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PROGRAMME PLANNING

Country and intercountry programmes and projects

FOURTH COUNTRY PROGRAMME FOR THE LAO PEOPLE'S DEMOCRATIC REPUBLIC*

<u>Programme period</u>	<u>Actual resources programmed</u>	<u>\$</u>
1986-1990	IPF for 1987-1990 only	25 857 000
	Carry-over from third cycle and 1986	8 939 000
	Other resources programmed	<u>17 120 000</u>
	Total	51 916 000

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*Detailed listings of projects and other related data prepared as part of the country programming exercise are available on request. These listings include: (a) ongoing projects; (b) proposed projects; (c) distribution of resources by objective; (d) distribution of new country programme by sector.

I. DEVELOPMENT TRENDS, STRATEGIES AND PRIORITIES

A. Current economic trends

1. The main achievements during the 10 years which have passed since the founding of the Lao People's Democratic Republic in 1975 are the virtual attainment of self-sufficiency in rice production and the considerable progress made in the reconstruction of the economy after the protracted period of conflict. However, the Lao People's Democratic Republic is still among the least developed countries with a per capita gross national product (GNP) estimated at between \$100-140.

2. In 1984, total imports, mainly of raw materials, capital goods, foodstuffs and petroleum, were estimated to reach about \$100 million, while exports (primarily electricity, forestry products, tin and coffee) generated approximately \$36 million. The deficit is financed by external assistance. The Lao People's Democratic Republic is well endowed with natural resources, including forests, fertile soils, minerals and a vast hydroelectricity potential. However, it is not clear how extensive the resources are since few inventories have been made.

3. The Lao People's Democratic Republic, with a population of 3.6 million, is an overwhelmingly rural country with some 85 per cent of the population living in small villages. Glutinous rice is the main crop, which is grown over more than 80 per cent of the cultivated area. During the past decade there has been rapid growth in rice production; in 1984, production reached 1.3 million tons. However, there is potential for substantially greater production if increased yields per hectare could be obtained and the total irrigated area expanded. At present, the agricultural sector contributes about 70 per cent of GNP. Forestry is the second most important economic activity, generating some 10 per cent of GNP.

4. The importance of the hydropower sector in the economy has increased substantially in recent years. Most of the power generated is exported to Thailand; in 1984 the total income from electricity exports was estimated at about \$28 million. The remainder of the industrial sector is at a very low level of development and consists of small enterprises processing mainly agricultural products, wood, tin and gypsum mining. The Government hopes to eliminate major production constraints and increase import substitution by establishing additional small manufacturing and assembly units. The Government has also started the process of giving some State enterprises increased autonomy with regard to their salary structure, pricing policy and utilization of export earnings. The other productive sectors, such as construction, transport and trade, provide only a small share of the GNP.

Constraints

5. One of the major constraints to the country's development is the critical shortage of educated and trained manpower at all levels. Government institutions are severely understaffed and the skills and expertise required for the planning and implementation of development projects and programmes are insufficient. Management and organizational structures need to be strengthened as does the capacity to carry out cost-benefit analyses of development projects. It appears that there is also a shortage of unskilled labour available in some areas, owing to low population densities, which hamper the more rapid expansion of agricultural production. Consequently, the Government and UNDP have agreed that development of human resources will be the main theme of this country programme.

6. The paucity of statistical and other information on the various sectors of the economy also constitutes a major handicap for economic planning and decision-making and for assessing the effectiveness of development efforts. Moreover, the poor state of internal and external communications severely hinders the development of production and trade as well as the provision of social services to the entire population. There is currently no north-south road link that is passable all year round, and the lack of road access in rural areas, especially in the rainy season, acts as a major constraint on fostering economic activity. The Lao People's Democratic Republic, being a land-locked country, is dependent on suitable transit arrangements for its trade. The country has access to the sea via Thailand or Viet Nam; the road linking the southern part of the country with the coast of Viet Nam is currently being improved.

7. The small and scattered domestic markets coupled with the inadequate transportation system prevent rapid development of large-scale production. Moreover, the country is geographically isolated from the major world markets. Additional factors which may adversely affect agricultural production are natural calamities such as drought and flooding, which have both caused lower harvests than expected in recent years. The low volume of domestic capital and savings also severely hinders the Government's ability to make the necessary capital investments using its own resources.

Medium- and long-term outlook

8. In view of the vast potential in the hydro-electric sector, the Government is aiming for a rapid increase of electricity production as the best means of increasing export earnings. With continued efforts to rationalize production, increase marketing efforts and improve quality, the prospects for exporting forestry products are also good. Considerably larger and more varied agricultural production could be attained with the utilization of high-yield varieties of rice and systematic efforts to diversify

production. In the longer term, the Lao People's Democratic Republic should be able to export not only coffee but also fruits, spices, tea and tobacco, since climatic conditions are favourable for such crops. Projections of mineral exploitation are difficult to make since further investigations are required. In addition to tin and gypsum, there may be iron ore, potash and gold.

9. Once the quality of the major arteries linking the different parts of the country has been improved, living conditions should also improve in remote areas, and nation-wide distribution of goods and services can be ensured. In the short run, an expansion of transportation on the Mekong River could alleviate some of the present bottlenecks.

