect improved opportunities to export to urban areas within Laos and Viet Nam.



I. Environmental Impact

49. The irrigation systems constructed and rehabilitated under the project will be small and should not significantly affect hydrology. All irrigation schemes will be less than 100 ha and not associated with large-scale land clearance and development. Some reduction in shifting cultivation by the lowland farmers on the hill sides can be expected as paddy production increases from the expanded and improved irrigation facilities. Overall the proposed irrigation development is likely to have a favourable environmental impact. The quantities of fertilizer recommended are small and no adverse environmental effect is expected. Use of farm chemicals will be subject to safety provisions. The Government is promoting integrated pest management in rice which should help to contain pesticide use. Potatoes could be prone to late blight under the climatic conditions in Xieng Khouang. There is a risk of high use of heavy metal fungicides, but it is anticipated that links to be established with late blight control project should help to mitigate this risk. Road construction will involve upgrading of existing tracks with minimal negative environmental or ecological impact. Cross-drainage works will be designed to reduce downstream erosion and none of the road alignments will obstruct the existing water bodies. The Government will ensure that effective measures and policies will be enforced to safeguard forest resources and endangered species in the project area.

J. Innovative Features of the Project

50. Project design contains several innovations for Laos which should help ensure sustainability of project interventions and the institutions: (i) the project has been developed using a participatory approach involving the potential beneficiaries and local institutions; (ii) all project activities will be identified and implemented by the beneficiaries and local communities with the line agencies providing the technical and financial support required; (iii) the project has adopted a policy initiative for the APB to charge market interest rates on all loans and the IFAD loan funds will remain in the province for 15 years; (iv) to overcome staff constraint, line agency staff will work in a cluster of villages for two years before repeating the same approach elsewhere but providing continued follow-up services to the initial clusters; (v) the active involvement of LWU will improve women's access to productive resources and technology; (vi) cost recovery of a proportion of the irrigation investment will provide the provincial Government with additional funds for irrigation development; (vii) attachment of PPMU to the Deputy Governor's office, should enhance provincial ownership of the project and improve implementation; (viii) IFAD and UNDCP will engage in a strategic partnership; and (ix) the Provincial Government will ensure that upland crop technology developed by GTZ, DANIDA UNDCP and other agencies is made available for replication elsewhere in the province.

PART III - LEGAL INSTRUMENTS AND AUTHORITY

51. A loan agreement between the Lao People's Democratic Republic and IFAD constitutes the legal instrument for extending the proposed loan to the borrower. A summary of the important supplementary assurances included in the negotiated loan agreement is attached as an annex.

52. The Lao People's Democratic Republic is empowered under its laws to borrow from IFAD.

53. I am satisfied that the proposed loan will comply with the Agreement Establishing IFAD.



PART IV - RECOMMENDATION

54. I recommend that the Executive Board approve the proposed loan in terms of the following resolution:

RESOLVED: that the Fund shall make a loan to the Lao People's Democratic Republic in various currencies in an amount equivalent to four million nine hundred and fifty thousand Special Drawing Rights (SDR 4 950 000) to mature on and prior to 15 November 2038 and to bear a service charge of three fourths of one per cent (0.75%) per annum, and to be upon such terms and conditions as shall be substantially in accordance with the terms and conditions presented to the Executive Board in this Report and Recommendation of the President.

Fawzi H. Al-Sultan
President



SUMMARY OF IMPORTANT SUPPLEMENTARY ASSURANCES INCLUDED IN THE NEGOTIATED LOAN AGREEMENT

(Loan negotiations concluded on 3 November 1998)

1. The Government of the Lao People's Democratic Republic will make funds available from the proceeds of the IFAD loan to APB, upon the terms and conditions of the loan agreement, in order to finance the incremental credit activities of the project. For the purpose of said credit activities, the Government will enter into a subsidiary loan agreement with APB, satisfactory to IFAD, and will bear the foreign exchange risk under the subsidiary loan agreement.
2. During the execution of the project, the Government and IFAD will periodically review the interest rates to be applied to the credits given out of the proceeds of the loan. The Government will, if necessary, take all appropriate measures, consistent with its policies, in order to harmonize the interest rates on credits with IFAD's policy on relending rates.
3. The Government will ensure that APB will minimize its costs in executing the incremental credit activities as these affect its margin of interest spread.
4. The Government will cause APB to establish and maintain a revolving fund for the project in the Xieng Khouang Service Unit of APB, for keeping therein the principal and interest, net of operating and other expenses, received on the credits made to farmers by APB from the proceeds of the loan allocated to the incremental credit activities. Amounts available in the revolving fund will be used by the Xieng Khouang Service Unit for the expansion of credit facilities to the beneficiaries, consistent with the loan agreement, for a period of 15 years from the date that the subsidiary loan agreement comes into effect, but in no event after the date of payment in full of the principal of and interest and other charges on the loan.
5. For the purposes of financing all activities under the project, with the exception of the incremental credit activities, the Government will cause PPMU to open and thereafter maintain a project account in a bank satisfactory to IFAD, in Phonsavan, held in Lao Kip (LAK), into which the Government will deposit an initial amount from its own resources as estimated in the Annual Work Programme and Budget (AWP/B) for the first quarter of project implementation, as well as proceeds from the special account to cover the operational needs of the project. The Government will thereafter replenish the project account, quarterly in advance or as regularly required, by depositing the required local counterpart funds as estimated in the AWP/B, and proceeds from the special account. PPMU will be fully authorized to operate the project account, and the national project director will be one of the two authorized signatories on the project account.
6. For purposes of the incremental credit activities of the project, the Government will cause APB to open and thereafter maintain a separate account (the APB account) in the head office of APB in Phonsavan, held in LAK, into which the Government will deposit funds from the subsidiary loan as estimated in the AWP/B, quarterly in advance or as regularly required, in accordance with the subsidiary loan agreement.
7. The Government will ensure that APB will cause the Xieng Khouang Service Unit to develop its savings and credit programmes and maintain its banking discipline in accordance with the provisions of the project. The Government will cause APB to maintain and coordinate a consistent national policy



ANNEX

towards the development of financially viable rural financial services, including, *inter alia*, the terms and conditions of on-lending resources from different sources for agricultural and rural lending operations in the project area.

8. The Government will ensure that provision is made in the subsidiary loan agreement that the APB head office undertake to release the proceeds of the subsidiary loan to the Xieng Khouang Service Unit, quarterly in advance or regularly as required, against the approved consolidated AWP/B, in order for the service unit to provide savings and credit services to eligible sub-borrowers for legal and financially viable activities in the project area. The subsidiary loan agreement will also specify that the Xieng Khouang Service Unit will repay the loan through its APB head office as per the repayment schedule provided by the Government.

9. The Government will ensure that the subsidiary loan agreement be executed by 31 December 1998.

10. The Xieng Khouang Service Unit will on-lend the proceeds of the loan together with its own lending resources to the targeted beneficiaries at prevailing commercial interest rates.

11. The Government will cause APB to ensure that, from the interest margins between the rate charged by the Government and the rate charged by the Xieng Khouang Service Unit to sub-borrowers, adequate provisions will be made for, *inter alia*: (a) 2% for bad and doubtful debts; (b) 1% for staff training; (c) necessary allocations for upgrading the accounting, reporting, audit and M&E systems of the service unit; (d) operating costs; and (e) provision for other reasonable charges. The residual earnings will be retained by the service unit to offset inflation and expand the provision of credit to the beneficiaries in the project area.

12. The Government will cause the APB head office to maintain a separate account to collect interest and principal repayments from the Xieng Khouang Service Unit for repayments to the Government. The Government and IFAD will periodically review the interest margin and the use and terms and conditions of the proceeds of the loan in the revolving fund, in the light of changes in prevailing commercial interest rates, credit offtake, the operating costs and adequacy of the margin to the service unit, improved communications in the project area and other relevant factors.

13. The Government will ensure that APB will: make adequate staff and resources available to execute the incremental credit activities of the project; provide adequate training to its staff, to be financed from its interest income; and recruit and train an adequate number of credit staff for the operation of the rural savings and credit programme.

