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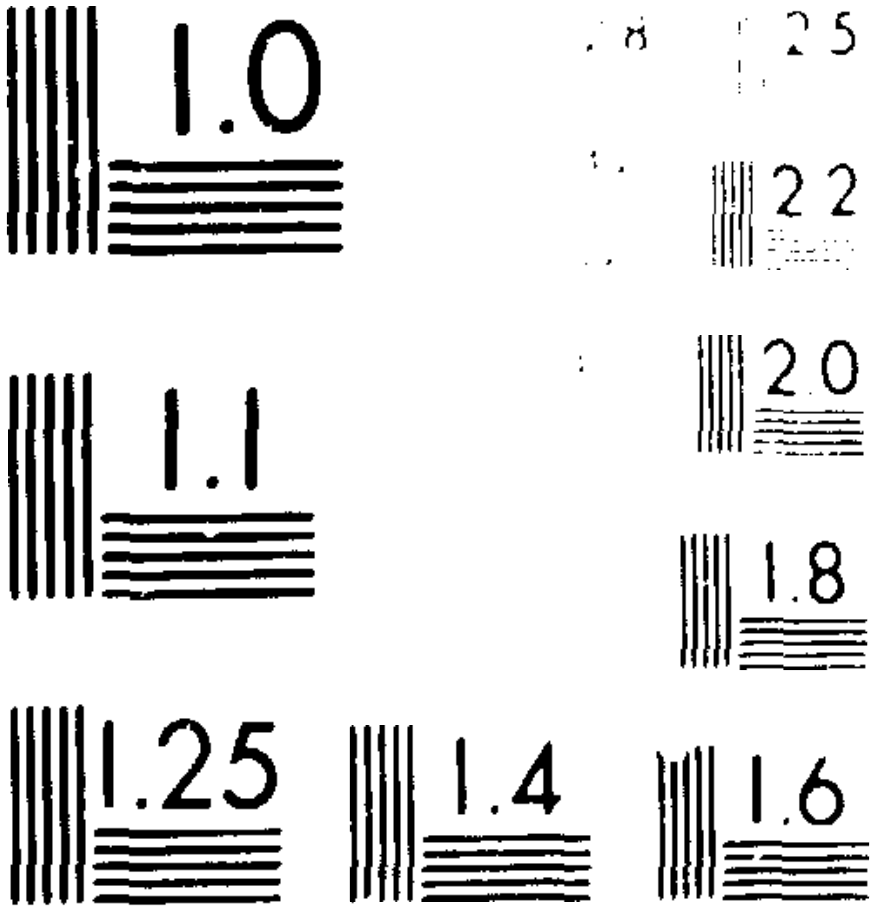
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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

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LAO PEOPLE'S DEMOCRATIC REPUBLIC

Laos.
INDUSTRIAL SECTOR SURVEY.

WORLD BANK/UNIDO
CO-OPERATIVE PROGRAMME

REPORT No.26
March 1983

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FOREWORD

This study is intended to form the basis for the identification and design of prospective financing and technical assistance projects for the development of industry in the Lao PDR.

The report has been prepared under the direction of the World Bank/UNIDO Co-operative Programme following a mission that visited the Lao PDR from March 6 to April 1, 1982. The mission comprised Messrs. O. Gonzalez-Hernandez, of the World Bank/UNIDO Co-operative Programme, G. Robyn of the Regional and Country Studies Branch of UNIDO, and G. Thompson, Consultant.

The report was discussed with the Government and was updated during a subsequent visit to the Lao PDR of Mr. O. Gozalez-Hernandez from January 20 to February 3, 1983

Rates of Exchange

March 1975 - June 1976
US$1.00 = KL 37.5

July 1976 - May 1978
US$1.00 = KL 200

June 1978 - Dec. 9, 1979
US$1.00 = KL 400

Dec.10, 1979 - Jan. 1980
US$1.00 = NK 4
(1 NK = 100 KL)

Jan. 1980 - Present
US$1.00 = NK 10

Official Rate With Premium 1/

Dec.10, 1979 - May 1981
US$1.00 = NK 14

June 1981 - Dec. 1981
US$1.00 = NK 30

Jan. 1982 - Present
US$1.00 = NK 35

Fiscal Year = January 1 - December 31

1/ Used initially for tourism purposes. However, as of January 1982 the application of this rate has been extended throughout, except for customs valuation.

ABBREVIATIONS

ADB or AsDB	-	Asian Development Bank
BCEL	-	Banque de Commerce Extérieur Lao (Lao Foreign Trade Bank)
BEL	-	Banque d'Etat Lao (National Bank)
CMEA	-	Council for Mutual Economic Assistance
ESCAP	-	Economic and Social Commission for Asia and the Pacific
GDR	-	German Democratic Republic
K or NK	-	New Kip
KL	-	Kip de Libération
Lao PDR	-	Lao People's Democratic Republic
MIHF	-	Ministry of Industry, Handicrafts and Forestry
PRC	-	People's Republic of China
SCL	-	Societé du Commerce Lao (Lao Trading Company)
SEF	-	Societé d'Etat Forestière (Forest State Enterprise).
SPC	-	State Planning Committee
SIDA	-	Swedish International Development Authority
SMP	-	System of Material Product
UNCDF	-	United Nations Capital Development Fund
UNCTAD	-	United Nations Conference on Trade and Development
UNDP	-	United Nations Development Programme

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Manufacturing Industry

i. The Lao PDR is largely an agricultural economy in which industry plays only a modest and poorly integrated role. Industrial activity shrank during the 1975/76 crisis period to perhaps one tenth of its level in 1973. However, in 1982 a nitid improvement was underway although there continues to be a shortage of supplies of all kinds, as well as of skilled personnel, maintenance, services, transportation and markets with the necessary buying power. Industry's share of the national income may be estimated at 5.4% in 1981.

ii. The 18 plants operated under the Ministry of Industry, Handicrafts and Forestry make up the bulk of the country's modern industry (with a production value estimated at K 183 million, representing 80% of the total); they are located within 15 km of Vientiane. These plants manufacture zinc steel, agricultural tools, oxygen, plastic articles, detergents, insecticide, tyre recapping, wood products, matches, textiles, handicraft products, beer, soft drinks and cigarettes. The role of industry is to be strengthened: industrial production registered in 1980 will be expanded by a factor of 2 - 2.2 during the 1981-85 Five-Year Plan. For this purpose, the allocation of the national capital expenditure budget to the industry, mining, energy and trade sectors has been increased from 6% in 1980 to 16% in 1981, and to 18% in 1982.

iii. Not more than 8,000 persons are employed directly by the formal sector of manufacturing industry. Productivity is low and there is an acute shortage of skilled personnel. Industry is heavily dependent on foreign countries for inputs of all kinds. Foreign exchange allocated in the 1982 Plan to the units under the Ministry of Industry and the provincial government amounts to $8.6 million, but foreign exchange earnings from industry during the same period were probably around $1 million. Therefore, the major strategic orientation for industrial development should be to balance the foreign exchange earnings and expenditures of industry. Management remains the largest single constraint to industry. A certain amount of management autonomy has been permitted recently, particularly in three large units producing beer and soft drinks; cigarettes; and wood, rattan and plywood; which is not fully utilized because of lack of capabilities. Marketing and purchasing are normally conducted through the Lao Trading Company.

Industrial Planning

iv. The present Five-Year Plan (1981-1986) consists of general objectives to be reached by each economic sector. The annual plans

for industry are more detailed, being drawn up for each plant, and take account of all necessary inputs and outputs. Preparation of these plans follow an iterative procedure between the management of the plants, the Ministry of Industry and the State Planning Committee. Operation of the planning mechanism is far from perfect and diminishes the practical importance of planning. During 1981, individual results of plant output ranged from between 4% to 153% of the stated objectives.

Institutional Support to Industry

v. The major obstacles facing industry are inadequate management and the lack of training facilities. The future seems brighter, as there are currently about 10 000 Lao students in socialist countries. There are two technical schools in Vientiane with around 1,000 students awarding certificates of skilled worker and technician in various trades.

vi. Extension services to industry are practically non-existent. These services are taken care of within each enterprise, normally by expatriate advisers. The establishment of extension services to cover industrial branches of particular importance, such as wood based, is recommended. Despite several aid projects, the lack of maintenance and repair services, remains a serious obstacle to industrial development. A lack of maintenance awareness was observed in the plants visited by the mission.

vii. Socialist countries are believed to provide 50% - 70% of the country's total external aid, mostly in the form of commodity aid, technical assistance and bilateral trade agreements. Total external aid was extimated to be between US$100 - 130 million per annum during 1979-80, of which over 20% went to industry.