10. The considerable efforts made in the area of education have resulted in a sharp increase in the school enrolment and literacy rate. In the years to come a large number of Laos trained within the country or abroad should be able to contribute at different levels to the various development programmes.

B. National development strategies

11. The first two five-year development plans of the Lao People's Democratic Republic cover the period 1981-1985 and 1986-1990, respectively. While the second five-year plan has not been finalized, it is understood that the main objectives and priorities of these two plans are very similar and are as follows: (a) self-sufficiency in food production and establishment of six months' food security; (b) improvement of transport and communications infrastructure; (c) development of natural resources, especially hydroelectricity and timber; (d) development of small-scale industries processing locally available raw materials; and (e) expanded and improved education and health services.

12. More specifically, the aims in the first plan, which are expected to continue in the second, are to (a) increase agricultural and forestry production so as to cover domestic consumption and increase exports of timber, coffee and tobacco; (b) increase industrial production both in state enterprises and factories as well as in small units operated by industrial co-operatives and artisans; (c) improve the economy's basic infrastructure by expanding internal transport and communications, establishing a transport organization for exports and imports, expanding Route No. 9 as an alternative route to the sea, developing the production and distribution network for electricity and improving the capacity to maintain equipment and installations; (d) improve the internal distribution of goods so as to raise the population's living standards and promote production and commercial activities; (e) increase the number of State enterprises in agriculture, forestry, industry, transport and trade and the number of co-operatives in agriculture and industry and improve their financial and economic performance;

(f) increase through taxation, exports and foreign aid the mobilization of resources for investment and development programmes; (g) expand and improve the education and training system to eliminate illiteracy and to train management and technical workers, and to improve the public health system; and (h) improve economic management and organization.

13. At the time of the preparation of the country programme, the total cost estimates for the projects and investments identified in the second five-year development plan, including technical assistance, had not yet been finalized. However, the preliminary documentation for the second Donors' Round-Table Conference for the Lao People's Democratic Republic has estimated that both the capital and the technical assistance required will exceed \$300 million.

C. Technical co-operation priorities

14. There is a substantial need for technical assistance in all of the priority areas mentioned in paragraphs 11 and 12 above. For this reason, in-depth analyses of the current situation in several sectors were undertaken in 1984 and 1985 which identified technical assistance requirements during the next five-year period. These thorough exercises laid the groundwork for the new country programme, with regard to decisions on both the continuation of ongoing projects and the adoption of new ones. A large number of development projects were proposed, ranging from small-scale assistance at the village level to large-scale technical assistance and investment projects. It is generally assumed that technical assistance needs in the Lao People's Democratic Republic amount to about 25 per cent of total external aid required. Only a small portion of the technical assistance requirements can be financed by UNDP and additional funding sources will have to be sought. In view of the very low level of resources in the country, the Government requests UNDP to consider on an exceptional basis the financing of local project costs, as long as that does not jeopardize the realization of the long-term institution-building objectives of the project in question.

D. Aid co-ordination arrangements

15. Based on the positive experience with the first Donors' Round-Table Conference, the Government has requested UNDP to organize a second Conference. The findings of the sectoral reviews will be one important input to the documentation that will be prepared for this Conference. In addition to the various multilateral and bilateral donors, the Government is addressing itself to non-governmental organizations which might be in a position to assist in implementing small-scale projects in the fields of agriculture, education, health, etc., particularly in the remote areas of the country. To this effect, UNDP, with financial support from the Government of the Netherlands, has prepared a comprehensive document on urgently required assistance projects, each of which will cost a maximum of \$100,000.

16. Close contact is maintained with the Interim Mekong Committee, which has prepared numerous studies on river transport, irrigation and hydropower, and provided technical assistance, inter alia, to the construction of irrigation dams. The need for additional technical assistance financed by UNDP has been examined, and projects linked to activities supported by the Interim Mekong Committee have been included in this country programme. In line with UNDP's mandate to foster pre-investment and investment support activities, intensified contacts have been maintained with the Asian Development Bank (AsDB), the World Bank/International Development Association (IDA) and the International Fund for Agricultural Development (IFAD). The Government has expressed interest in making greater use of UNDP funds for such activities. Thus, several pre-investment studies and co-financing arrangements are foreseen during the period 1986 to 1990 in sectors such as energy, telecommunications, transport, forestry, irrigation, small-scale industry and education. Particular attention has been paid to UNDP activities linked to investment projects funded by the United Nations Capital Development Fund (UNCDF). Among these are technical assistance for the rice-milling industry, the rehabilitation of two hydropower stations in the Luang Prabang and Champassak provinces, roads and irrigation.

17. In March 1985, the first national population census was carried out with financial support from the United Nations Fund for Population Activities (UNFPA). The results of this successful undertaking are of great importance for economic and social planning and will influence the activities of several UNDP-assisted projects in virtually all sectors. UNFPA is planning to finance fertility/mortality studies in order to deepen demographic knowledge in the Lao People's Democratic Republic. This and other UNFPA assistance will be closely co-ordinated with the UNDP programme, and, if required, complementary action will be taken by UNDP.