14. The Government will cause APB to ensure that changes in the ownership and governance structure of APB will not affect the terms and conditions of the subsidiary loan agreement.

15. The Government will ensure that: project funding for training and operating expenditures will flow directly to the line agencies at the provincial and district level to finance project activities against the approved AWP/B; line agencies will use sound government procedures to ensure that funds will be used to finance the pre-agreed work programmes; and all funds will be correctly accounted for. The Government will further ensure that PPMU and all entities and line agencies involved in project implementation follow accounting and recording procedures acceptable to IFAD.

16. The Government will ensure the inclusion of the first-year project AWP/B in its national budget for the fiscal year 1998/99 and will release the required government budgetary allocations for the financing of project activities in 1998/99. The Government will also ensure that it will make available the required incremental government counterpart contribution to the Province of Xieng Khouang,



promptly as required, on an annual basis, and in accordance with the AWP/B, for the financing and implementation of the project throughout the project implementation period.

17. The Government will make available adequate human and financial resources, promptly as required, for the continuous operation and maintenance of the rural access roads, bridges and other public investment financed under the project and make available adequate human and financial resources to support the recurrent costs of the project both during and after the project investment period. The beneficiaries will be responsible for the operation and maintenance of the irrigation facilities and drinking water supply schemes financed under the project.

18. The Government will ensure that it will conduct a baseline survey in the project area, with analysis of the gender and household-food-security situations, and establish a project monitoring and evaluation system from the village to the provincial level, satisfactory to IFAD, not later than six months from the date of this agreement.

19. The Government will ensure that all possible efforts will be made to coordinate the implementation of the project, within the framework of project objectives, approach and strategy, through the National Steering Committee (NSC), Provincial Steering Committee (PSC), District Steering Committees (DSCs) and the government administration authorities at the appropriate levels. The Government will assure that the proposed selection, eligibility and targeting criteria for the implementation of project activities will be strictly adhered to during project implementation, and priority will be given to women beneficiaries and resource-poor communities.

20. The Government will ensure that no project inputs serve directly or indirectly to facilitate opium cultivation or production, or the financing of resettlement of villagers.

21. The Government will ensure that effective measures and policies will be enforced to safeguard forest resources and endangered species in the project area.

22. The Government will ensure that the road construction and irrigation facilities financed under the project will follow sound environmental practices, and that due diligence will be exercised to ensure environmentally sound engineering design and careful monitoring during construction.

23. The Government will ensure that the planning and construction and/or rehabilitation of irrigation schemes and the construction of roads financed under the project will be coordinated with the work of the Government's Unexploded Ordnance Clearance Programme.

24. The Government will ensure that the key project staff, including the national project director and the district project directors, will not be transferred for at least three years after posting except in the case of unsatisfactory job performance, and that during project implementation there will not be more than one turnover of project directors of PPMU and the District Project Management Units (DPMUs). In the case of turnover, such new staff will have qualifications and experience satisfactory to IFAD.

25. The Government will cause all project implementing agencies and PPMU and DPMUs to prepare and maintain, in a timely manner, separate financial records and books of accounts, in accordance with generally accepted accounting principles, adequate to reflect the progress and operations of the project, including, *inter alia*, the special account, the project account, the APB account, the APB revolving fund, the government contribution and any other project-related account, and to identify its resources, operations and expenditures.



ANNEX

26. The Government will cause PPMU to submit semi-annual progress reports to IFAD in English, in a format acceptable to IFAD, no later than 15 May and 15 November of each year throughout the project period, starting on 15 May 1999.
27. The Government will ensure that PPMU will submit a project completion report in a format acceptable to IFAD not later than six months after the closing date of the loan.
28. The Government will ensure that the Technology Testing and Extension Centres (TTECs) located in Khoum and Nonghet districts of Xieng Khouang Province will be managed and administered efficiently by the Provincial Department of Agriculture and Forestry, and the Government will continue to provide adequate funding for TTEC recurrent expenditures after the completion of the project.
29. The Government will ensure that the irrigation credit fund, already repaid by beneficiaries during the first phase of the project and to be repaid during this project, will be efficiently managed and used by the Provincial Department of Agriculture and Forestry and PPMU for the expansion of irrigation facilities in the project area, involving local communities to the extent possible. The Government will assure that PPMU will submit guidelines and procedures for the use and management of the irrigation credit fund to IFAD for review and comment no later than 31 December 1998.
30. The Government will ensure that it will continue to apply a consistent cost-recovery policy for all irrigation investments in the project area during the project, including irrigation investments financed from internal and external sources.
31. The Government will ensure that effective arrangements will be made for coordination with other international agencies operating in the project area to ensure that: (a) uniform policies are adopted for the same sector or activity, such as credit, irrigation and staff incentives; (b) development activities financed by different external agencies in the same district are carefully phased to avoid constraints on the available human and financial resources; (c) findings and technology for upland farming-systems development, watershed management and agriculture in general, which have been developed by the externally assisted projects operating in the project area, will be fed back to the Provincial Government for replication elsewhere in the project area; and (d) all externally financed projects will provide training and support to strengthen the institutional capacity of the provincial and district agencies.
32. The Government will ensure that the audit report for the project will be a long-form report and will contain a separate management letter. A copy of the government response to the management letter will be submitted to IFAD no later than one month after the Government's receipt of the audit report.
33. No withdrawals will be made from the loan with respect to the incremental credit activities of the project until the Government will have entered into a subsidiary loan agreement with APB, which agreement will be consistent with the terms of the loan agreement and be acceptable to IFAD.

COUNTRY DATA

LAOS

Land area (km² thousand) 1995 1/	231	GNP per capita (USD) 1996 2/	400
Total population (million) 1996 1/	5	Average annual real rate of growth of GNP per capita, 1990-96 2/	3.9
Population density (people per km²) 1996 1/	20	Average annual rate of inflation, 1990-96 2/	11.1
Local currency	Kip (LAK)	Exchange rate (August 1998): USD 1 =	LAK 3 700
Social Indicators		Economic Indicators	
Population (average annual population growth rate) 1980-96 1/	2.4	GDP (USD million) 1996 1/	1 857
Crude birth rate (per thousand people) 1996 1/	40	Average annual rate of growth of GDP 1/ 1980-90	3.7
Crude death rate (per thousand people) 1996 1/	14	1990-96	6.7
Infant mortality rate (per thousand live births) 1996 1/	101	Sectoral distribution of GDP, 1996 1/	
Life expectancy at birth (years) 1996 1/	53	% agriculture	51.9
Number of rural poor (million) 1/	2	% industry	20.5
Poor as % of total rural population 1/	53.0	% manufacturing	15.4
Total labour force (million) 1996 1/	2	% services	27.6
Female labour force as % of total, 1996 1/	47.0	Consumption, 1996 1/	
Education		General government consumption (as % of GDP)	n.a.
Primary school gross enrolment (% of relevant age group) 1995 1/	<i>107.0</i>	Private consumption (as % of GDP)	n.a.
Adult literacy rate (% of total population) 1994 3/	55.8	Gross domestic savings (as % of GDP)	12.0
Nutrition		Balance of Payments (USD million)	
Daily calorie supply per capita, 1992 3/	2 259	Merchandise exports, 1996 1/	334
Index of daily calorie supply per capita (industrial countries=100) 1992 3/	73	Merchandise imports, 1996 1/	642
Prevalence of child malnutrition (% of children under 5) 1990-96 1/	40.0	Balance of merchandise trade	- 308
Health		Current account balances (USD million)	
Health expenditure, total (as % of GDP) 1990-95 1/	2.6	before official transfers, 1996 1/	- 227
Physicians (per thousand people) 1994 1/	<i>0.2</i>	after official transfers, 1996 1/	- 121
Access to safe water (% of population) 1990-96 3/	52	Foreign direct investment, 1996 1/	104
Access to health service (% of population) 1990-95 3/	67	Government Finance	
Access to sanitation (% of population) 1990-96 3/	28	Overall budget surplus/deficit (including grants) (as % of GDP) 1995 1/	n.a.
Agriculture and Food		Total expenditure (% of GDP) 1995 1/	n.a.
Food imports as percentage of total merchandise imports 1996 1/	n.a.	Total external debt (USD million) 1996 1/	2 263
Fertilizer consumption (hundreds of grams per ha of arable land) 1994-96 1/	46	Total external debt (as % of GNP) 1996 1/	45
Food production index (1989-91=100) 1994-96 1/	115	Total debt service (% of exports of goods and services) 1996 1/	6.3
Land Use		Nominal lending rate of banks, 1996 1/	27.0
Agricultural land as % of total land area, 1994 4/	7.4	Nominal deposit rate of banks, 1996 1/	16.0
Forest area (km ² thousand) 1995 1/	n.a.		
Forest area as % of total land area, 1995 1/	n.a.		
Irrigated land as % of cropland, 1994-96 1/	18.4		

n.a. not available.