Foreign Trade

viii. Foreign trade plays an important role in the Lao economy. In 1980, imports (42% of which were financed by external aid) represented 38% of GDP and exports 11%. Until 1975, trade was almost entirely conducted with market economies, particularly Thailand. However, the revolution and the political reorientation, the occasional closing of the border by Thailand, the prohibition of exports of many products from Thailand and the trade agreements with planned economy countries have led to the increased reorientation of trade toward the latter countries.

ix. All foreign trade operations are under the monopoly of the Lao Trading Company, with the exception of a number of products which may be imported by licensed private trading companies.

x. External trade has shown mounting deficits of $46.5 million in 1978 to $98.5 million in 1981. Equilibrium in the balance of payments was achieved by increasing amounts of external assistance. Clearing arrangements with socialist countries have grown increasingly in importance.

xi. Transportation also forms a major constraint to the development of Lao PDR. The road systems are highly inadequate. Government emphasis is placed on the rebuilding of the road which links Vientiane with the port of Da Nang in Viet Nam.

Financing of Industry

xii. Capital expenditures for industry, mining, energy and trade have risen 610% over the period 1979-1982, while transfers to the national budget from the same sectors has risen by only 370%. Increased capital allocations to industry have not yet been matched by increased revenues. Operating funds are determined for each enterprise on the basis of production targets; half is included in the budget, and the State Bank is authorised to establish a credit for the other half.

xiii. The State Bank is the only bank in the Lao PDR. It has under its aegis, among others, the departments of Special Bank and the Lao Foreign Trade Bank, which function respectively as a national treasury and handle all foreign exchange transactions.

xiv. A possible source of financing for industry in the Lao PDR, which has not yet been exploited, is international joint ventures.

xv. Financial-related problems obstructing industrial development are lack of foreign exchange resources, lack of accounting data, either at the national level or in the enterprises, and minimal capacity for project development and implementation. The report recommends training in accounting, pursuit of financial autonomy in industrial enterprises, and the establishment of an Office of Project Development within the State Bank which would be an embryo of a development bank.

Obstacles to industrial development

xvi. Obstacles to industrial development may be classified according to their origin: the related to the new orientation of the economy and structural obstacles.

xvii. The report describes the first category of obstacles as related to human resources, foreign exchange and the lack of refinement in the planning system. Structural obstacles dealt with, refer to the extent of the country's underdevelopment, and its geographical isolation.

Outlook for industrial development

xviii. It is not expected that industrial development during the present Five-Year Plan will cause major changes in the existing set-up. As far as the Mission could ascertain, no preparatory work has been initiated for the Second Development Plan, although, it appears that industry will be awarded high priority. A two-fold objective for industry may be envisaged within the next Five-Year Plan:

1) Industries requiring substantial investments, adding value to local primary naw materials and oriented largely toward exports, which would constitute the true engine of industrial development and become a major foreign exchange earner.

2) Industries based on current import substitution smaller in size than the former category, but adding more value than at present.

Suggestions for Aid to Industrialization

xix. A programme to assist the industrial sector should follow the above objectives. It should be integrated vertically so that all production inputs will be available and efficient marketing will provide an outlet for its products. In addition, some horizontal integration is also needed to ensure that all necessary services are available. Input and output pricing will need particular attention in the design of an aid programme.

xx. The Mission identified a number of areas where an aid programme to industry (financial and technical assistance) could be developed.

(1) - Saw mills
(2) - Sugar
(3) - Cotton and silk
(4) - Minerals extraction and concentration
(5) - Rehabilitation of plants

A decision has to be taken as to which of these areas merits priority and once two or three areas have been chosen, further work will be needed for the preparation of the aid programme.

I MANUFACTURING INDUSTRY

A. The Role of Industry in the Lao Economy

1. The Lao PDR continues to be a largely agricultural economy in which industry plays only a modest and poorly integrated role. Current industry dates back to the period of tranquility that followed the Geneva Agreement of 1954. Beginning in the late 1950s, drawn by an economic setting nearly devoid of industry and protected by isolation, entrepreneurs, most of them foreign, established themselves in the area around Vientiane. They set up small industrial units and shops, supplying light consumer goods purchased in part with earnings from basic commodity exports, but mainly from the proceeds of foreign aid. They also supplied commercial agriculture with a variety of services and products.

2. This industry was almost entirely dependent on foreign countries for its supplies, and on Vientiane - i.e. on the holders of revenues from agricultural trade and on civil servants for its markets. In other words, it was a marginal type of industry, both in terms of size and the extent of diffusion in the country. The functioning of the system was linked entirely to inflows from abroad (imports of materials for processing, financing of the budget deficit). In the absence of any significant impetus from agricultural exports, which remained modest because Laos' location prevented competition with exports from southeast Asia, it fell chiefly to foreign aid to provide the country's external financing.

3. Under such circumstances there could be no significant process of accumulation, and Lao industry experienced neither a major expansion nor a structural transformation. In 1973, when industry apparently had reached its highest level of development, the manufacturing sector was limited to a handful of light industries forming small enclaves within the economic context. Only rice mills and wood processing - the former meeting the consumption needs of the bulk of population, and the latter exploiting forest resources for export - were capable of contributing to the development of local resources.

4. With the change in government, the flows supplying this circuit were cut off. Foreign aid in currencies acceptable to the country's traditional suppliers was greatly reduced; and frequent border problems disrupted the international movement of merchandise.

5. Internal flows were also affected. The imigration of many individuals who had formerly provided an impetus to the economy under the former government has greatly weakened the interdependence of the Lao economy, as well as its ability to solve non-routine problems.

6. Further, the policy of redistribution which was adopted initially by the new government, based on the compulsory supply of farm commodities at administered prices, disrupted the flows deriving from commercialization of agricultural produce. This policy was changed soon afterwards.

7. Following this set of disturbances, industrial activity shrank to perhaps one tenth of its 1973 level, shortly after the change of government. Even now, although improvements are under way, industrial activity remains at a minimum. There is a shortage of supplies of all kinds - skilled personnel, maintenance, services (designs, analyses, tests, rationalization, etc.), transportation facilities, and markets with the necessary buying power. A number of units have shut down, either completely or partially (plastic sandals, matches, zinc roofing, PVC, etc.) owing to disruptions in the supply of raw materials, need for major repairs, and lack of spare parts. All units operate well below capacity because of some combination of the factors mentioned. On the other hand, demand decreased in relation to 1973 levels, because of substantially diminished economic activity.

8. Under these circumstances the role of industry is obviously limited to the production of a few articles. Industry's share of national income 1/ was 5.4% in 1981. Taking as a point of reference the average gross domestic industrial product for the least developed countries, which was 9% in 1978, it is evident that the level of industrialization of the Lao PDR is very low. 2/

9. The role of industry is to be strengthened in the future. The Council of Ministers' Decree No. 408 stipulated that industrial production registered in 1980 must be expanded by a factor of 2 - 2.2 during the 1981-85 Five-Year Plan, the largest percentage increase for any economic sector (for the purpose of comparison, social product is to increase only by a factor of 1.65 - 1.68, agricultural production by 1.23 - 1.24 and road transport by 1.80 - 1.85). If these targets are met, industry's share in national income will be 8.2% in 1985. This would still be less than the average for the least developed countries, but the structural change that it implies in such a short period can be described as significant.

10. In financial terms, the emphasis on industry is reflected in an allocation of 18% of the 1982 capital expenditure budget to the industry, mining, energy and trade sectors, compared to 16% in 1981 and 6% in 1980 (see Annex Table 1).

11. Industry's contribution to domestic product is not the only aspect in which the plan calls for change; another is its participation in the development process. In future, industry no longer is to be oriented toward the monetary demand of a small segment of the population, but rather toward meeting the essential needs of the masses. It must concentrate on the transformation of local raw materials as opposed to imported materials. Accumulation must no longer be based on foreign aid, but rather on productivity gains in agriculture and on exports

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1/ Measured according to the System of Material Product. (SMP)

2/ While industry's share of national income (SMP) and of GDP are different indices, it may be assumed that they would be roughly equivalent.

of locally processed primary commodities.

12. To be sure, the realist will maintain that intentions are not the same as results. Still, the country does hold some winning cards. Its forest and mineral resources are vast and valuable. Hydroelectricity can provide a substantial foreign exchange income (see Annex Table 8), and is on the way to making direct industrial needs independent of imported energy. The ratio of arable land to population is favourable and permits the diversification of agriculture for industrial processing.

B. Location of Industry

13. Three categories of industry can be distinguished in the Lao PDR according to the agency responsible for their management and direction. Some industries are under the jurisdiction of the Ministry of Industry, Handicrafts and Forestry, some are under that of the provincial authorities, and a few others are under that of other Ministries.

14. The industries operated by the Ministry of Industry, Handicrafts and Forestry make up most of the modern sector of Lao industry (the exceptions are the animal feed plant, some rice mills and sawmills). There are 18 units in all,1/located within a belt of about 15 km around Vientiane, some of which are grouped at a single location. They generate by far the majority of industrial production (for further details on this category see Section C of this chapter. Also under the jurisdiction of the Ministry of Industry, Handicrafts and Forestry are the sawmills existing under the State Forest Enterprises.