18. In the agriculture, health and education sectors, UNDP-assisted projects are closely co-ordinated with the activities financed by the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF). Several projects previously funded by the FAO/technical co-operation programme are included in the fourth country programme. As regards the provision of safe drinking water and sanitation, WHO, UNICEF and UNDP are involved in a concerted action programme within the framework of the International Drinking Water Supply and Sanitation Decade. In the educational planning project, supported by UNDP and the United Nations Educational, Scientific and Cultural Organization (UNESCO), close co-operation has been established with UNICEF in the organization of seminars/workshops and the supply of materials related to the collection of statistical data. Also, in the multidisciplinary project for integrated rural development in the Muong Hom district, joint actions have been undertaken by the United Nations Department of Technical Co-operation for Development (UNDTCD), UNICEF and UNDP in order to ensure a speedy start-up of

the activities aiming at improving the living conditions of the ethnic minorities in this area. Co-ordinated actions are being taken by the World Food Programme (WFP), FAO and UNDP in the field of watershed management and reforestation. The food deliveries by WFP constitute an incentive for the population to undertake the required works on terracing, reforestation and maintenance of tree plantations. UNDP/FAO technical assistance in the province of Luang Prabang will be co-ordinated with the tree cultivation project supported by the Interim Mekong Committee. In the future, when the Government's co-ordinating framework has been strengthened, government execution of selected projects financed by UNDP could be envisaged.

19. The Government has expressed its wish to avail itself of technical co-operation among developing countries (TCDC) in various fields in order to benefit from the experience gained in other developing countries. Increased emphasis is being placed in the fourth country programme on the use of this resource.

II. THE COUNTRY PROGRAMME

A. Assessment of previous country programme

20. The third country programme covered the last year of the three-year interim plan (1978-1980) and the entire span of the first five-year development plan of the country (1981-1985). Its preparation was closely linked with and even to a large extent an integral part of the national process of development planning. The country programme document was based on the availability of \$23,247,000 for programming (calculated on the basis that annual budget levels were permitted to reach only one fifth of the unadjusted second cycle indicative planning figure (IPF)) An amount of \$26,999,000 was eventually allocated for the third cycle, which made it possible to approve projects over and above those foreseen in the country programme document. The programme was designed to contribute to the attainment of the principal development objectives of the Government's first five-year plan. In the course of three reviews of the country programme held in 1981, 1983 and 1984 it was confirmed by all parties concerned that the programme was fully in line with these objectives, with the largest share of available resources being allocated to agriculture, forestry, fisheries and livestock production. Allocations for projects in human resources development, particularly education, were made at the request of the Government beyond the amounts foreseen in the country programme document in order to reflect the Government's enhanced emphasis on satisfying the important need for trained manpower.

21. At the 1984 annual review of the country programme it was agreed that, over all, the results achieved in the UNDP-assisted programme were positive. Twenty out of 30 ongoing projects were found to be on their way to attaining their objectives (although project extensions were often necessary to achieve

the original targets), 8 were partially successful and 2 had made little progress in meeting the purpose for which they had been designed. In the case of the latter two projects, corrective action had already been taken at the time of the annual review. Particularly promising results were achieved in projects related to the objectives of reaching self-sufficiency in food production and increasing livestock production. Similarly, excellent results were obtained in the field of education, literacy and vocational training programmes. On the other hand, increased efforts relating to road construction, industrial development (including energy production) and health services are still needed to reach the desired impact.

22. A number of factors adversely affecting the quantity, quality and timeliness of UNDP assistance have been highlighted during country programme reviews:

(a) A common problem in many projects was the non-availability of national personnel assigned to the projects. It is obvious that without the involvement of qualified national staff, institution-building objectives cannot be achieved. However, an improvement in this respect was noted in areas where well qualified personnel had finished training in or outside the country and were ready to participate in the project activities. The acute shortage of trained manpower justifies a rapid expansion of the educational facilities of the country;

(b) Executing agencies have experienced difficulties in finding candidates for posts of experts and consultants who possess the required qualifications, are interested in an assignment in the Lao People's Democratic Republic and are acceptable to the Government. The problem has been compounded by delays in obtaining Government acceptance of candidates. However, the Government has indicated that it has reviewed its procedures for approval of candidatures in order to accelerate the clearance process;

(c) Delays have been experienced in obtaining government clearance for candidates to be sent on fellowships and study tours. The Government has pledged to expedite approvals in the future;

(d) The delays in customs clearance of project equipment has also been a matter of concern; however, new procedures to accelerate clearances have now been formulated;

(e) The non-availability of equipment, materials and funds which should be provided by the Government has caused problems from an operational point of view;

(f) Concern has been expressed over the high cost of experts and consultants. The assignment of United Nations volunteers on an increasing

scale is considered a way of providing much needed technical know-how and experience at a cost affordable within the framework of the UNDP resources. United Nations volunteers have performed extremely well, adjusting easily to the local conditions, learning the language of the country and working along with their national colleagues in a "hands-on" fashion rather than restricting themselves to an advisory role.