Figures in italics indicate data that are for years or periods other than those specified.

1/ World Bank, *World Development Report*, 1998

2/ World Bank, *Atlas*, 1998

3/ UNDP, *Human Development Report*, 1997

4/ World Bank, *The World Development Indicators CD-ROM*, 1998

PREVIOUS IFAD LOANS/GRANTS IN LAOS

Project Name	Initiating Institution	Cooperating Institution	Lending Terms	Board Approval	Loan Effectiveness	Current Closing Date	Loan/Grant Acronym	Currency	Approved Loan/Grant Amount	Disbursement (as % of approved amount)
Casjer-Sud Pioneer Agricultural Project	IFAD	AsDB	HC	18 Sep 79	15 Feb 80	31 Dec 86	L - I - 022-LA	SDR	0.13	100
Agricultural Production Project	IFAD	World Bank: IDA	HC	12 Sep 83	08 Jun 84	31 Mar 91	L - I - 130 - LA	SDR	6.60	100
Rural Credit Project	IFAD	World Bank IDA	HC	17 Dec 81	01 Oct 82	31 Dec 88	L - I - 207 - LA	SDR	3.37	100
Xieng Khouang Agricultural Development Project	IFAD	UNOPS	HC	19 Apr 90	08 Mar 91	31 Dec 98	L - I - 256 - LA	SDR	2.60	93
Bokeo Food Security Project	IFAD	UNOPS	HC	19 Apr 94	07 Aug 95	30 Sep 02	L - I - 351 - LA	SDR	2.95	36
Northern Sayabouri Rural Development Project	IFAD	UNOPS	HC	04 Dec 97	30 Mar 98	31 Dec 04	G - I - 49 - LA	USD	50 000	72
Northern Sayabouri Rural Development Project	IFAD	UNOPS	HC	04 Dec 97	30 Mar 98	31 Dec 04	L - I - 459 - LA	SDR	5.30	7.1

Note: HC = highly concessional.



LOGICAL FRAMEWORK

Project Description	Performance Indicators	Means of Verification	Assumptions/Risks
Overall Project Objectives: <ol style="list-style-type: none"> Poverty of both men and women reduced. Household food and income security and nutrition improved. Alternatives to opium production increased. 	Per capita incomes. Increased crop and livestock production and household food consumption. Reduced opium production. Beneficiary participation in project activities and decision-making.	National statistics (GDP, poverty incidence imports and exports, agricultural production, incomes, opium production etc.). Line agency and donor agency reports. Statistical reports produced by Laos and donor agencies.	Project reporting, M&E systems function.
Immediate Objective: Target the poor from all ethnic groups and implement development activities in response to the requirements of the target group.	Participatory development approach is part of the work culture of the line agencies and participatory rural appraisals (PRAs) are done prior to the preparation of the annual plans.	Annual beneficiary evaluation workshops. Project completion report (PRC). AWPBs and PRA records.	AWPBs prepared. Annual beneficiary evaluation workshops are held.
Outputs: <ol style="list-style-type: none"> Participatory approaches used to prepare the plans for project activities in clusters of poor villages that target project assistance to the poor. 	PRAs are done in 372 targeted villages for project assistance over the project period of six years and AWPBs based on the priorities identified.	PRA records and AWPBs.	Villagers identify realistic priorities for inclusion in AWPBs. TA effective.
<ol style="list-style-type: none"> Irrigation command area increased, scheme maintenance costs reduced at farm level and paddy yields increased. 	1 670 ha irrigated in the wet season of which 775 ha incremental. An extra 825 ha irrigated in the dry season. Paddy yields on new and improved schemes 2.9 t/ha in the wet season and 2.5t/ha in the dry season.	Field surveys. Provincial irrigation section (PIS) reports. Monitoring reports, mid-term review (MTR) and PCR reports.	There is demand for irrigation development with suitable sites available in the targeted villages.
<ol style="list-style-type: none"> Increased production of dry season crops in existing and new irrigation commands and of alternative wet season crops in villages without irrigation. 	Demonstration plot crop yields. Farmers adopt new crops in the uplands and increase the cropping intensity in the irrigated areas.	Monitoring surveys, village statistics, provincial statistics for marketed crops, MTR and PCR reports.	Farmers find the crop options attractive. Markets develop for vegetable and non staple crops. Project support to technology testing and extension centres (TTECs) is effective and perennial crop planting material supply can be organized.
<ol style="list-style-type: none"> Higher livestock productivity through improved management of cattle, pigs, chicken and fish and improved animal health services. 	Vaccination targets by PY6: cattle and buffalo 65%; pigs 60%, poultry 50%. Increase in marketed livestock production.	Provincial Agriculture and Forestry Service Office (PAFSO) statistics, village statistics, provincial statistics for livestock production, MTR and PCR.	Farmers have sufficient incentives to invest more on livestock management than at present. Fingerlings available through project assistance to the Provincial fish farm.
<ol style="list-style-type: none"> Improved and expanded rural financial services, with loans provided at prevailing market rates of interest. 	Incremental credit lending reaches USD 73.8 million in PY6 % with an increase in the volume of savings. Beneficiaries earning higher incomes.	APB reports including annual audit reports, MTR and PCR reports. Monitoring surveys.	Beneficiaries are prepared to take up credit at prevailing commercial rates.
<ol style="list-style-type: none"> Improved health, nutrition and productivity of the local population through drinking water supplies. 	Incidence of water-borne diseases.	Analysis of village health centre records	Villagers identify technically and financially feasible water supply schemes during the PRAs.
<ol style="list-style-type: none"> Improved road access for remote rural communities giving access to services, markets and a reduction in opium cultivation. 	No. of vehicles per day using project roads and produce exported from the villages. School and health centre attendance. Opium production.	Monitoring surveys. School and health centres attendance records. Lao National Commission for Drug Control and Supervision (LCDC)/UNDCP opium production reports.	Roads selected target remote and isolated areas.
Activities: <ol style="list-style-type: none"> Participatory development <ul style="list-style-type: none"> select clusters on basis of household food security. carry out village participatory appraisals in 372 targeted villages to select development activities for inclusion in annual work plan and budgets (AWPBs). assist communities to organize user groups prior to construction of irrigation and rural infrastructure. provide credit to respond to viable activities. 	Poor villages targeted villages and included in district and project AWPBs. Presence of WUGs, village water supply organization and local road maintenance groups. Villager satisfaction with project activities (e.g., crop demonstrations, livestock and credit activities).	Integrated rural accessibility project of UNDP (IRAP) village data bases and district and project AWPBs. Numbers of village user organizations physically in place and operating. Annual beneficiary evaluations. MTR and PCR reports.	The approach of working with targeted village clusters and using PRA to identify project activities is followed during project implementation.