15. The industries under provincial jurisdiction serve the provinces in which they are located. The provincial industrial units are more numerous than the national units, but much smaller in size. In fact, in most cases they are small craft shops rather than industrial units. Most of these units are located around Vientiane: salt and coffee processing, refrigerator repair, furniture, basket making, bricks, agricultural implements, pottery, weaving, soap, noodles, industrial ice,and alcohol. After Vientiane, Savannakhet province has the most and largest provincial units, producing plastic bags, agricultural tools, salt, chalk, carbonated beverages, fish sauce, cakes and candies, bread,and noodles. Next in order of importance is Champassac province, with units engaged in weaving, agricultural tools, repair shops, bricks, manioc flour, fish sauce, bread, ice noodles, cakes

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1/ Including, as a single unit, a group of crafts cooperatives producing traditional textiles and silver and ivory jewelry.

and clothing. The only other province with plants of some importance is Louang Prabang, where cakes, clothing, furnishings, agricultural tools and ice are produced.

16. The third group of industries, those under the jurisdiction of other Ministries, is also located mainly in Vientiane province: animal feed plant (Ministry of Agriculture), rice mills (Ministry of Trade), school articles (Ministry of Education).

17. The following table shows the distribution of the value of industrial production by province.

Table 1-1. Value of Industrial Production, 1981
(million Kip)

Provinces	"National" Industries	Provincial Industries	Other Industries
Vientiane	183	21	-
Savannakhet	-	12	-
Champassac	-	6	-
Louang Prabang	-	2	-
Other provinces	-	-	-
Total	183	41	-

Source: Ministry of Industry, Handicrafts and Forestry.

18. It can be seen from this table that about 90% of the value of industrial production is generated in Vientiane. A significant amount of handicrafts activity regarding which little information exists, is centred in the Vientiane province and scattered to some extent throughout the country. These units make simple iron products, clothing, rattan and wood furniture, baskets, and leather, woven and embroidered goods.

C. Industrial Production

Value and Volume of Production

19. Industrial production data by plant were made available to the Mission only for the industries falling under the Ministry of Industry, Handicrafts and Forestry, covering a two-year period. The figures for 1981 are actual, and those for 1982 are projections (see Annex Table 2).

20. For the provincial industries, only aggregate figures have been obtained for some provinces, referring to the value of production in 1980. As an example of the volumes of production capable of being generated by the provincial units, we note that the agricultural implements plant in Vientiane can produce yearly 25 tons of nails, 1,700 pails, 2,100 watering cans, 4,200 miscellaneous small tools, and 12,000 pieces of chalk per month. The brick plant produces 7 million bricks per year. The only coffee hulling plant still operating in the country in 1982 processed 300 tons of coffee per year. Of the about 80 existing sawmills, 37 are said to be in operation, 12 of which are in the Vientiane region. Production in 1981 was about 30,000 m^3 of sawn lumber of which 18,000 m^3 were produced by the Vientiane sawmills. It is supposed that the country has about 100 rice mills, most of them located on the Vientiane plain. These units are too few and in too poor repair to process more than 200,000 tons of rice per year although some of them are being rehabilitated (Chapter VII, Section D, paragraph i). The animal feed plant produced 3,050 tons in 1981.

Value Added of Production

21. The industrial plan for 1982 provides a basis for approximating projected value added, by subtracting the value of raw materials and energy from the value of production at market prices. (In the absence of reliable data, it was not possible to calculate actual value added for 1981).

22. The results are shown in Annex Table 3. Three plants, producing wood, rattan and plywood; and soft drinks; and cigarettes, together account for 82% of the value added of the national industries, or about 60% of the value added of all manufacturing units in the Lao PDR.

23. Total value added is thus modest, amounting to K 204 million. The 1982 plan was prepared when the financial rate was ten Kips to the dollar, based on which targeted production by the modern sector of Lao industry was projected US$20.4 million. It must be borne in mind that the value added tends to be exaggerated by subtracting only the value of raw materials and energy from the value of production.

24. In a single case, but an important one since it is the cigarette plant, the Mission was able to obtain detailed data on value added and its distribution. Here again, information refers to 1982 targets, and not to actual results.

25. The projects production costs of the plant are broken down as follows (in thousands of Kips):

Raw materials	71,176
Energy	11,885
Depreciation, maintenance	3,979
Wages of production workers	2,242
Administration/management	2,542
Total	91,824

The projected profit is 10% of total costs, i.e., K 9,182,000. Taxes and duties will amount to K 63,415,000.

26. Defining value added as the difference between the value of production at market prices (K 164,424,000) and the cost of raw materials, energy and depreciation (K 87,140,000), we obtain a value of K 77,384,000. This is lower than the figure shown in Annex Table 3, where depreciation and maintenance were also subtracted. Value added is distributed as follows (in thousands of Kips):

Wages:	4,784 or 6% (here wages of production workers and administrative/employees are combined)
Profit:	9,182 or 12%
Taxes:	63,418 or 82%

Production Capacity

27. Nothing more is known about the production capacity of Lao industry than the fact that it has dwindled considerably from what it was in, say, 1973. As a matter of fact, not only production has contracted, but also the capacity of the production system itself. Even if we define production capacity in its narrow sense as the theoretical production capacity of a stock of equipment used appropriate by skilled labor and for which no complementary inputs are lacking, it still must be concluded that there has been some loss of capacity, since the machinery and equipment observed by the Mission showed signs of deterioration due to age or lack of maintenance. If we define production capacity in its broader sense as the effective capacity of the existing production system, it must be acknowledged that there has been a significant loss of capacity. The industrial system in place today has lost a large number of specialized personnel and much of its ability to obtain supplies. These can be replaced only with time and effort, which by no means can be regarded as a mere reactivation of latent capacity. This having been said, we can take as an approximation of production capacity, in its narrow sense, the targets of the 1982 plan (see Annex Tables 2 and 3). These targets are undoubtedly the maximum practically attainable with the existing industrial stock; it remains to be seen whether that capacity can actually be mobilized.

D. Factors of Production

Labour

28. It is unlikely that more than 8,000 persons are employed directly in the formal sector of manufacturing industry. This figure has been obtained as follows: For the production units under the

Ministry of Industry and Trade, the 1982 plan estimates a total of nearly 3,000 workers (see Annex Table 4); it is noted in passing that more than half of this labour force is located in the three large units (wood, rattan, plywood; beer and soft drinks; and cigarettes). To this we have added the workers employed in the animal feed plant (102), in sawmills and rice mills (possibly 1,500 - 2,500), and in the provincial plants (possibly 500 - 1,500). The total is not more than 8,000 persons, representing about 0.5% of the country's labour force.

29. It is worth noting that a large segment of industrial labour is in a situation of technical unemployment. To be sure, the new production relationship does not permit employment to be subordinated to profit, and thus prohibits the suspension of wage payments. Nonetheless, with industry largely idle, the workers are far from being employed full-time. The Mission observed that some units, closed for several months, actually only have one or two watchmen working, but they are still obliged to maintain their full complements in the payroll. As for the units that are in operation, some are working at such a slow pace that here again one can speak of disguised unemployment. This is the case, for example, of the animal feed plant, where 1981's total output could have been produced in only 30 hours of production at full capacity, but which kept its full complement - 22 administrative employees and 80 production workers - on the payroll for the entire year.

30. After remaining partly or totally inactive for so long, it is to be feared that the industrial labour force will forfeit its productive capability, and reactivation takes much longer to implement, the present overabundance of workers with some industrial experience may become a shortage.

31. Another factor affecting labour utilization is the acute shortage of skilled personnel. Industry lacks managers, technicians and innovators, capable of solving non-recurring technical problems, of introducing improvements in procedures and products, and of ensuring the cohesive internal organization of the plants and their integration into the rest of the economy.

Other Inputs

32. As already noted, industry is heavily dependent on foreign inputs of all kinds (equipment, spare parts, raw materials, etc.). Energy, however, is becoming a significant exception in this respect. Since the commissioning of the Nam Ngum dam, industry has adopted a policy of electrification. Electric motors are replacing other systems wherever possible. This substitution is taking place rapidly and it appears that in the Vientiane province, industry will soon be supplied largely by electric power. It should be noted that the energy is supplied at an extremely low rate: K 0.23 per kWh for State industries. 1/

1/ The rate is K 0.40 for private users and K 0.10 for public employees. The export tariff is US 3¢ per kWh, equal to K 1.05.