B. New programme proposal

23. The fourth country programme will coincide with the duration of the second five-year development plan of the Lao People's Democratic Republic (1986-1990). It also covers the last year of the third programming cycle and the first four years (1987-1990) of the fourth cycle. Expenditures in 1986 are estimated at \$8 million. The total fourth cycle IPF (1987-1991) is \$32,321,000; setting aside one fifth of the IPF for 1991, fourth cycle IPF resources for the period 1987-1990 amount to \$25,857,000. To this amount will be added the estimated carry-over of \$939,000 from the third cycle IPF .

24. Net IPF programming resources during the fourth country programme period are therefore set as follows:

1986-1990 IPF distribution
 (in thousands of United States dollars)

1986	1987	1988	1989	1990	Total
8 000	6 699	6 699	6 699	6 699	34 796

25. The UNCDF programme is expected to contribute \$15,080,000 in capital assistance during the fourth country programme. A number of projects will also be financed by the Special Measures Fund (\$565,000) and the Netherlands Trust Fund (\$500,000). The United Nations Volunteers programme will also contribute approximately \$875,000 to the country programme.

26. The Government hopes that additional resources will be made available. A number of projects have been identified for implementation as soon as supplementary funding becomes available. Similarly, several projects now planned for implementation in the latter part of the country programme period could be advanced, should increased resources be obtained.

27. The new programme is designed to contribute to the attainment of five development objectives which are set out below.

Expansion and diversification of agricultural and forestry production

28. Traditionally, subsistence agriculture has been practised by farm families who normally till one to three hectares. Despite generally good agricultural potential and abundant land for cultivation, agricultural productivity is low and production irregular. Positive results in rice production were achieved in 1981 and 1984 whereas, because of less favourable

climatic conditions, there was a serious shortage of rice in 1983, prompting the Government to make an appeal for emergency food aid to bilateral and multilateral donors. Keeping in view the Government's target to establish a strategic stock as protection against climatic calamities and taking into consideration population growth, annual production increases of at least 4 per cent will have to be realized throughout the period of the second five-year development plan. In order to attain this objective, it is envisaged to continue the existing policies which may be divided into four components: (a) expansion of the cultivated land by 2 to 3 per cent per year; (b) improved yields through irrigation and strengthening of support services, i.e. research, seed production, extension, agricultural inputs, post-harvest handling and food-processing; (c) promotion of the co-operative movement; and (d) price support for the farmers. Besides priority attention to the staple food, rice, the Government wishes to develop industrial crops, particularly those which have been successfully tested in the country and have potential for agro-industry, export and import substitution, such as coffee, sugar, cotton and tobacco.

29. Livestock plays an important role in the economy. It supplies the population, along with fish, with animal protein, and buffaloes and bullocks are used as draught animals and sources of manure. The most serious constraint to the development of livestock is the absence of adequate veterinary services, resulting in extremely poor animal health. Large-scale bilateral aid programmes to increase livestock production have already started or will be implemented within the next few years. It is, therefore, proposed to concentrate UNDP interventions on the improvement of veterinary services and support to small poultry farmers in rural areas.

30. Forests cover over 40 per cent of the country's total area. Information on what quantity and quality of wood they contain is not available, since no nation-wide inventory has yet been carried out. However, timber and wood products are among the most promising foreign exchange earners with employment and income generation in remote areas as an important side benefit. Major constraints to forest development include: destruction by slash-and-burn cultivation, difficult access, institutional weaknesses and lack of cadres as well as inappropriate technology. The objectives within this sector are: (a) improved management of forestry production and extraction including inventories; (b) promotion of integrated agriculture, forestry and livestock production in areas of shifting cultivations; (c) increased utilization of waste wood and small wood; and (d) promotion of reforestation programmes.

31. Fish caught from rivers, reservoirs, swamps and ricefields have always been an important source of protein for the population. However, at the moment, both the quantity and the quality of fish produced and consumed in the country is relatively low. It is estimated that the current consumption of fish per capita per annum is 8.8 kg and the total fish production 30,000 tons per year. The Government wishes to increase fish consumption by 2 kg per person by 1990. Fish culture offers great potential.

32. In July 1984, implementation of the integrated agricultural development project (LAO/82/011) began, aimed at introducing integrated agricultural support services covering all major aspects of crop production, including agricultural research, seed production and multiplication, extension services, soil analysis and plant protection. It is the largest project under the current country programme. Under the project, it is envisaged to establish regional agricultural research and development stations in the Vientiane, Champassak and Savannakhet provinces. Depending on results achieved at those three regional agricultural centres, the establishment of a fourth station, a lowland crop research and seed production centre in the Luang Prabang province, could be considered for the second half of the fourth country programme period. Close co-operation has been established with an ongoing seed multiplication project financed by the European Economic Community (and executed by) the Interim Mekong Committee, as well as three IDA-assisted agricultural rehabilitation and development projects.

33. In view of the complexity of the task at hand and considering general experience with institution-building projects in the country, it is recommended to continue the project through the entire period of the fourth country programme.

34. Comprehensive rural development projects are seen as one important means of increasing agricultural and forestry development as well as of improving general living conditions in selected areas. The ongoing Integrated Rural Development project in Muong Hom district (LAO/82/001), begun in late 1984, aims at improving the economic base and standard of living of the hill-tribe people living in a remote district in the north of Vientiane province. Integrated interventions are foreseen in all major sectors, including transport and communications, agriculture, livestock, education and health. The first two-year phase includes a series of pre-investment studies for a second phase project. For many of these investments, additional bilateral or multilateral assistance will have to be sought. Based on the very good progress so far with the Muong Hom project, a similar project is envisaged in another province in the fourth country programme.