APPENDIX III

Project Description	Performance Indicators	Means of Verification	Assumptions/Risks
<p>2. Irrigation construction and improvement</p> <ul style="list-style-type: none"> • assess feasibility of sites proposed during PRAs. • select sites for construction as per the selection and targeting criteria. • survey and design suitable sites. • negotiate agreements for beneficiary contribution and O&M. • construct and hand over schemes to WUGs. 	<p>20 small irrigation schemes and 50 new micro schemes constructed. 15 schemes rehabilitated. Farmer contribution in labour and materials 15% of cost and farmer loans 45% of scheme cost. WUG formed and trained. Average cost USD 1 000/ha new schemes, USD 600/ha rehabilitated schemes, USD 300/ha microschemes (USD 1 200/ha Nonghet and Mok).</p>	<p>Village records, PIS reports, tender committee minutes, copies of contracts, construction supervision reports, physical inspection and payment records.</p>	<p>Villagers agree to form WUGs responsible for beneficiary contribution to construction, to repay up to 45% of the costs and beneficiaries be responsible for O&M.</p>
<p>3. Crop-extension services</p> <ul style="list-style-type: none"> • demonstrate alternative crops including crops new to the area. • strengthen village agricultural workers through training. • test market with farmers crops new to the area. 	<p>Rainfed and tree crop demonstrations in 372 villages and irrigated crop demonstrations in 124 villages. One model farmer per cluster (82) and four farmers trained including one village agricultural worker per village (372). Markets found for crops new to the area.</p>	<p>Village records, PAFSO reports, Ministry of Commerce Reports on markets for new crops, beneficiary evaluations, MTR and PCR reports.</p>	<p>Farmers interested in undertaking demonstrations</p>
<p>4. Improved livestock production</p> <ul style="list-style-type: none"> • improve the management of the cattle banks. • improve the cold chain to provide effective vaccination services. • introduce a forage development programme. • strengthen the network of VLWs. • promote fish production. 	<p>Repayment rates for the 39 cattle banks. Cold chain operating and revolving fund for drugs available. By PY6 hold the following numbers of field days per annum: live fencing 28, forage crops 20, pig and poultry 30 and aquaculture 2. 210 new village livestock workers (VLWs) appointed and 312 trained. Disease surveys in one village per district from PY3.</p>	<p>Village records, cattle bank records, PAFSO reports, village disease survey reports, beneficiary evaluations, MTR and PCR reports.</p>	<p>Livestock remains an attractive marketable enterprise to farmers.</p>
<p>5. Income diversification</p> <ul style="list-style-type: none"> • mobilize beneficiaries for savings and uptake of credit for income-generating activities. • provide training and advice to beneficiaries. • open rural financial service centres • improve APB's banking operations. • provide training to APB and LWU staff. 	<p>Number of groups formed and number of beneficiaries trained. Volume of savings mobilized. Number and value of loans disbursed. On-time loan repayment rate. Open two rural financial centres. Financial performance of APB provincial services unit. Number of APB and LWU staff trained, type of training. TA provided.</p>	<p>LWU and APB reports, including audits. Monitoring, MTR and PCR reports.</p>	<p>APB's willingness to improve its banking operations and financial viability. TA effective.</p>
<p>6. Improved drinking water supplies</p> <ul style="list-style-type: none"> • survey and design suitable sites. • select sites for construction per the selection criteria and targeting. • negotiate agreements for beneficiary contribution and O&M. 	<p>56 gravity water supply schemes and spring protection works constructed. 240 dug wells completed. Communities contribute about 20% of the costs as labour and materials. User groups trained.</p>	<p>DPH reports, tender committee minutes, copies of contracts, construction supervision reports, physical inspection and payment records.</p>	<p>Communities are willing to contribute to the cost of scheme construction (labour and materials) and to enter into agreements for O&M.</p>
<p>7. Improved rural access roads</p> <ul style="list-style-type: none"> • survey and design rural access roads. • construct rural access roads using labour-based methods. • mobilize beneficiaries for road maintenance. • provide training to staff at all levels. 	<p>320 km of roads surveyed and designed. 270 km of roads constructed using labour-based methods. Construct five Bailey bridges. Road maintenance contracts drawn up with communities.</p>	<p>PCTPC reports, tender committee minutes, copies of contracts, construction supervision reports, physical inspection and payment records.</p>	<p>Communities have adequate labour available to participate in labour-based construction, are willing to work as labourers and agree to undertake routine road maintenance on contract.</p>

QUANTITATIVE INPUTS, TARGETS AND KEY PROJECT FACTORS

I. Quantitative Inputs	PY1	PY2	PY3	PY4	PY5	PY6	PY7	Total	
Agricultural development component									
New irrigation schemes (no)	0	4	4	4	4	4	0	20	
Rehabilitated irrigation schemes (no)		3	3	3	3	3	0	15	
Microirrigation schemes (no)		5	10	15	10	10	0	50	
Access roads to new irrigation schemes (no)		16	16	16	16	16	0	80	
Farmer training in water use and O&M (course)	10	17	29	29	24	14	7	130	
Staff training in irrigation (persons)	0	2	6	6	4	4	2	24	
Crop demonstration-rainfed (no)	94	172	209	222	178	96	30	971	
Crop demonstration-dry season irrigated (no)	31	57	69	73	58	32	10	330	
Crop demonstration-tree crop (no)	94	188	199	214	168	76	17	956	
Staff training in crops (days)	1100	460	490	310	490	310	280	3440	
Farmer training in crops (days)	2378	4759	6258	7874	8089	7206	6498	43062	
Livestock staff training (days)	582	479	513	542	490	480	40	3126	
Livestock farmers training (days)	964	3214	4214	4000	4000	4000	0	20392	
Income diversification component									
APB staff training (days)	528	72	0	0	0	0	0	600	
LWU staff training (days)	274	327	338	345	295	295	0	1874	
Women beneficiary training (days)	94	147	158	165	115	73	0	752	
TA credit adviser for APB (person/months)	9	12	3	2	2	2	0	30	
Incremental credit lending (USD'000)	0	128	160	192	160	98	0	738	
Rural infrastructure development component									
Gravity water supply schemes (no)	0	4	8	16	16	12	0	56	
Spring protection works (no)	0	4	8	16	16	12	0	56	
Dug well (no)	0	20	40	60	60	60	0	240	
Staff training in water supply (course)	3	3	2	0	0	0	0	8	
Rural access roads (km)	39	55	58	65	43	10	0	270	
Bridges (no)	0	0	1	2	1	1	0	5	
Hand tools (sets)	0	0	10	10	15	15	15	65	
Staff training in roads survey, design and constrn	5	4	4	0	0	0	0	13	
Farmer training in labour intensive roads construn	10	10	15	15	10	0	0	60	
TA int'l roads engineer (person/months)	3	4	3	0	0	0	0	10	
TA United Nations volunteer rural engineer (person/months)	9	12	12	12	3	0	0	48	
Institutional strengthening component									
PPMU & DPMU training (persons/days)	330	330	0	170	0	0	0	830	
Line agency training (person/days)	200	200	200	200	200	200	200	1400	
Participatory development training (person/days)	510	120	0	0	0	0	0	630	
Study tours on PRA (days)	165	0	165	0	165	0	0	495	
TA PRA (person/months)	9	12	12	0	0	0	0	33	
M & E training (days)	60	60	60	30	0	0	0	210	
Baseline survey (person/months)	4	0	0	0	0	0	0	4	
2. Project Cost Summary (Incl. Contingencies) and Financing (USD '000)									
	Total	IFAD	UNDCP	Beneficiaries	Government	% of Total			
Agricultural development	3,043	2,527	0	279	237	33.6			
Income diversification	1,282	915	338	0	29	14.2			
Rural infrastructure development	3,623	2,897	298	191	238	40.0			
Institutional strengthening	1,106	594	279	0	232	12.2			
Total	9,054	6,933	915	470	736	100			
3. Economic Rate of Return and Sensitivity Analysis (%)									
Basic case	13.4%	4. Economic Analysis of Project Activities							
Costs increase by 20%	10.6%	Irrigation Improvement and Lowland Extension					24%		
Benefits reduced by 20%	10.0%	Upland Extension					66%		
Costs up 10% & benefits down 10%	10.3%	Veterinary Cold Chain for vaccination					38%		
Costs up 20% & benefits down 20%	7.4%								
Net benefits lagged by one year	11.3%								
Net benefits lagged by two years	9.6%								

5. Benefits and Targets

Total Irrigation Command Area	2459 ha
Improved Irrigation: Wet Season	1670 ha
Improved Irrigation: Dry Season	825 ha
Net Incremental Irrigation Area	1600 ha
Net Incremental Wet Season	775 ha
Net Incremental Dry Season	825 ha
Incremental Paddy Production	2903 tons
Incremental Maize Production	265 tons
Incremental Ginger Production	700 tons
Incremental Potatoes Production	4758 tons
Incremental Chilli Production	100 tons
Incremental Garlic Production	1452 tons
Incremental Vegetables Production	1659 tons
Incremental Tree Crop Production	450 tons

6. Beneficiaries

Irrigation Schemes	1700 households
Lowland Extension	12000 households
Upland Extension	11500 households
Cold Chain Vaccination	18000 households
Credit	4800 sub-borrowers
Rural Feeder Roads	15000 households
Rural Water Supply	6250 households

7. Project Objectives:

Reduced poverty for both men and women, increased household food and income security, improved nutrition for the poor and an increase in the availability of alternatives to opium poppy cultivation in the project area.