33. Equipment and spare parts are obtained entirely from abroad; although production of heavy equipment, in particular for a cement plant, had been initiated shortly before the revolution and abandoned afterward. The supply of these inputs is subject to two severe constraints: lack of foreign exchange and transport problems. The latter is not entirely of a physical (lengthy transport periods) or economic nature (cost of transport), but also involve, as in the case of transport through Thailand, serious political factors, ranging from the closing of the borders to the prohibition of transit. Further, the country's dependence on imported equipment and spare parts has other ramifications, viz., on the one hand, the quality of maintenance is poor, and on the other hand, the industrial stock is aging (little new equipment since 1973).

34. With regard to raw materials, a distinction must be made between industrial and primary raw materials. In the first case the country's foreign dependence is absolute: the zinc roofing plant imports all of its sheet metal, the detergent plant imports all of its detergent, the plastics plant imports all of its PVC, the battery plant imports all of its lead, zinc oxide and cobalt, etc. In the case of primary raw materials dependence is not completely total. There is a group of enterprises producing timber furniture, plywood, flooring and rice which process only local raw materials. Another group obtains part of its raw materials abroad and part from the domestic primary sector (the cigarette and animal feed plants). Some units are totally dependent on imports, e.g. the brewery (hops) and the weaving mills (cotton).

35. The strategy of the Five-Year Plan is specifically to strengthen the integration of industry with the primary sector, supplying the industries of the two groups mentioned in the previous paragraph with domestic production. In theory this objective seems attainable, but in fact it will be affected to a large extent by the coordination problems involved in development of the agro-industrial type. One needs only to take the example of the animal feed plant, started in 1977 and completed in 1979; the Plan called for it to use domestic products, but it nonetheless must import 95% of its raw materials, including maize, soybeans, bran and dried coconut, which, in principle,could just as well be produced locally.

36. Annex Table 4 shows the foreign exchange allocated in the 1982 plan to the units under the Ministry of Industry and Trade. The total is US$ 6.6 million; another US$ 2 million was set aside for the provincial industries. Thus, for the two categories a total of US$ 8.6 million is projected for 1982. This figure should be compared with total foreign exchange earnings from total exports, which amounted to US$ 26.6 million in 1981, or with the value of exports of manufactures, which was less than US$ 0.5 million, in order to assess industry's dependency on foreign exchange. As a matter of fact, according to the Plan, the manufacturing sector alone will receive one third of the dollars the country earned from its total official exports in 1981, while having contributed less than 2%. However,

exports paid for in dollars represent only 23% of the current account deficit of the balance of payments, the rest being financed by barter or by foreign aid. It is therefore evident that the country is doing a great deal for the fanufacturing sector by allocating it such a generous share of its dollar resources, and it can also be seen that this effort can be sustained only as long as foreign aid supplements those resources in one way or another.

37. In the light of this observation, it can be inferred readily that the major strategic orientation for industrial development is to balance the foreign exchange earnings and expenditures of industry. Soecifically, this comes down to giving priority to those industries that will be able to save or earn the dollars that the country needs. These are the industries processing local raw materials whose products (furniture, timber, plywood and veneers of fine woods, high-quality tobacco) are in demand on world markets.

E. Management, Prices, Markets

Management and Prices

38. While all the enterprises operate within the narrow context defined by the accounting projections of the Plan, their management continues to be the major constraint to industrial development. The Plan lays down production targets and allocates the corresponding resources to the enterprises. These resources come entirely from the national budget in the case of financing for expansion, and half from the budget and half from the Bank, for working capital. The enterprises are authorized to made a profit equal to 10% of their production costs, and must include any excise taxes in their selling prices.

39. To analyze the formation of prices, we shall take the example of the cigarette plant, which is the country's largest manufacturing unit, generating about one fourth of total industrial value added. According to the 1982 plan, the production prices of this unit will be determined as follows:

Production costs	K'000
Raw materials	71,176
Energy (fuel, wood, electricity)	11,885
Depreciation and repairs	3,153
Maintenance	826
Salaries and wages	2,242
Administration/management (including distribution)	2,542
Total	91,824
Profit (10%)	9,182
Excise taxes 1/ (50% on deluxe cigarettes, 30% on ordinary cigarettes)	62,925
Stamp tax (0,03%)	493
TOTAL	164,424

1/ Percentages on consumer final prices.

40. The enterprise will transfer 60% of its profit to the national budget and will retain 40%, to be allocated as follows:

50% investment
30% employee social fund
20% bonus to workers

41. On the basis of these projections, a price committee composed of representatives of the Planning Office, the Ministry of Finance and the Ministry of Industry, Handicrafts and Forestry sets the prices of products. If the established price does not cover the cost of production of i.e. for certain basic goods, a subsidy will be allocated. During the fiscal year, the enterprise may face problems in implementing its programme of prices, and may then request that it be revised. A committee is formed to consider the merits of this request and decide the course of action to be taken.

42. The portion set aside for taxes varies. It can be substantial, as in the case of exported sawn lumber, which has the following price structure:

36% tax
25% export tax
1% SCL commission
1% BCEL commission
1% other commissions
4% turnover tax
0.03% stamp tax
32% for the enterprise, which must provide for depreciation from this percentage.

43. Daily management is entrusted to the director of the enterprise and the workers' committee. For major decisions, i.e. those affecting employment, investments, sales, procurement and contracts, three categories must be distinguished:

i) First, there are the private enterprises such as, the furniture, agricultural implements and match factories. The objectives of these enterprises conform to those set forth in the Plan. If the objectives are approved, the enterprises will have access to available factors of production in accordance with the distribution stipulated in the Plan. Within this margin the private enterprises are autonomous as to employment, wages, investment and utilization of profits.

ii) The second category comprises the industries managed by the ministries or the provincial authorities, which have no autonomy at all. Once the Plan has been adopted, ministry or provincial officers are the only authorized persons to carry out transactions and to make decisions which are not strictly routine.

iii) Finally, there are the three large units: beer and soft drinks; cigarettes; wood, rattan, plywood. 1/ At present these plants

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1/ The latter unit, although a "national" enterprise, remained in private hands until recently. The former owner still participates in its management.

are in an experimental phase, in which they are allowed more autonomy than the other public sector enterprises. They are authorized to carry out certain transactions with suppliers and purchasers and to retain part of the profits. If this experiment is successful, broader autonomy may be extended gradually to the other manufacturing units. Although in principle decentralization is recognized as fostering efficiency, it must be acknowledged that prudence must be exercised in this regard, given the scarcity of managers capable of taking initiative while adhering to the plan guidelines.

Distribution

44. With centralized management, in general, the enterprises are not authorized to conduct external transactions (sale of products, purchase of inputs) which are handled by the Lao Trading Company (Societé de Commerce Lao - SCL). The three large enterprises (beer and soft drinks; cigarettes; wood, rattan, plywood) for an exception to this policy and are authorized to carry out certain transactions autonomously, on an experimental basis.

45. Industrial products are distributed through three domestic channels:

i) The first, which is unquestionably the most important for milled rice, is a system of monthly rations to which public sector employees are entitled. These rations are sold at a much lower price than the free market price, and are often again traded on a parallel market.

ii) The second channel is a network of state stores, which are supposed to cover the entire country but which at present are concentrated mainly in Vientiane. They are responsible for supplying basic consumer goods to the population at official prices, closer to free market prices.

iii) The third channel is the free market: small tradesmen selling cigarettes, plastic articles and detergents; agricultural cooperatives purchasing tools or pottery objects, etc. The free market also is supplied by private imports of items that compete with certain domestic products, such as cigarettes, beer, cloth, plastic articles, rice, etc. Given the limitations of domestic supply, it would appear that imports do not supplant domestic products but rather complement them.

46. SCL is responsible for distribution to the external market as well, except in the case of the three large units mentioned above. It must be said that, up to the present, exports of industrial products have been limited to a very few commodities. During 1981 there were exports of small quantities of rattan, wood for flooring, plywood, furniture, and 5,000 boxes of cigarettes sold to Viet Nam.

II. INDUSTRIAL PLANNING

A. Preparation of the Plan

47. The Five-Year Plan consists of objectives to be achieved by the end of the five-year period, and of annual plans which set forth concrete measures based on which the five year objectives are to be fulfilled. For the present, only the first two annual plans are known; they reflect the immediate goal of the Lao PDR, i.e. to reactivate, under new conditions, the production system inherited from the previous government. Accordingly, these annual plans call not for the establishment of new units, but the expansion of some existing units. (In this connection, it must be noted that the new government has no experience in setting up new industrial plants, the only unit established since the revolution being the animal feed plant, which seems to have been conceived, financed and commissioned under the impetus of foreign aid).

48. The overall economic and social objectives of development are decided upon by the Party Assembly and made known in its resolutions. In implementing those resolutions, the Council of Ministers issues directives which stipulate, in particular, the objectives that industry is to meet by the end of the Five-Year Plan. The objectives laid down for industry comprise a quantitative aspect - a 120% increase in industrial production - and a qualitative aspect - improved efficiency of industry and improved quality of its products, emphasis on domestic potential, particularly natural resources, and reliance on the primary sector as the springboard for industrialization.