35. The basis for even more comprehensive development efforts in provinces other than Vientiane would be provided through two interrelated planning exercises focused in Champassak and Saravane provinces. First is the Southern Area Development Master Plan (LAO/85/005). In view of the future electrification of areas of the Champassak and Saravane provinces envisaged in conjunction with the planned Xeset hydropower station, this project will provide for an area development master plan. A comprehensive study assessing the economic potential and suggesting possible investments making use of electricity will be carried out, concentrating on irrigation, agro-based industries, mining and cash crop development.

36. The second exercise, a Feasibility Study on Integrated Crop/Livestock/Fish Production (LAO/85/006) would focus specifically on the Boloven plateau. The Boloven plateau is situated some 60 km east of Pakse in the southern part of the country, and has fertile soils, perennial streams and a climate ideal for the cultivation of vegetables, fruits, coffee, tea and cassava. It also has a vast potential for producing cash crops as well as cattle, sheep and fish. To develop such potential, the introduction of multiple cropping technology and intensive integrated management of crop, livestock and fish production is required. A pre-investment feasibility study is warranted for an in-depth analysis of the agro-ecological and socio-economic potentials. Development banks have expressed interest in financing investment projects which would be identified as a result of this study.
37. A study has already been carried out by the FAO technical co-operation programme on the prospects for coffee development in the southern part of the country. A Coffee Development project (LAO/84/004) would aim to improve living standards on the Boloven plateau where production is concentrated and to increase foreign exchange earnings. The project would support a programme to increase the quantity and quality of coffee production, with emphasis on the Lao Ngum district in the Saravane province, including rehabilitation of 300 hectares of coffee plantations and establishment of new plantations on an area of 700 hectares. The road network in the district will also be improved. The project, which is a follow-up to an FAO technical co-operation project, is linked to the IDA-financed Agricultural Rehabilitation and Development project (III), which includes \$1.55 million for Coffee Development.
38. In view of the need to expand the irrigated areas as a means of increasing food production, special attention is being given to the development of the irrigation subsector. Under a co-financing arrangement with the AsDB, a project for pump irrigation in Khammouane and Champassak provinces (LAO/79/031) is under way which aims at developing areas of 500 and 300 hectares respectively, for irrigated agriculture in the two provinces. The project has recently been rephased because of delays in implementation and will continue until 1988.
39. A project for irrigation services in Savannakhet province (LAO/85/008) aims at strengthening the irrigation services' capability in Savannakhet province, where the potential for increasing irrigated agriculture is high, and establishing irrigation schemes in co-ordination with inputs provided by the World Bank under the agricultural production support project. A similar project to support irrigation in Vientiane province is also envisaged.
40. Under a co-financing arrangement with UNCDF, a project to rehabilitate a portion (300 hectares) of the existing large-scale Nam Than irrigation scheme (LAO/86/008) in Sayaboury Province has recently been identified. It is

envisaged that as a result of a successful UNCDF pilot intervention, additional financing from other sources will become available for the complete rehabilitation of the entire 3,000 hectare scheme.

41. The lack of qualified staff is one of the most serious constraints for the development of the agricultural sector. At the current time the country does not have an agricultural university. Agricultural technicians are being trained at a relatively rudimentary level at schools in Na Bong (Municipality of Vientiane) and Pakse (in the south) and irrigation technicians at the That Thong School (also in the Municipality of Vientiane). Forest technicians are being trained in Dong Dok.

42. The Agricultural School at Na Bong is training middle-level technicians in agriculture and livestock. However, the facilities are very poor. A project for agricultural and livestock training at Na Bong (LAO/85/010) will upgrade the teaching staff at Na Bong through in-service training, strengthen laboratory and field facilities for practical work, prepare manuals and textbooks in Lao and improve the curricula.

43. A project to support the Agro-Forestry Technicians School in Luang Prabang (LAO/85/011) will help to alleviate the lack of trained forestry personnel by establishing a school in Luang Prabang with a target of 20 specialized forestry technicians per year. Emphasis will be placed on the particular problems of the northern provinces - watershed management, agro/sylvi/pastoral practices and erosion control.

44. The Government encourages the formation of voluntary groups of small farmers in order to facilitate the provision of production factors and services. An FAO/technical co-operation project aims at training a number of government officials to support these groups. Under a UNDP-financed project for support to small farmers (LAO/85/013), the training activities will be expanded outside the Vientiane province.

45. The large-scale project for watershed management and forest development in the north (LAO/82/006) (the second largest under the current country programme) pursues ambitious objectives trying to offer on a pilot basis solutions to major problems facing the forest sector. Aimed at reaching out eventually to all northern provinces, it will cover land-use planning, terrace-building, reforestation, improved logging operations, saw milling and wood by-product utilization. Close co-ordination with food-for-work inputs from WFP is envisaged. Although all parties concerned fully agree on the approach, the project has had a very slow start in filling most expert and volunteer posts. However, these initial obstacles have now been overcome the project is showing promising results. Therefore an expansion of the project throughout the fourth country programme is proposed. The envisaged far-reaching transformation of the lifestyle of the hill-tribe population and the establishment of the required new institutions will be possible only over an extended period of time, possibly exceeding a decade.