8. Project Area:

Seven districts of Xieng Khouang Province of Laos: Pek, Kham, Nonghet, Khoume, Mok, Phoukout and Phaxay.

9. Project Target Group:

Disadvantaged population and the rural poor who are not food self-sufficient (less than 350 kg of rice per capita per year) and live below the national poverty line.

10. Project Strategy:

- To follow a beneficiary participatory approach based on participatory planning to enhance beneficiary participation in and ownership of the project;
- To take villages as the entry point in clusters to ensure maximum benefits and efficient use of human and financial resources available;
- To decentralize project implementation to beneficiaries, local communities, villages, districts and line agencies to build up their institutional capacity during the development process;
- To encourage beneficiary contribution to investment of direct benefit to them to enhance their sense of ownership;
- To encourage women to participate in all project activities, including skills and technical training and on and off-farm activities to mainstream and empower them in the process of decision-making and development;
- To institutionalize project implementation within the existing government system and procedures to ensure project sustainability; and
- To cofinance with UNDCP and collaborate with other donors to ensure synergy and complementarity.

11. Project Instruments:

- Improvement of existing and construction of new irrigation schemes to expand the irrigated area for wet and dry season crops;
- Provision of extension services through training and demonstration and completion of the network of village voluntary workers;
- Launching of forage management and livestock vaccination programmes to improve livestock productivity and reduce animal mortality and improvement of the operation and management of the cattle bank programmes;
- Improvement of food and income security through crop diversification and other on and off-farm income-generating activities;
- Provision of savings and credit services through APB to enhance its outreach capacity and financial viability and sustainability of its banking operations;
- Provision of basic social services of drinking water supply to the disadvantaged villages to improve their health and productivity, particularly women;
- Improvement of rural access roads to remove the isolation of remote and poor communities and to create new social and economic opportunities;
- Provision of training and equipment to strengthen the institutional capacity of key government service providers and empower the local communities and beneficiaries in rural development.





APPENDIX V

COSTS AND FINANCING

**Expenditure Accounts by Components - Base Costs
(USD '000)**

	Agricultural Development	Income Diversification	Rural		Physical Contingencies		
			Infrastructure Development	Institutional Strengthening	Total	%	Amount
I. Investment costs							
A. Civil works							
Irrigation	1 508	-	-	-	1 508	4.8	72
Roads	-	-	2 009	-	2 009	5.0	100
Govt. buildings	40	6	-	-	46	5.0	2
Rural water supply	-	-	707	-	707	5.0	35
Subtotal civil works	1 548	6	2 716	-	4 271	4.9	210
B. Equipment	139	48	52	117	356	5.0	18
C. Materials	232	-	-	-	232	-	-
D. Vehicles	132	64	66	170	432	-	-
E. Credit	-	738	-	-	738	-	-
F. Training							
Study tours	18	-	-	-	18	-	-
In-service training	231	19	12	8	271	-	-
PRA training	-	-	-	20	20	-	-
Subtotal training	249	19	12	28	309	-	-
G. TA							
International road expert	-	-	150	-	150	-	-
International PRA specialist	-	-	-	90	90	-	-
	-	330	-	-	330	-	-
International financial services spec.							
United Nations volunteer engineer	-	-	140	-	140	-	-
Local technical assistance	-	-	-	50	50	-	-
Baseline survey & monitoring spec.	-	-	-	60	60	-	-
Subtotal technical assistance	-	330	290	200	820	-	-
H. Direct hire / local contracts	86	7	-	110	204	-	-
Total investment costs	2 387	1 213	3 136	626	7 362	3.1	228
II. Recurrent costs							
A. Salaries							
	-	-	-	83	83	-	-
B. Allowances							
	149	13	12	50	224	-	-
C. O&M							
Vehicles	94	24	52	140	310	-	-
Equipment	95	12	-	82	189	-	-
Subtotal operation & maintenance	189	36	52	222	499	-	-
D. Maintenance							
Govt. buildings	-	-	-	13	13	-	-
Road maintenance	-	-	46	-	46	-	-
Irrigation structures	25	-	-	-	25	-	-
Community structures	-	-	14	-	14	-	-
Subtotal Maintenance	25	-	60	13	98	-	-
E. Travel							
Travel for local staff	-	-	-	2	2	-	-
Travel for TA	-	8	8	54	70	-	-
Subtotal travel	-	8	8	56	72	-	-
Total recurrent costs	363	58	131	423	976	-	-
TOTAL BASELINE COSTS	2 750	1 271	3 267	1 050	8 338	2.7	228
Physical Contingencies	81	3	138	6	228	-	-
Price Contingencies							
Inflation							
Local	812	22	543	160	1,537	-	-
Foreign	68	4	120	21	213	-	-
Subtotal Inflation	880	27	663	180	1,750	-	-
Devaluation	-668	-18	-445	-130	1,262	-	-
Subtotal Price Contingencies	212	9	218	50	488	3.3	16
TOTAL PROJECT COSTS	3 043	1 282	3 623	1 106	9 054	2.7	244
Taxes	133	18	172	59	382	3.2	12
Foreign Exchange	1 055	470	2,112	670	4 306	2.9	124

**Disbursement Accounts by Financier
(USD '000)**

	IFAD		UNDCP		Beneficiaries		Government		Total		For. Exch.	Local (Excl. Taxes)	Duties & Taxes
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%			
A. Investment													
1. Civil Works													
Irrigation	1 364	79.7	-	-	251	14.7	96	5.6	1 711	18.9	589	1 040	82
Roads, Bridges, Govt. Buildings	2 177	95.0	-	-	-	-	115	5.0	2 292	25.3	1 113	1 064	115
Community Infrastructure	596	73.3	-	-	175	21.6	41	5.1	812	9.0	561	211	41
Subtotal Civil Works	4 137	85.9	-	-	426	8.9	252	5.2	4 815	53.2	2 263	2 315	237
2. Vehicles	353	80.0	-	-	-	-	88	20.0	441	4.9	353	-	88
3. Equipment and Materials	596	92.5	5	0.8	-	-	44	6.8	644	7.1	367	257	20
4. Training													
a. In-Service and Study Tours	308	100.0	-	-	-	-	0	-	308	3.4	76	232	0
b. Additional Training (Nonghet)	-	-	20	100.0	-	-	-	-	20	0.2	5	15	-
Subtotal Training	308	93.9	20	6.1	-	-	0	-	328	3.6	81	247	0
5. Technical Assistance	-	-	820	100.0	-	-	-	-	820	9.1	820	-	-
6. Local Contracts /a	212	95.4	-	-	-	-	10	4.6	222	2.5	-	212	10
7. Credit	738	100.0	-	-	-	-	-	-	738	8.2	-	738	-
Subtotal Investment	6 343	79.2	845	10.6	426	5.3	394	4.9	8 008	88.4	3 884	3 768	356
B. Recurrent													
1. Salaries	-	-	-	-	-	-	90	100.0	90	1.0	-	90	-
2. Allowances and Travel													
a. Allowances and Lao Travel /b	187	76.1	-	-	-	-	59	23.9	246	2.7	1	245	-
b. TA Travel	-	-	70	100.0	-	-	-	-	70	0.8	35	35	-
Subtotal Allowances and Travel	187	59.2	70	22.2	-	-	59	18.6	316	3.5	36	280	-
3. Operation and Maintenance /c	403	76.0	-	-	-	-	128	24.0	531	5.9	386	118	27
4. Maintenance of Civil Works													
Irrigation	-	-	-	-	28	100.0	-	-	28	0.3	-	28	-
Roads, Bridges, Govt. Buildings	-	-	-	-	-	-	66	100.0	66	0.7	-	66	-
Community Infrastructure	-	-	-	-	16	100.0	-	-	16	0.2	-	16	-
Subtotal aintenance of Civil Works	-	-	-	-	44	39.9	66	60.1	109	1.2	-	109	-
Subtotal Recurrent	590	56.4	70	6.7	44	4.2	342	32.7	1 046	11.6	422	598	27
Total	6 933	76.6	915	10.1	470	5.2	736	8.1	9 054	100.0	4 306	4 366	382

a Includes direct hire staff, local consultancies and contracts
b IFAD financing percentage declines: 90,90,80,80,70,70,60
c IFAD financing percentage declines: 90,90,80,80,70,70,60