49. At least as regards industry, and as mentioned in para. 47, the Five-Year Plan does not seem to contain anything more than these general objectives. 1/ More detailed planning is done through annual plans that are intended to give concrete form to the Five-Year Plan.

50. The procedure for preparation of the annual plans is iterative. It begins with a consultation phase during which the Ministry of Industry, Handicrafts and Forestry, the provincial authorities and the Plan Committee make a first approximation of the objectives to be met by the industrial sector. This framework serves as a reference point for the industrial units, which are responsible for defining the production levels to be achieved during the year and providing a detailed list of the resources needed to achieve those levels. The resources are to be shown both in real terms (raw materials, energy, spare parts, machinery, labour, etc.) and in financial terms (working capital and investment outlays), etc., both in local currency and in foreign exchange. The industrial units are poorly and unequally equipped for this task with the most serious deficiencies seeming to lie in the units under the provincial authorities.

1/ The Mission did not have access to the plan as such, but only to Council of Ministers Decree No. 408.

51. Following this exercise, the Ministry of Industry sends to the Plan Committee a sectoral plan indicating the annual objectives for each industrial unit and what they need in terms of required resources. 1/ The Plan Committee contralizes the sectoral plans and consolidates them in a general plan. 2/ This is then submitted to the Ministry of Finance, which determines whether or not the available budgetary resources permit the plan to be fulfilled. If the plan passes this test it is submitted to the Council of Ministers, which can call for revisions (these are made by repeating the entire procedure described). Once the plan has been approved by the Council of Ministers, it is submitted to the People's Assembly, which gives it legal force by voting for approval.

B. Implementation of the Plan

52. Two basic questions arise here: To what extent does the plan contribute to the rational allocation of resources? To what extent is the Plan actually carried out ?

53. It is still too early to attempt an empirical answer to these questions, since the Five-Year Plan is hardly into its third year. Nonetheless, on the basis of a set of inferences and conjectures, one is tempted to respond that the operation of the planning mechanism is far from perfect. This impression should not be taken as a criticism, since the planning apparatus has hardly been broken in and is constrained by difficult objective conditions that prevent it from being more ambitious and better utilized.

54. What are these conditions? First, the lack of recurring information and quantitative data. As already noted, most of the traditional mechanisms of exchange and production have been disrupted, and in any case a new approach to development has been chosen. Planning for the future therefore cannot be based on events of the past to predict the events of the future. As for nonrecurring quantitative data, they are extremely scarce and of doubtful reliability. This is illustrated, for example, by the fact that on several occasions the Mission obtained different figures for the same economic datum, depending on whether the figures were furnished by the heads of industrial plants or by officials of different Ministries.

55. A second condition arises from the vulnerability of the Lao economy to random shocks of all kinds. The new development strategy, in which industry is to be integrated with the primary sector, has the effect of coupling the external vulnerability of the industrial

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1/ See Annex Table 2 for the detailed industrial objectives of the 1982 plan.

2/ The consolidation does not go very far since it apparently does not even include verification of the overall comparability of individual requirements.

sector with the intrinsic vulnerability of the primary sector. Moreover, the channels linking those two sectors (transportation, markets, etc.) were thrown into disorder by the war. The result is a system with rather loose connections among its parts, each of which is highly vulnerable to shocks. It can be seen, then, that the planning within of such a system is a difficult task.

56. A third condition and perhaps the most significant that hinders planning is the lack of skilled personnel. The number of specialists is too small for the task, and Lao nationals studying abroad have only just started to return to augment the ranks of skilled personnel.

57. This combination of factors plays a role in confining, at the present, planning to a modest role. The preparation of production and expansion projects is left basically to the industrial units, and that of new projects to the Ministry of Industry and the State Planning Committee. Although sometimes assisted by planning officials, the industrial units do not have the competence needed to draw up plans, especially those of the nonrepetitive type. The result is a certain weakness in the quality of projects and plans. Once the projects have been implemented, the plan functions more as a conveyor belt than as a decision-making entity. The Minister of Finance indicates the overall financial resources avaialable; if the total required exceeds that amount, the projects are resubmitted to the Ministry for revision. According to what the Mission was told, the planning agency itself does not carry out an intersectoral analysis of the plans. As a result, there is no body which has an overview of the sectoral breakdown for the purpose of allocating resources in accordance with the needs and possibilities of the economy as a whole. There is no longer any entity capable of planning intersectoral operations, since each sector is practically autonomous in the drafting of its plan. The importance of this gap when one considers that the Lao PDR bases its development on the linking of industry to the primary sector.

58. Since the planning system has little knowledge of actual conditions and little control over actual arrangements, it is not surprising that the Plan has been implemented only roughly, as indicated in Annex Table 5. The Table shows the extent of fulfillment of the plan in terms of value and volume, as percentages relating to actual accomplishments and objectives for 1981.

59. The following may be concluded from these figures: On average, the industrial units under the Ministry of Industry (unquestionably the most widely planned sector of Lao economy) met 78.5% of their physical objectives. This figure appears to indicate faithfully executed planning, but is misleading because it conceals a very wide dispersion of individual results. In fact, the coefficient of dispersion of this distribution is 0.94. Individual results range from 4% to 153% of the stated objectives. As for the results in terms of volume, the average is 112% and the coefficient of dispersion is 1.34.

60. What these figures suggest is that the planners, having little control over physical results, adjust the results in terms of value in order to balance supply and demand. If this assumption is correct, it is to be feared that because of the way in which the adjustment is made, the price system will soon lose its usefulness as a guide for resource allocation. However, it is expected that with increasing experience and with the arrival of planners under training abroad, the quality and usefulness of the planning mechanism will increase substantially.

C. The 1986-90 Five Year Plan

61. It appears that preparation of the Five Year Plan for 1986 has not yet begun. Inasmuch as in any socialist economy, the industrial sector is to become the engine of development, and given that complete self-sufficiency in food is to be achieved during the current Plan period, industry can be expected to receive highest priority in the next Plan, as well as an increased share of investment resources. The planning system will undoubtedly be more refined by then, which means that the Plan should be more complete and detailed as regards objectives, policy measures, projects and the financial and human resources needed to achieve the industrial development sought.

III. INSTITUTIONAL SUPPORT TO INDUSTRY

A. Training

Introduction

62. One major obstacle industry faces is the lack of adequate management personnel. Most managers have neither the training nor the experience required. Measures to ameliorate this problem, such as the organization of accelerated courses in business management in general, and industrial management in particular, have not been taken. The same holds true for technicians and specialized workers. The only training for these levels is that included in certain technical assistance projects (e.g. in the furniture plant with UNIDO and in the plywood plant with ADB/FAO), and training for a small number of production workers at the Pakpassak school.

63. National education comprises three levels of 5,3 and 3 years; enrollment in 1980/81 was 463,000, 62,000 and 10,000 students respectively. The level of instruction is low. University education is provided by three institutions for teacher training, medicine and public works.

64. In addition, there are five post-primary vocational training schools, offering two-year programmes in mechanics, masonry, carpentry, electricity, plumbing and mechanical engineering. Two schools, described later in the report, provide advanced secondary level technical instruction. The Soviet Union is financing a third school at this level for 500 students, which is under construction in Vientiane.

65. At the university and advanced secondary level the Government is placing its hopes in the 10,000 students who have been studying in socialist countries since 1976. Each year about 1,500 to 2,000 students are sent to those countries. Little is known about the level of their instruction, since the first graduates have only just returned to the Lao PDR.

The Lao-German Technical School

66. This school was established in Vientiane in 1964 as part of the aid programme of the Federal Republic of Germany. The three-year curriculum is for students who have completed primary and secondary levels. Electricity, automotive mechanics, general mechanics, and welding and plumbing are taught.

67. The college is a boarding school and is now operating at capacity. In the 1981/82 school year there were 51 instructors and assistants and 26 administrative employees for 407 students. The distribution of students was as follows:

1st year	163
2nd year	136
3rd year	108

It may be noted that the level of the instructors is not very high, and their assistants are usually workers.

68. The percentage of first year students completing the programme and receiving diplomas is high, estimated at over 80% since 1975. The level of the courses does not seem to be very advanced; rather, it appears to be too academic with little emphasis on useful practical work. The school has enough workshops, but its equipment is poorly maintained and little used.

69. Very few graduates have gone into industrial plants in recent years. They prefer to pursue studies abroad, to join the college as instructors (for which the best students are selected), or to enter government service in the Ministries.

70. The school performs some work for outside parties, such as repair of automobiles and refrigerators and plumbing services. This work is done by the assistants, and this has little to do with the teaching function.