46. Under a co-financing agreement with AsDB, UNDP will finance part of the technical assistance required to support a second AsDB loan for forest industry investments. The UNDP project, Forest Industry (phase II) (LAO/84/007), foresees experts and consultant services in the field of parquet production and rattan furniture-making, as well as plywood, door and black-board manufacturing.

47. UNDP efforts in the livestock sector during the new programme cycle will be concentrated on a project for the strengthening of Veterinary Services (LAO/81/006), which has been supported under a preparatory assistance project. Major objectives of the main phase of the project would include the training of veterinarians and technicians, establishment of veterinary pilot centres in five provinces, organization of vaccination campaigns, carrying out of disease surveys and the strengthening of the veterinary laboratory in Vientiane.

Development of transport and communications

48. Weak transport and communication facilities represent one of the most serious constraints for the development of the country. The Government attaches very high priority to the sector, which is considered the spearhead of development. It is hoped that improvements in this area will bring about structural changes in the economy by increasing levels of production, helping economic growth, integrating the economy and stimulating production in rural areas. Additionally, access to rural areas for the delivery of educational, public health and social services will be expanded. The present road network consists of 2,250 km of primary roads (asphalt), 3,953 km of secondary roads (gravel) and 6,780 km of feeder roads (dirt), giving one of the lowest density of roads in Asia. Inadequate and irregular maintenance, frequent steep slopes, bridge washouts from monsoon rains and a heavy traffic lead to severe deterioration of the roads.

49. Many of the investments in transport, both ongoing and foreseen, are being undertaken through assistance from a wide range of donors. For example, Route No. 9 is being improved with the assistance of several different bilateral sources, and the Swedish Government is assisting in upgrading a portion of Route No. 13 in conjunction with other projects which it is financing in the vicinity. AsDB has provided assistance for road improvements in Vientiane province and now plans to expand its assistance to other provinces.

50. AsDB has carried out a feasibility study on the improvement of roads from Pakse to Paksong in Champassak province and from Pakse to Saravane as well as Phone Hong to Vang Vieng, Vientiane province. All roads are of critical importance; those in Champassak province will facilitate the export of coffee; the one to Vang Vieng constitutes an important part of the main connection

between Vientiane and Luang Prabang. The Second Road Improvement project (LAO/85/019) will make available funding for the engineering design and the construction supervision of both roads.

51. River transport on the Mekong River, most of which is navigable, has declined owing to a shortage of barges and inadequate port facilities as well as the lack of a programme to co-ordinate river and road transport. The Interim Mekong Committee has prepared a number of studies and undertaken work to improve conditions of navigation on the Mekong; however, there is a need for dredging, construction and maintenance of boats and wharfs, facilities for loading and unloading, hoisting equipment and trained personnel. Both UNCDF and bilateral donors have contributed to improved port facilities and related equipment and are expected to continue providing assistance to this sector. UNDP envisages supporting UNCDF investments aimed at integrating road and water transport in the northern part of the country through the project Transport Improvement in Luang Prabang and Sayaboury Provinces (LAO/86/001).

52. Another project, Inland Waterway Development (LAO/85/002), will focus specifically on improving transport on the Mekong River. Its activities will be closely co-ordinated with those undertaken by the Interim Mekong Committee and the World Bank. A preliminary study will be carried out by UNDTCD.

53. Because of the need to integrate road and water transport more effectively, an agreement has been reached between the Government and the World Bank to identify a project for an integrated transport improvement programme. While the required agriculture and transport sector studies are being carried out with IDA staff resources, UNDP will fund the feasibility and engineering design studies.

54. Air transport links most of the provinces and the main cities on a regular basis. The fleet consists of medium-size planes and helicopters. There is an urgent need to train personnel, especially in maintenance, and to provide spare parts for the existing equipment. UNDP, in collaboration with the International Civil Aviation Organization (ICAO), is currently supporting various long-term training activities in this field.

55. In addition, the civil aviation services will be improved through a new project which will consolidate the results achieved earlier. The Strengthening of Civil Aviation Maintenance Facilities and Services project (LAO/84/010) will emphasize training of personnel in the maintenance and repair of equipment as well as improved administration and English language training.

56. The present telecommunications network consists of about 5,000 automatic lines in Vientiane and about 700 in the provincial capitals. Extension of lines is planned for the major cities, as well as repair of the present cable

network. There is a need to improve the existing telecommunication services which are inadequate to support the country's administration and its economic and social development. Several consultants assigned to UNDP regional projects have undertaken missions to the country in this sector. In addition, training of telecommunication technicians is underway through the Telecommunications Institute project (LAO/82/017) assisted by UNDP.

57. A new Telecommunications Development project (LAO/85/018) will focus on the preparation of a long-term development programme as well as data gathering for future investments. Technical assistance will be provided to strengthen the institutional framework, improve the operation of the telecommunication system and design and supervise the rehabilitation of installations.