ORGANIZATION AND MANAGEMENT

A. Overall Project Organization

1. Project implementation will be the responsibility of the Xieng Khouang Provincial Government. The most important partners and client in the project are the beneficiaries. At the village level, the beneficiaries, the village committees, the user groups and the village worker network will play a major role in project implementation. Community-based groups are a key part of the participatory development strategy upon which the project is based and for which the PPMU will be responsible. These community groups will include: (i) savings and credit groups formed by APB with the assistance of LWU and the line agencies; (ii) water user groups formed under the irrigation sub-component who will actively participate in the identification of scheme improvements, in the rehabilitation and/or construction works through the provision of labour and materials and who will be responsible for scheme O&M; and (iii) village water user committees who will have a similar role to the irrigation WUGs in respect of the village water supply schemes. In addition, the project will provide training to strengthen the network of village agricultural workers (VAWs) and village livestock workers (VLWs) who will provide complementary extension services to their fellow villagers in agriculture and livestock.

2. The PPMU is already in place in the Deputy Provincial Governors' office and responsible to a provincial and national steering committee in the Provincial Governor's and Prime Minister's office, respectively. The PPMU will manage and coordinate the project. Support will come from a district project management unit (DPMU) in each district attached to the office of the deputy district chief, which will report to a DSC established in each project district. Implementation of project activities will be the responsibility of the beneficiaries, local communities and provincial and district line agencies. Line agency outreach to the villages will be assisted by completing and extending the village worker network. Rural savings and credit services will be the responsibility of the APB under a subsidiary loan agreement with the Ministry of Finance (MOF). The line agencies and mass organizations involved with the implementation of project activities are the provincial and district departments: Agriculture and Forest services (PAFSO and DAFSOs); the Lao Women's Union (LWU); Health (PDH and DHO); Communication, Transport, Posts and Construction (PCTPC and DCTPC); and APB.

3. The PPMU will report to a provincial steering committee (PSC) chaired by the deputy provincial governor and with a membership comprising senior representatives from the following departments: finance; planning; agriculture and forests; communications; transport; post and construction; and health and commerce. In addition, representatives will be drawn from: the LWU; the APB branch office; the rural development committee and the provincial cabinet, with the national project director as secretary. The PPMU will have a liaison office in Vientiane responsible for ensuring contact with the national authorities and donor agencies.

4. A national steering committee (NSC) will be formed. The NSC will comprise senior representatives from the Committee for Investment and Cooperation (CIC); the State Planning Committee; the ministries of finance, agriculture, transport, communication, post and construction, health; the rural development committee, the Lao National Commission on Drug Control and Supervision (LCDC); the LWU; the APB; and representatives from Xieng Khouang Province including the deputy governor in charge of economic and social development and the national project director. A minister from the Prime Minister's Office will be the chairperson.



5. The DSC will be established in each project district with the deputy district chief as the chairman and representatives of the line agencies and two beneficiary representatives (at least one a woman) from each cluster of targeted villages as members.

B. Project Implementation Arrangements and Responsibilities

6. **Implementation arrangements.** Implementation responsibility for all project activities will be delegated to the relevant line agencies and local communities to the extent possible. With the assistance of the participatory development and TA provided by UNDCP, the PPMU will be responsible for implementing and coordinating the participatory development and conducting PRA exercises in the targeted villages in cooperation with the line agencies and DPMUs. The PRAs will be undertaken by a team of three, comprising representatives from Agriculture, Health and LWU. Project implementation at the village level will be assisted by the village committees and model farmers and by extending and completing the village networks of agriculture and livestock workers. These arrangements will ensure the beneficiary participation in implementing project activities and decision-making.

7. **Implementation responsibilities.** The **steering committees** at the national, provincial and district levels will provide policy guidance, consider and approve the AWPBs, monitor physical and financial progress, and resolve implementation problems appropriate to their level of operation. Steering committees will meet quarterly or more often when necessary.

8. The **PPMU** will have responsibility for the overall management of the project and will ensure that: (i) the project targets poor villages in proportion to the ethnic composition of the province; and (ii) the DPMUs with staff of the implementing line departments and LWU carry out PRA exercises in project villages prior to the preparation of AWPBs. PPMU will also: (i) prepare guidelines for project management and accountability in the use of project funds; (ii) organize suitable planning, reporting and M&E procedures, formats and schedules; (iii) prepare and consolidate documentation for procurement; (iv) assist line agencies and DPMUs to prepare AWPBs and consolidate them for presentation to the DSCs, PSC and NSC for approval; (v) assist DPMUs in consolidating and processing eligible project expenditures for consolidation by the PPMU and subsequent preparation of withdrawal applications by MOF for onward transmission to IFAD; (vi) consolidate, translate and submit six monthly progress reports to the PSC and NSC and IFAD and the cooperating institution; (vii) document all expenditure receipts and other financial information for use by supervision missions and by the annual audit which it will arrange; and (viii) monitor DPMUs and line agencies in terms of physical and financial progress, targeting, beneficiary participation and impact of project activities.

9. PPMU together with PAFSO will ensure that, with the involvement of the local communities in the process, the irrigation credit already repaid during Phase I and to be repaid during Phase II is used to finance the expansion of the irrigation facilities in the province in accordance with guidelines and procedures agreed with IFAD.

10. The duties and responsibilities of the DPMUs will follow from those of the PPMU. DPMUs will: (i) ensure that all agencies deliver satisfactory work programmes for the targeted villages based on PRA exercises; and (ii) be responsible for district level delivery of project financing to the line agencies and for ensuring that the funds used are accounted for satisfactorily.

11. **PAFSO and DAFSOs** will implement activities related to irrigation, crops, livestock and fisheries under the project. DAFSO staff assisted by provincial staff will: (i) prepare AWPBs based on the findings from the participatory planning exercises; (ii) organize necessary training; (iii) identify model farmers and village agriculture and livestock workers; (iv) form water user groups and



APPENDIX VI

carry out extension with the involvement of village communities; and (v) account for all funds received and provide regular progress reports both to PAFSO and PPMU and DPMUs. PAFSO will ensure that upland crop production, watershed management and agriculture technology developed by other externally financed projects in the province is made available for replication elsewhere in the province.

12. **Irrigation.** The irrigation sections of the DAFSOs will prioritize the requests from farmers for assistance with the provincial irrigation section (PIS) based on the selection criteria. The following are the responsibilities of the irrigation sections of DAFSOs and WUG's: (i) prior to the start of construction the beneficiaries will form a WUG and DAFSO will assign an irrigation technician full time to supervise the work; (ii) the WUG will select an executive committee; (iii) an agreement will be signed between the WUG and the PIS detailing roles and responsibilities before, during and after construction of the scheme, including division of rights and responsibilities, control of resources, provision of labour and materials, extent of the recovery of investment costs, water use and operation and maintenance; (iv) after completion of each scheme PIS and WUG will carry out an inspection prior to formal handover of ownership to WUG and endorsement of payment to the contractors; (v) training will be organized during the O&M phase to demonstrate water use management practices; and (vi) WUGs will be responsible for O&M activities but will receive assistance from the DAFSO in the preparation of O&M plans, costs and arrangements for necessary repairs.