Pakoassak Technical School

71. This school was founded in Vientiane in 1936. It awards a certificate of skilled worker after a two-year study programme (which follows the five years of primary eduction) or a certificate of technician after a three-year programme (which follows the five years of primary eduction and three years of basic secondary education).

72. During the scholastic year 1981/82, there were 590 students in the skilled worker programme, distributed among 12 sections: motorcycle mechanics, automotive mechanics, general mechanics (lathe operator-fitter), general electricity, welding, carpentry, masonry, watchmaking (watch repair), electronics repair (radio and TV sets), accounting, and sewing and cooking (home economics). There were also 360 students at the technician level in the sections of carpentry, masonry and accountring. Some of these students (87) were workers who continue to be paid by the plant where they are employed. 400 students are from the province and are boarded. Until recently the school held three-month courses for workers, which could not be continued because of lack of funds. The results were apparently good.

73. There are 135 full-time instructors, most at the technical level, and about 10 with Bachelor's degree. The best students become instructors themselves, while the others are assigned according to the requests of the Ministries. The school receives technical assistance from the German Democratic Republic and UNIDO, but it lacks facilities and textbooks. The laboratories and shops are underutilized and their equipment is very poorly maintained. Instruction in this school tends to be academic and there is little provision for practical work.

B. Extension Services

74. In order to develop, manufacturing requires technological inputs, designs and quality control services. The furniture industry, for example, needs information on designs, woods, adhesives and accessories that are most suitable for a specific product and market. Some of these inputs can be developed within the plants themselves, and others can be obtained from extension services. Given the limited technological capacity of most plants in the less developed countries, the latter method is commonly used.

75. In the Lao PDR extension services are only supplied by expatriate advisors and even when this is the case, know-how is absorbed slowly and incompletely. When the advisor leaves the country there is no assurance that the know-how will remain. According to what the Mission observed, the level of technology, designs, quality control and information in industry is very low.

76. Proper industrial extension services do not exist in the Lao PDR, and as a result, a project for the development or establishment of a plant must rely solely on its own efforts to provide the information, technology, designs and quality control required for production.

77. Given the economic importance of certain industrial activities - for example the wood industry - it would be desirable to consider the establishment of extension services that could assist several enterprises of the same branch and, at the same time, avoid duplication of work within each plant.

78. In the crafts sector, the Societé d'Artisanat Lao, a public entity, was established in April 1981 to bring together all of the country's artisans for the purpose of centralizing the purchase of raw materials and local raw external marketing. This company could also function as an extension service to the handicraft sector.

79. Even if an extension service is established soon, it will take some time to make ideas, methods and designs known to the plants. In the case of product design, with all of the aspects involved (dimensions, quality control, choice of raw materials, etc.) it would in many cases be quicker to obtain them abroad. Such a system would be particularly appropriate for export products. Commercial-technical agreements with importing companies could ensure a regular outlet for a certain volume of products and at the same time would make the required technology readily available.

C. Maintenance and Repair

80. Maintenance and repair services, despite the various though often uncoordinated international programmes, remain a serious obstacle to industrial development in the Lao PDR. The scarcity of such services and the absence of a maintenance awareness seems to be more pronounced in that country than in others at a similar level of development. This may be due ultimately to the fact that the Lao PDR has been a war zone for many years, and that up to recently the aid received has been largely in the form of capital and consumer goods.

81. It was observed that in both ministries and plants a capital good is almost regarded as a consumer good. In some plants, the Mission found that a production machine is considered to be old after ten years and must be replaced. The fact is that in many cases the machine actually has to be replaced because it is beyond repair, having been operated without preventive maintenance and only undergoing repairs - usually makeshift - when it breaks down.

82. In all the plants visited by the Mission - and it would seem that this applies to all plants under central or provincial authority - there is no preventive maintenance or specialized personnel assigned to perform maintenance and repair. 1/ Repairs are made by production workers, sometimes with the assistance of outside small repair shops.

83. Aware of this serious problem, the principal lenders and the Government set aside part of the aid received for maintenance and repair. The Swedish Government installed a very modern repair shop 14 km from Vientiane, at a total cost of over US$2.5 million. This shop is under the Department of Forestry; its primary function is to repair all Volvo mobile equipment provided under the Swedish aid programme to transport logs and petroleum products. This shop is slated to become an autonomous entity under the Department of Forestry, which will provide, for a fee, maintenance and repair services to all mobile equipment of the Department and of third parties. It is by far the best equipped and organized repair shop in the Lao PDR, but is concerned almost entirely with heavy vehicles.

84. The second effort in this area has begun, under a project financed by the World Bank (IDA III) for equipment (US$1.35 million) and by UNDP/FAO for expertise. The project calls for the reconditioning and re-equipping of shops in Vientiane, Savannakhet and Paksay, initially for agricultural and earthmoving equipment, but later on for the general repair of equipment, including that of third parties. These shops are under the authority of the provincial public works departments, but for purposes of the project, their activities are directed and coordinated by the Ministry of Industry.

85. The Government of Australia is financing the installation of a repair centre at National Construction Society No. 1, under the Ministry of Construction. The orientation of this project differs from that of the other two mentioned above, the emphasis being on expertise in preventive maintenance. For actual repairs, this centre relies on outside services, either from private workshops for certain operations - e.g., reboring of cylinders - or from other government workshops. Finally, the USSR is upgrading a rolling stock repair workshop established before 1975 with Japanese assistance. This workshop is part of the National Construction Society; the Mission could not obtain more details on it. In addition to these workshops, there are other much smaller ones engaged in the repair of mobile or fixed equipment (pumps, etc.) either private or within other Forestry and National Construction societies.

1/ With the exception of a saw doctoring workshop installed by UNIDO at the Pakpassak school, which serves the sawmills and plants of the Vientiance region.

86. While the intention may be to use these workshops for repair and maintenance of equipment in general, it is not apparent how they will be able to solve the problems of industry, except very specific ones, because of their specialization in mobile equipment. Despite their existence, the lack of industrial repair and maintenance services will continue to be felt.

87. There is need to create maintenance awareness within the management of industrial plants and to assign personnel solely to equipment maintenance. Such action would in itself be a breakthrough and could be complemented by the participation in industrial repairs of the workshops described above.

88. In the same line, each technical co-operation project dealing with industry should have a maintenance and repair component, to provide the material and human resources to ensure regular maintenance and repair of the equipment supplied under the project.

D. External Aid to Industry

89. The World Bank Economic Mission which visited Laos in February 1982 undertook a detailed analysis of external assistance provided. Socialist countries are believed to provide 50%-70% of total internal aid, mostly as commodity aid, technical assistance and bilateral trade agreements. Total external aid was estimated to be between US$100-130 million per annum during 1979-80. Although the industrial sector has played a minor role in the country's development, the relative contribution to the sector is high - over 20% - and may be growing. The inclusion of industrial components in projects listed under other sectors would push this percentage upwards. Major projects directly related to industry have been (not in order of size or importance): a cement plant from the USSR, a brick factory by Vietnam, an oxygen and acetylene plant by Sweden, a furniture plant by UNIDO, sawmills by AsDB and Sweden, manufacture of agriculture tools from various sources and the assistance in maintenance and repair described in paragraphs 83 through 85. Effectiveness of this assistance has been mixed since there has been little planning and coordination. Most of this assistance seems to have been provided on the initiative of the donors rather than as a result of internal reflection and choice.

IV. FOREIGN TRADE

Introduction

90. Foreign trade plays an important role in the Lao economy. In 1980, imports (42% of which were financed by external aid) represented 38% of GDP, and exports 11%. Until 1975 trade was almost entirely with market economies, particularly Thailand. However, following the revolution and the resulting political re-orientation, the occasional closing of the border by Thailand, the prohibition of exports of many products from Thailand and the trade agreements with planned economies, trade has been oriented increasingly toward the latter countries.

A. Import-Export Procedures

91. All foreign trade operations are under the monopoly of the Lao Trading Company (Société du Commerce Lao - SCL). Import permits are issued by the Foreign Trade Department, on the condition that the import in question is included in the foreign exchange budget of the enterprise concerned and the permit has been approved by the Ministry of Finance. The Lao Foreign Trade Bank (Banque pour le Commerce Extérieur Lao - BCEL) issues the corresponding letter of credit and SCL (or private importers, in certain cases) contacts several suppliers and carries out the transaction. These procedures often take several months, not only because of foreign exchange shortage but above all because of bureaucratic delays.

92. For exports, SCL purchases the merchandise from the manufacturing company at the official price determined by the Ministry of Industry (as described in Section I.E.), negotiates with the foreign buyer and takes the necessary action to ship the merchandise. Banking procedures are handled by BCEL in this case as well.