Industrialization on the basis of local raw materials
with special emphasis on hydropower development

58. The primary element of the industrial sector is hydroelectric power. The hydroelectric potential of the country is substantial, approximately 42,000MW, while the installed capacity amounts to only about 170 MW. The largest production unit is the Nam Ngum hydropower station. There are also six small hydroelectric stations with a total capacity of 3.5 MW. Furthermore, there are some diesel installations which supply energy to certain regional urban centres, with an approximate capacity of 14 MW. However, around 90 per cent of the energy consumed is derived from wood. The domestic electricity consumption reaches only about 30 MW; thus, the major part of the hydroelectric production is being exported.

59. The hydroelectric development programme consists of three kinds of actions: the rehabilitation of existing small power stations, the installation of additional small stations (less than 10 MW), and the preparation of pre-investment studies on large electricity generating units as well as the construction of such plants. During the previous country programme, UNCDF and UNDP together focused on the rehabilitation of two small hydropower stations in different provinces of the country and UNDP assisted in the training of technicians in this field.

60. The manufacturing and processing subsectors of the industrial sector are still at an early stage of development. These subsectors can be divided into two major groups: (a) industries which either supply inputs to the domestic economy or process domestic raw materials (i.e., factories for agricultural implements, zinc products, rice mills and weaving); and (b) some larger factories, the majority centred around Vientiane, producing consumer goods such as tobacco, soft drinks and detergents. Among the constraints on the development of industry are the weak means of communications, which lead to fragmentation of the internal market and pose supply problems even when local raw materials are used, as well as the lack of cadres and experience in

industrial management. In addition, support services to industry such as mechanical repair shops, telephone, water and electricity supply in the provinces, information and trade promotion services are inadequate.

61. An analysis of the potential and constraints facing industrial development has led the Government to a strategy for the 1980s based on two basic principles: (a) industry will be supplied with local raw materials and will assist in the stimulation and better use of the primary sector production, particularly agriculture; and (b) production units will initially be small with little use of capital and apply simple, even craft-oriented, techniques to minimize the problems of management, supply, maintenance of machinery, marketing, etc. In particular, the industrial sector requires assistance in the area of quality control, marketing and training of personnel both at management and lower levels.

62. The mining subsector consists primarily of tin and gypsum production with technical assistance provided bilaterally. Investigations of other mineral resources may include iron ore, potash and gold. Some evidence of coal exists at Nam Lik, Vang Vieng and in the Saravane province, but this energy resource has not yet been exploited.

63. In the current programme, UNDP will provide assistance in pre-investment and investment support in conjunction with AsDB, the World Bank, and the Swedish International Development Authority (SIDA). Tentative agreement has been reached between the Government, AsDB and SIDA to finance the construction of a new hydropower station in the Saravane province. The first phase would include the installation of a power plant with a capacity of 32 MW. IDA is considering financing the construction of a transmission line to Thailand subject to satisfactory negotiations on the price of the electricity. UNDP would support technical assistance to the Xeset Hydropower Station (LAO/85/017) with partial financing of the construction supervision of the power plant.

64. UNDP will also assist in carrying out a pre-feasibility study of the potential Nam Ngum and Nam Ngep Hydropower Stations project (LAO/85/016). The study will focus on selected sites on the Nam Ngum and Nam Ngep rivers to establish which one should be selected for a detailed feasibility study for a hydropower station which would then be financed with IDA assistance.

65. As a result of pre-feasibility studies for the much larger Nam Theun hydropower station, the Government has decided to undertake a series of feasibility studies during the second five-year plan. In association with the Interim Mekong Committee and various bilateral and multilateral donors, UNDP will finance components of the feasibility study for the Nam Theun hydropower station (LAO/85/015), possibly including topographical mapping, forest inventory and a hydrological study.

66. UNDP has already provided assistance in furniture-making, rice-milling, and agricultural tools manufacturing in association with the United Nations Industrial Development Organization (UNIDO), IDA, AsDB and UNCDF. In addition, following an initial effort financed by the United Nations Voluntary Fund for the Decade for Women, a project on Lao handicraft development (LAO/84/002) focused on establishing a textile research and development centre, training and related production techniques among women engaged in cottage industry operations on a pilot basis. UNCDF and UNDP plan to assist in enlarging the operations of the centre in the future.

Improvement of education and development of vocational training programme

67. Since 1975, a rapid quantitative expansion of formal and non-formal education has been achieved. The attendance rate of primary age children has now reached approximately 80 per cent and there has been substantial progress in the campaign to abolish illiteracy. Emphasis has also been placed on technical and vocational training. However, a shortage of qualified personnel still represents one of the most serious factors limiting the development of the country. Particularly for the maintenance of existing equipment there is an urgent need to train automobile and agriculture mechanics, electricians, welders, etc.

68. At the post-secondary level, the Faculty of Medicine, the Pedagogical University at Dong Dok and the National Polytechnical Institute have been established. There is also a three-year programme for training in architecture. A large number of fellowships abroad have also been granted, with emphasis on training engineers and technicians. The Government is increasingly seeking to provide more centres of higher-level training. The quality of the education given in schools at different levels is still a matter of concern to the Government. Measures are being taken to improve and deepen the training of teachers and instructors, particularly in science and technical subjects as well as languages. Educational planning, including the collection and treatment of statistical data, also needs strengthening.