13. **Crops.** Provincial staff will receive technical training from headquarters in Vientiane and will become trainers to train and support the district staff. District agricultural officers will plan and organize selection of model farmers and the programmes of crop demonstrations in the targeted villages. The choice of the crops will depend upon the findings of PRA exercises. Crop staff will estimate input requirements for the model farmers and demonstrations and develop a detailed programme of work including: (i) assisting village committees to select four trainees including at least one women per village, one of whom will become the VAW and crop demonstrator; (ii) carrying out training of all trainees from each village in the cluster in the focal village; (iii) organizing a programme of four extension visits each year to each village which is in or has been in a cluster; and (iv) making arrangements with the DPMU and APB for the supply of seed and inputs required by farmers wishing to adopt demonstrated technology.

14. **Livestock.** Provincial livestock staff will receive technical training from headquarters in Vientiane and will become trainers to train and support the district staff. They will provide technical support for livestock credit in cooperation with the LWU and APB. The diagnostic laboratory staff will assist provincial staff to train district staff and VLWs in veterinary matters including cold chain management and vaccination, ensure that vaccines are held in stock to meet district requirements and carry out annual disease surveys in each district. The district staff will organize demonstrations in response to the villagers' demands, farmer training and field days, monitor cattle bank performance and ensure that the cold chain is maintained and functional and that the targeted expansion of vaccination programmes occurs. Fisheries staff in the provincial office and at Khoung Pok station will promote pond and paddy aquaculture throughout the province in response to beneficiary demand.

15. **Income diversification.** The LWU will participate in the village PRA exercises and will make their annual plans available for incorporation into the district and provincial AWPBs. The LWU will ensure that village women are made aware of the project activities and trained to enable their participation. This will entail working in close cooperation with the line agencies. LWU will build upon their existing experience of group formation and with village revolving funds assist APB to establish self-help savings and credit groups and develop savings programmes in the villages.



16. **APB** will provide rural financial services under a subsidiary loan agreement with MOF and establish a provincial revolving fund for which the Xieng Khouang Service Unit of APB will be responsible. APB will: (i) cooperate with LWU to promote self-help savings and credit groups with savings activities in the villages; (ii) participate in PRA exercises to develop likely credit demand for inclusion in district and provincial AWPBs; (iii) develop its sub-loan appraisal capacity to determine the appropriate duration and repayment terms to be applied to sub-loans; (iv) once the groups are mature, make credit available to members of groups for any legal and financially viable activity on prevailing commercial terms; (v) assisted by TA, review and amend existing procedures to enable APB to manage and account for the provincial revolving fund; (vi) with the assistance of the TA, provide staff training in banking, accounting, management, loan appraisal, computerization, reporting, monitoring and auditing; and (vii) improve the systems and discipline of banking, accounting, reporting, monitoring, supervision and auditing.

17. **Rural infrastructure. PDH** will be responsible for the rural water supply programme. PDH and its district staff will: (i) carry out the detailed planning based on PRA exercises and villagers' willingness to share the cost of construction and be responsible for O&M; (ii) be responsible for the development of AWPBs; and (iii) organize the survey design and construction of schemes, including preparation of tender documentation, evaluation of bids, supervision of construction and certification of contract payments.

18. **PCPTC** will implement the rural roads sub-component and will: (i) prepare AWPBs based on priority roads selected; (ii) prepare tender documents, evaluate bids, supervise construction and certify contract payments; and (iii) be responsible for overall planning and supervision of maintenance. District staff will be responsible for detailed arrangements with participating villages for maintenance of roads and bridges, including the provision of tools. PCPTC will ensure that labour-based construction is used whenever possible, employing members of the communities to benefit from the roads and that it is organized during the agricultural off-season so as not to have a negative impact on food production.

19. All agencies will account for all project funds provided. Specialist TA is an essential element of the project. Training is key element of all project components. It will involve both staff and farmers and costs for training have been included for each component in the project costs and a detailed training plan has been prepared.

20. Chart 1 shows the project organization structure and the links between the implementing agencies, the project management units at district and provincial level and the steering committees. Chart 2 shows the flow of funds from IFAD to the beneficiaries.



Chart 1: Project Organization Structure

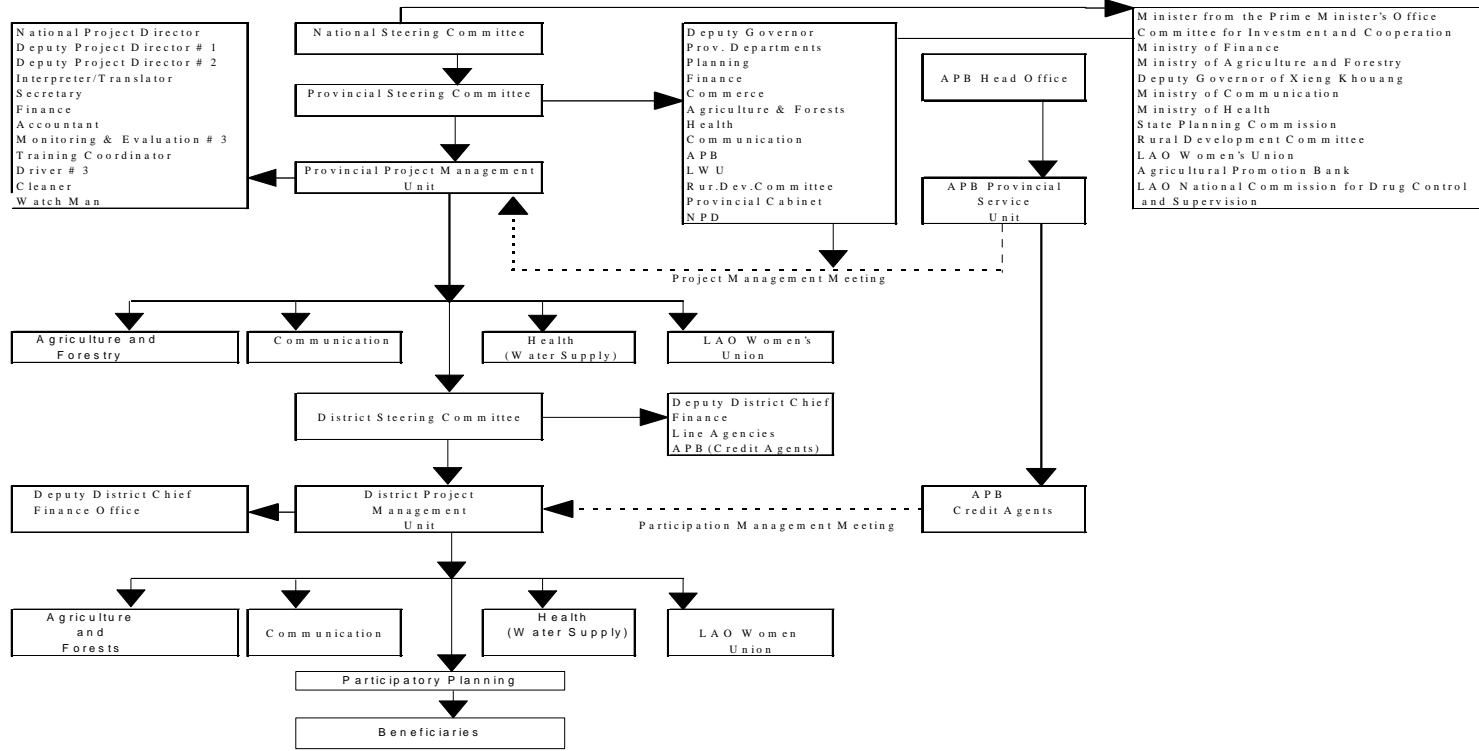
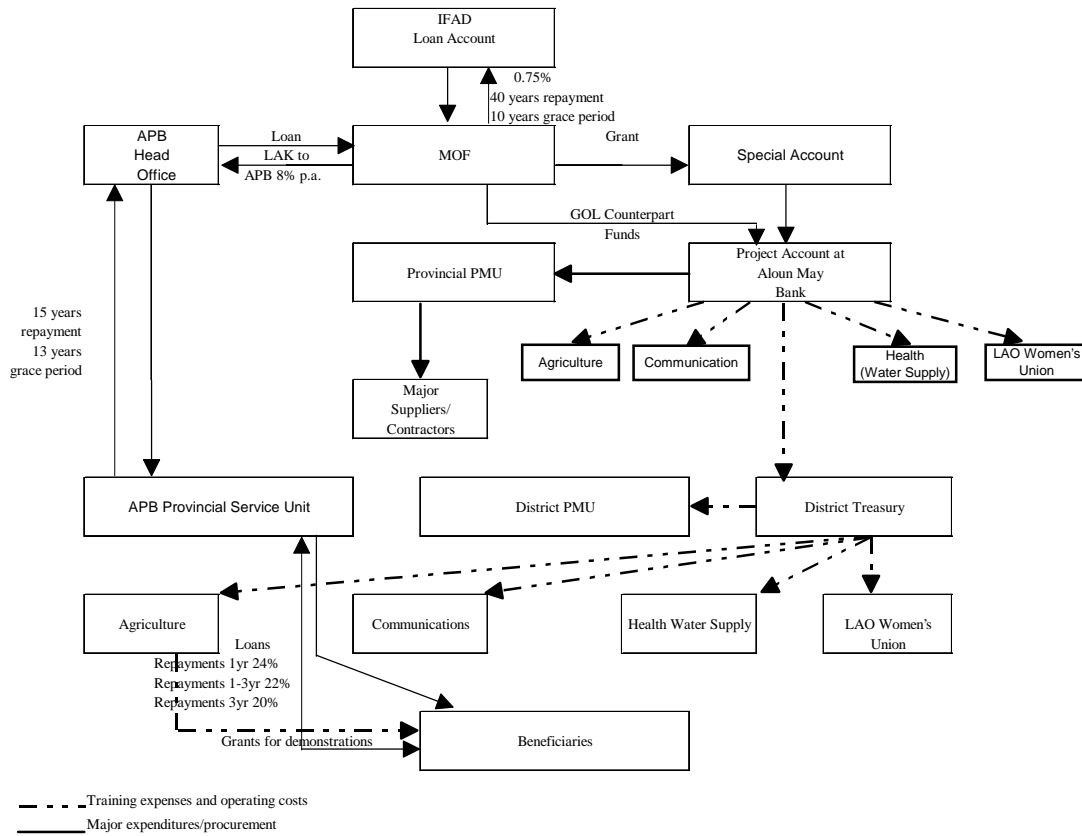