Lao Trading Company (SCL)

93. This company was established early in 1981 under the then Ministry of Industry and Trade, through the merger of two entities - the Lao Import-Export Company (itself comprising import, export, and transportation companies) and the International Trade Department, which comprises the Food Products Distribution Company (Société de Distribution de Produits Alimentaires) and the Industrial Products Distribution Company (Société de Distribution de Produits Industriels). The new company retained the same departments as its predecessors, with little coordination and rationalization of the different activities; this causes problems in its operation.

94. One of the most serious problems continues to be the acquisition of equipment and materials abroad. Invitations to bid are often incomplete or inadequate, the selection of suppliers is not always the most appropriate one, and customs formalities in Lao PDR are lengthy. To forestall such problems in procurements under aid projects, the World Bank and UNDP have established a coordinating office within the Ministry of Finance to assist in the preparation of technical specifications, invitations to tender and evaluation of bids, contract administration and certificates of performance. The results of this advice seem to be quite satisfactory as regards the purchase of equipment, but there is no sign of any lasting impact on SCL. In addition, this coordinating office was dismantled at the end of 1982 and its functions reabsorbed into the department of external finance in the Ministry of Finance and the Lao Commercial Bank. UNCTAD and SIDA (Swedish International Development Authority) also furnish technical assistance in the form of experts and training for the Trade Department and SCL in all aspects of marketing (import and export).

95. Although SCL has a legal monopoly on foreign trade, it applies only to certain products; others may be traded by private merchants. This was made clear in a recommendation of the then Ministry of Industry and Trade which indicates that the monopoly applies to exports of the following products; logs, sawn wood, wood furniture, minerals, rice, coffee and other forestry products such as benzoin and sticklac. For imports, the monopoly applies to machines of all kinds, vehicles, cement, concrete-reinforcing bars, petroleum products, rice, salt and sugar.

96. In addition to the foreign trade permitted to certain private merchants, mention should also be made of the autonomy allowed to three larger enterprises - plywood, beer, and cigarettes. They are authorized to contact, select and negotiate with foreign suppliers and buyers, even though they depend on SCL for customs documentation and on BCEL for banking transactions. These changes took effect in October 1981. It is possible that this experimental arrangement will be institutionalized and extended to other enterprises.

Private Merchants

97. The role of private merchants engaged in foreign trade was ill-defined from 1975 to early 1981. In March 1981 a decree prepared by the Ministry of Finance established a system of licenses for foreign trade companies and specified the categories of products in which they may deal: food products, textiles, wearing apparel, shoes, household goods, office, school and sports supplies, tools and articles for fishing, medicaments, agricultural machines, tools and parts, vehicles and parts, raw materials and spare parts for plants, laboratory and technical equipment, construction materials and equipment, electrical equipment and luxury articles. There is some overlapping between this list and the list of goods reserved for exclusive import by SCL. Eight trading companies have already obtained licenses, but three foreign companies long established in the Lao PDR account for the bulk of private trade.

Imports of Petroleum Products

98. SCL imports the greatest part of the country's petroleum products under annual contracts with a multinational firm. The company imports and stores commodities for the account of the Ministry of Construction, and distributes only to aviation companies. All other distribution and sales are handled by a state company established in 1981 under this Ministry.

99. The sales of this firm fluctuate widely - 37 million litres in 1976, 55 million in 1979, 52 million in 1980 and 31 million in 1981 - and depend on the availability of foreign exchange to the Government. In 1981 the Soviet Union lent US$10 million to help pay the oil bill and in addition provided about 10-17 million litres of petroleum products; this was repeated in 1982.

100. The products imported by the multinational firm are refined in Singapore and shipped to depots at Thanaleng, Thakek, Savannakhet, Pakse and Watay Airport at Vientiane through Thailand. The Soviet products come by way of Da Nang in Viet Nam. There is talk of installing a pipeline from Da Nang to Savannakhet or another from Vinh to Vientiane, but this does not appear to be feasible considering the low level of consumption for each petroleum product.

B. Customs Tariffs

101. Customs tariffs for some inputs used by the industrial sector are shown in Annex Table 6. Imports of certain locally produced items such as logs, sawn wood, tea and tobacco are discouraged by a combination of high tariffs and taxes which nearly double the C.I.F. price. Energy conservation in the use of petroleum products is encouraged by a combined high tariff and excise tax. Tariffs for most items seem reasonable with one major exception: spare parts are taxed at a much higher rate (20-40%) than equipment (0-10%), which is a disincentive to maintenance.

102. Export tariffs are reasonable:0-10%, with the exception of raw wood at 25%. In principle, this promotes exports of wood products.

C. Balance of Payments

103. The mounting deficit in the balance of trade is shown in Annex Table 7, which indicates a deficit of US$73.1 million in 1982 compared to US$46.5 million in 1978. Net service payments rose from US$15 million in 1978 to US$20 million in 1979 and have remained at approximately that level for the last four years. Income from the sale of foreign exchange by foreign missions, interest on foreign exchange reserves and overflight fees rose during that period, but there was a concurrent increase in interest on the foreign debt and in counterpart contributions for external technical assistance, among other items, which has kept net payments at the same level.

104. As a result, the current account deficit rose from US$61.6 million in 1978 to US$94.2 million in 1982. Overall equilibrium in the balance of payments has been made possible only be increasing amounts of external assistance, largely grants and concessional loans. Mention should be made of the growing importance of barter trade under clearing arrangements, and of the fact that its deficit remained virtually unchanged from 1978 to 1980, was annulled in 1981, but increased in 1982.

Exports

105. The composition of exports is shown in Annex Table 8. Exports doubled from 1978 to 1979, thanks to increases in sales of electricity, the liberalization of border trade, and the rise in price of certain export commodities. The decline in 1980 is explained by the closing of the Lao/Thai border for three months in midyear (the most active period), and its opening for the rest of the year at only one point. Exports in 1981 increased in relation to 1980 and the basket of commodities changed: there was an 18% decrease in wood and a 50% increase in electric power since the unit price increased threefold in October 1981. The drop of registered exports of sawn wood may be explained mainly because of the barter trade with the Soviet Union rather than the fact that export of logs was forbidden as from 1981 except from existent stock, which was, anyway, considerable. Further, private border trade was suspended during much of 1981 and early 1982. 1982 saw a substantial increase in energy exports and a tripling of exports under clearing arrangements.

106. Until recently, practically all Lao PDR's foreign trade was channeled through Thailand. Trade statistics of that country provide an interesting counter-check to the limited figures available from the Lao authorities. The Thai source does not distinguish cash transactions from barter trade, and does not include exports of electric power. With the latter adjustment, the figures from Thailand are somewhat lower than those from the Lao PDR for each year. Part of the difference is certainly explained by the border trade, which is not declared in Thailand, and by trade through Viet Nam, which is bound to increase steadily as the agreement with the CMEA countries become significant and trade through Vietnamese ports becomes substantial. 1/ The bulk of the difference, however, may be due to the problems of national accounting mentioned in the next chapter.

1/ The trade agreements for 1981, subsequently renewed, provide for barter trade of 5 million rubles with the USSR and 1 million rubles each with Bulgaria, Czechoslovakia, German Democratic Rebpublic, Hungary and Viet Nam. Deficits will be covered by "swing" credits. To accomplish these agreements, it seems that the bulk of coffee, zinc ore and wood (logs) were exported to these countries in 1981 and 1982.

107. Thai statistics have the advantage of showing the countries that purchase Lao products. Excluding electric power, the importance of Thailand as a purchasing country was reduced drastically from 31% in 1978 to 4% in 1981. Japan continues to be the leading consumer of Lao wood and wood products, but Hong Kong and the People's Republic of China have been accounting for larger shares. Most of the country's coffee, tea and spices go to Singapore, but Bulgaria and Czechoslovakia are now importing larger amounts of those commodities. Virtually all tin ore had been exported to Malaysia, whereas since 1981 all of this production goes to the Soviet Union.

Imports

108. Nearly all of the Lao PDR's requirements for equipment, raw materials for industry and petroleum products are met by imports. Until 1981 it was necessary to import large quantities of rice and other foodstuffs, but the country became self-sufficient - at least in rice - in that year. Most equipment has been imported under grants or concessional loans. Likewise, the bulk of cereals, sugar and petroleum products from the CMEA countries and from market economies such as Sweden and Netherlands (through the Mekong Committee) comes as aid in kind, the majority being in the form of grants.

109. Mention should be made here of the Thai Government's decision of December 1981 establishing a list of 273 products (nearly all commodities) that may not be imported from Thailand without special authorization by the Thai National Security Council. Imports in transit ought not to be affected by that decision but, in practice, transits through Thailand suffer undue delays.