69. UNDP has already provided assistance in the fields of educational planning, vocational training and science teacher training and will continue to do so in the new country programme in conjunction with the International Labour Organisation (ILO) and UNESCO. A technical training project in Luang Prabang and Pakse (LAO/82/018) will be supported to strengthen various departments of the vocational training schools in these two cities through technical assistance and the provision of teaching aids and materials.

70. At present the number of trained language teachers cannot satisfy the increasing needs of the country, especially at the secondary level. Furthermore, it is desirable to improve the linguistic abilities of those connected with the Government's administration. The Institute for Foreign

Languages project (LAO/85/022) aims at strengthening the Institute at Dong Dok by improving the training of language teachers and establishing an interpreters' training section.

71. Under the current preparatory phase, the National Polytechnic Institute project (LAO/83/003) focuses on assisting in the start-up phase of an engineering faculty in view of the critical importance of in-country training in engineering subjects. The preparation of a feasibility study for the main phase of the project, including a major investment, is also foreseen, and contacts have already been established with the World Bank, which might provide IDA financing for the construction phase of the project. UNDP assistance is foreseen during that phase in such areas as curriculum development, teacher training and management.

Development of health services

72. In spite of some progress in the medical-sanitation network during recent years, the state of health of the population continues to be precarious. The health-care delivery system faces difficult problems, including a lack of manpower, shortage of equipment and supplies and financial and management constraints.

73. The Government has adopted a health service programme which focuses on: (a) rehabilitating and strengthening the health services and health infrastructure in five provinces; (b) reorienting and upgrading the capability of the existing health manpower towards community health development through primary health care; (c) reducing the morbidity/mortality rate for mothers and children; and (d) improving drinking water and sanitation facilities.

74. Under the previous country programme, in addition to providing health laboratory equipment and training, UNDP supported selected Government activities developed in conjunction with the International Drinking Water Supply and Sanitation Decade. Progress has been achieved under the Drinking Water and Sanitation project (LAO/82/004) in training rural water technicians, and an extension of this project under the new country programme will focus on the installation of supporting infrastructure throughout the country. Project activities are closely co-ordinated with UNICEF inputs.

75. Three major new projects in the health sector will begin in 1986. The nursing education project (LAO/82/020) aims at reorganizing, modernizing and strengthening the nursing education system in the country. It is foreseen to transform the Vientiane Nursing School into a regional nursing school and to integrate it with the regional medical assistants school in Vientiane. Two other regional medical schools will also receive assistance and 13 provincial school for auxiliary nurses/midwives will be upgraded.

76. The health manpower development programme project (LAO/83/005) would establish a health manpower development unit within the Public Health School of the University of Medical Science at Vientiane to plan, organize, supervise and evaluate basic training and refresher training programmes as well as to monitor health manpower needs and performance in the field. Inter alia, refresher training courses will be organized for 675 health workers per year.

77. The objective of the assistance to hospitals project (LAO/85/023) is to improve the material facilities for diagnosis and treatment at two large referral hospitals in the Vientiane and Luang Prabang provinces, and to strengthen the physician corps at these hospitals through the assignment of United Nations volunteers/medical doctors. The improved services will benefit the population of these two provinces as well as patients of other parts of the country who are referred to the hospital in Vientiane.

C. Unprogrammed reserve

78. In order to ensure that the country programme retains a measure of flexibility to respond to the dynamics of development, particularly unforeseen needs, it is proposed that an amount of \$1,441,000 be set aside as a reserve. The reserve may be applied, as the need arises, towards activities/projects which may be identified during the 1986-1990 period within the scope of this country programme.

Annex

FINANCIAL SUMMARY

I. ACTUAL RESOURCES TAKEN INTO ACCOUNT FOR PROGRAMMING

A. <u>UNDP-administered sources</u>	\$	\$
Third cycle IPF balance and 1986	8 939 000	
Fourth cycle IPF	25 857 000	34 796 000
Subtotal IPF-		
Special Measures Fund for Least Developed Countries	565 000	
Special programme resources	-	
Government cost-sharing	-	
Third-party cost-sharing	-	
Operational funds under the authority of the Administrator (UNCDF, UNV, UNFPA)	16 055 000	
UNDP special trust funds (Netherlands)	500 000	
Subtotal, UNDP non-IPF funds		17 120 000
B. <u>Other sources</u>		
Funds from other United Nations agencies or organizations firmly committed as a result of the country programme exercise	-	
Parallel financing from non-United Nations sources	-	
Subtotal, other sources		-
TOTAL ACTUAL RESOURCES TAKEN INTO ACCOUNT FOR PROGRAMMING		<u>51 916 000</u> =====

II. USE OF RESOURCES

Ongoing projects	21 580 000	
New project proposals	28 895 000	
Programmed reserve	-	
Subtotal, programmed resources		50 475 000
Unprogrammed Reserve		<u>1 441 000</u>
TOTAL USE OF RESOURCES		<u>51 916 000</u> =====