Chart 2: Flow of Funds



**ECONOMIC AND FINANCIAL ANALYSIS**

1. A detailed financial and economic analysis was undertaken during project formulation and was revised at appraisal. The following five livestock and fishery models and one handicraft (weaving) model have been analysed to show the expected returns from project activities. The activities analysed are: (i) the breeding and fattening of progeny from a three cow herd; (ii) the keeping of one breeding sow and selling weaners; (iii) the fattening of five weaners; (iv) a poultry unit of 20 hens and four cockerels; (v) a 600 m² fish with one crop per year; and (vi) a Lao Theung part-time weaver. These enterprises all provide attractive returns to investments and the returns to family labour will exceed the opportunity cost of rural labour (LAK 2 000) in alternative uses in the project area. The results can be summarized as follows:

TABLE 1: FINANCIAL ANALYSIS - LIVESTOCK AND HANDICRAFT MODELS

Enterprise	Investment LAK	Returns to	
		Labour day (LAK)	Capital %
Cattle breeding	435 000	5 207	61%
Pig breeding	223 000	4 220	145%
Pig fattening	340 000	4 326	>100%
Poultry	274 000	5 456	>100%
Fish	175 000	12 925	>100%
Weaving	103 300	2 266	21%

2. **Farm households.** A financial analysis was undertaken to evaluate the likely financial impact on rural households that commit land, invest labour and some incremental inputs in crop-diversification activities, in addition to making investments in irrigation. The four farm models analysed demonstrate the financial benefits that will accrue from crop diversification and increased dry season cropping. As shown below the four farm models effectively demonstrate that farmers will be substantially better off as a result of the project.

TABLE 2: FINANCIAL ANALYSIS - FARM MODELS

Farm Model	Incremental Household Income (LAK)	Returns per labour day (LAK)	Incremental Labour Required (days)
Improving traditional irrigation	822 388	6 007	21
Conversion of upland to new irrigation	511 913	4 892	28
Introduction of new upland crops	140 210	3 488	2
Intensification of existing improved irrigated areas	459 273	6 007	40

3. **Irrigation development.** This financial analysis shows that farmers will have a FIRR of 110% from their share of the investment in the construction/rehabilitation of the schemes as well as in operation and maintenance of the schemes in years following the investment. In terms of the full construction cost of the irrigation facilities, the FIRR is 29%.



4. **Rural access roads.** An indicative financial analysis has been conducted to estimate the financial returns to the investment in rural access roads. The results show that over 20 years, the FIRR is 0% with no increase in traffic assumed; 3% with a traffic increase of 5%; and 6% with a traffic increase of 100%.

5. **Economic analysis.** Economic benefits will accrue from all project components but these are not all capable of realistic quantification and valuation. In this analysis the incremental benefit stream is the net economic value of incremental crop and livestock production and benefits from road construction. No benefits are claimed from handicraft production in the analysis. Where appropriate these values are net of all incremental costs, including labour. The project's incremental economic costs include all project costs except transfer payments (credit funds and taxes and duties) and price contingencies and include an allowance for recurrent costs in the years following project completion. The local cost element has been adjusted using the standard conversion factor set by the World Bank of 0.95.

6. **Economic internal rate of return (EIRR).** Using the above conservative assumptions (i.e. the inclusion of all the costs of TA and institutional strengthening which will have a wider impact and exclusion of the likely benefits from handicraft production), the EIRR is 13.4%. An analysis by component shows the following returns: (i) irrigation improvement and lowland crop production 24%; (ii) upland crop production 66%; and (iii) cold chain for livestock vaccination 38%. The calculation of switching values shows that benefits will have to decline by 20% to give a net present value (NPV) of zero at the opportunity cost of capital (OCC) of 10%. Costs will have to increase by 25% to give a NPV of zero at the OCC of 10%. These tests indicate that the project's EIRR will be resistant to unanticipated adverse events and relatively more sensitive to benefit reductions than to cost increases.

7. **Increased government revenues.** In the medium to long-term, the Provincial Government will benefit fiscally from the tax revenues generated by an increased volume of trade within the Province and between the province and Vientiane and Viet Nam. In the long-term the agricultural and associated economic development will contribute to the country's foreign exchange earnings and strengthen the balance of payments.

8. **Cost recovery.** Beneficiaries will contribute labour and local materials for the construction of drinking water supply and irrigation schemes with a partial recovery of the irrigation investment costs. In both cases the beneficiaries will assume responsibility for the O&M of the investments. This approach will enhance beneficiary ownership and the sustainability of the schemes and provide the Provincial Government with additional funds for irrigation development.

9. **Capacity-Building.** The project will have direct benefits for government institutional capacity-building and human resource development. Through formal and on-the-job training as well as the day to day management and implementation of the project, the project will strengthen the capacity of provincial and district institutions and their staff to support social and economic development in rural communities. In particular, it will improve their outreach to the beneficiaries and understanding of the role of government services in an emerging market-oriented economy. The participatory approach to be introduced into the project planning and implementation will further improve their capacity to manage the development process in a service oriented and participatory manner. During the project implementation, the beneficiaries and local communities will receive training and participate directly in the implementation of different project activities, which will empower the villagers and particularly women in future poverty alleviation and rural development programmes. This will have institutional benefits that will extend beyond the geographical and temporal limits of the project.