110. Cash imports of goods more than doubled in 1979 and again in 1980 (Annex Table 11), owing primarily to requirements for rice and other foodstuffs and the reduction in food aid. Petroleum products and capital goods accounted for the largest share during the years analyzed; the increases in petroleum products were due to higher prices, while those in equipment were associated with projects such as the Nam Ngun dam. The decline during 1981 is explained chiefly by the decrease of foodstuffs imports, the decrease in border trade, and the reduction in aid from the convertible-zone countries. Imports during 1982 were at approximately the same level as 1981, except for trade under clearing arrangements, which increased 2.5 times.

111. Until last year, Thailand was the source of much of the Lao PDR's imports, its share increasing from 24% of the total in 1978 to 41% in 1980. During the first half of 1981, however, the proportion shrank to 1.5%, because of the closing of borders and increased export embargoes of the Thai Government. The USSR was the main supplier of cement in 1978, but its share has fallen gradually and the Philippines is now the leading supplier. Pharmaceutical products were supplied by

the People's Republic of China, Denmark and the Federal Republic of Germany, but the German Democratic Republic has now become the leading source. Natural and artificial fibres and clothing have been supplied chiefly by the People's Republic of China and more recently by Hong Kong, but the small amount that was imported in 1981 came from Thailand. Iron and steel (especially scrap iron and concrete reinforcing rods) were imported from the USSR in 1978, but in 1981 Japan became the main source.

D. Transportation

112. The transportation sector remains a major constraint to the development of the Lao PDR. The 1981-86 Five Year Plan calls for an expansion of 80-85% in road transport. There are no railways and the most important international route continues to be via Thanaleng to Thailand. National Highway 9, which links Vientiane to Da Nang in Viet Nam, has not yet become a viable alternative despite assistance from the USSR, Viet Nam and Sweden for its reconstruction , and poses major problems for vehicles. Furthermore, the port of Da Nang continues to be seriously congested.

113. The internal road system is in no better condition; the main roads are in very poor condition, as the transportation equipment itself. In addition, the rough terrain in some rural areas prevents easy and continuous access.

114. In 1981 ESCAP proposed a feasibility study of railroad connections between Savannakhet and Dong Ha Station in Viet Nam, but no studies were done because of the Government's lack of interest. Although such connections entail substantial investments, a more thorough study might be warranted.

115. Agriculture, forestry and, to a lesser extent, construction are expected to continue to place the heaviest demand on transportation in 1981-85, as in the past. If a massive exploitation of the country's mineral resources takes place, major structural changes in transport would be necessary. Given the heavy financial requirements for these operations and the uncertainties of the world market for most metals, such changes are not expected in the medium term.

116. Integration of the planning of procurement with that of transportation, warehousing and distribution is essential to determine the most economical routes and to calculate the cost of certain political decisions. The lead time between the preparation of specifications for procurements and actual delivery is estimated at approximately 10 months. This period could be shortened, perhaps halved, with better planning and decision-making on procurement. The planning of procurement under long-term contracts and the development of a warehousing capacity would greatly alleviate the present uncontrollable constraints on traffic. UNCTAD's and SIDA's assistance described in section A may help in this regard.

117. On the basis of recent Government decisions and interviews with local authorities, it is expected that orientation will be increasingly in favor of import substitution and self-sufficiency. The role of foreign trade would therefore remain more limited vis-a-vis other demands. Even with this outlook, however, measures at the micro-level should be initiated, such as improvement of procurement planning, introduction of information systems, establishment of specialized trade offices, particularly for wood and wood products as recommended in para. 169, and training of specialists in foreign marketing with the consequent reduction of import costs and delays.

V. FINANCING OF INDUSTRY

A. Sources of Funds

Budgetary Process

118. The main economic objectives are decided upon by the Council of Ministers and included in the Five-Year Plans. In theory, more specific objectives are developed each year by the ministries concerned, in co-operation with the SPC. The annual sectoral plan is translated into an annual budget by the State Budget Committee 1/ and includes the plans and budgets for each enterprise. In the case of industry, at present the annual plan is limited to individual plans for each plant, with no overall picture. The budget for each industrial enterprise consists of two parts: capital investment funds and operating funds.

(i) Investment Funds

For existing enterprises, the method used to decide upon annual appropriations for capital investment funds follows an iterative system. The Ministry of Industry prepares a draft with estimates of the capital outlays required by each enterprise to meet its production targets. The estimate is made in conjunction with the SPC, which transmits it officially to the Ministry for comments and possible revisions. After the revisions are received, a final version is prepared by the SPC and submitted to the Council of Ministers and the People's Assembly for final approval. Investment requirements for new enterprises and for expansion and rehabilitation projects are handled in the same manner. The importance of the industrial sector in the national budget can be seen from Annex Table 1 also indicates the importance of state enterprises in the national budget. Transfers from these enterprises accounted for 69% of total revenue in 1979, and the proportion has risen to 82% in 1982.

1/ Composed of high-level representatives of the SPC, State Bank, and the concerned ministry, and headed by the Finance Minister.

(ii) Operating Funds

Once the SPC has determined the annual production targets for each enterprise, they are sent to the Ministry of Industry. The Ministry determines the requirements for operating funds for each enterprise on the basis of its production targets. These requirements are transmitted to the SPC for review, although the review is much less thorough than that required for capital investment funds. After approval, half the required funds are included in the budget and the State Bank is authorized to establish a credit for the other half. Equal quarterly drawings are made for each of the two halves.

Banking System

119. At present the State Bank is the only bank in the Lao PDR. It was established in December 1975 and incorporates the former National Bank, Bank of Pathet Lao, Development Bank and two private commercial banks. It has branches in each of the 13 provinces, and is headed by a governor with the rank of minister, and a deputy governor. Its 11 departments are Secretariat, Credit, Issue, Planning and Research, Deposits, Control, Accounting, Personnel, Training. Special Bank and Lao Foreign Trade Bank (BCEL).

120. The Special Bank handles all government transactions involving the economy at the central level, functioning essentially as a national treasury. BCEL handles all foreign exchange transactions, including the management of reserves. As mentioned earlier (para. 91), BCEL opens letters of credit for purchases abroad. The Mission was informed that BCEL will undergo a major reorganization to improve its efficiency.

121. Consolidated balance sheets for BEL and BCEL for the last four years are presented in Annex Table 12. It will be seen that the lion's share of the credit made available by the banking system goes to the public sector. Table 13 shows credits opened by BEL (a similar table for BCEL is not available). It indicates that more than half of the credit extended by BCEL was for the commercial activities of SCL. Transportation and industrial enterprises still receive a rather small share of this credit - 18% - but the proportion is rising gradually which confirms the greater importance given to the industrial sector. Credits to industrial enterprises bear interest of 4% for short-term borrowings (12 to 18 months) and 3% for long-term loans.

Joint Ventures

122. Another possible source of financing for industry in the Lao PDR might be foreign partners in joint ventures. A venture of this kind has been undertaken with a private Thai group for removal of logs from the Nam Ngum reservoir. The Mission was informed that negotiations are under way with a French pharmaceutical group for the installation of a joint production facility in the Lao PDR. It seems that

proposals by foreign companies for joint ventures in the industrial sector would be welcomed, as long as the Lao Government retains at least a 51% share. However, there is no investment code or other incentives or guarantees to attract foreign capital.

B. Problems

123. The Lao PDR has a number of problems in the financial area which pose obstacles to industrial development. Among the most serious of these are the lack of foreign exchange, inadequate accounting procedures, and the lack of expertise in project identification, preparation and implementation. Although not a financial constraint, mention should also be made of the requirement that a Lao construction company be employed for the construction components of all projects (industrial and others). This limits construction in all projects to about US$20 million per year.

Foreign Exchange Resources

124. The increasingly critical situation regarding foreign exchange is shown in Annex Table 14. Merchandise imports rose by more than 150% from 1979 to 1981, while exports (other than electric power) fell by half. A balance has been made possible only by growing volumes of external aid. The situation was eased somewhat by the tripling in October 1981 of the price of electricity sold to Thailand, but large amounts of external assistance will nonetheless continue to be necessary.

125. As a result, the Government has been severely constrained in the acquisition of spare parts and raw materials required for industrial activity. This is one reason for the low rates of utilization of production capacity. Given the limited economic importance of some enterprises which add little to imported raw materials, these constraints may become beneficial rather than detrimental. Nonetheless, the demand of enterprises for foreign exchange continue to grow. Taking only the industrial enterprises under provincial jurisdiction, US$770,000 was used in 1981 against a 1982 request of US$1,960,000.

Accounting

126. One of the main problems in the area of management affecting industrial activity is the lack of accounting data, both at the national and the enterprise level. The skills required for preparing such information regularly and accurately are not available. As a result, department heads in government and industry are not in a position to make informed decisions and to prevent serious problems from arising. The importance of this problem cannot be overemphasized, especially in view of the planned nature of the Government, which depends on a flow of information, within and among the different departments, on such vital matters as establishment of production

targets, setting of prices and evaluation of performance. The ability of the nation's planners to set objectives and administer policies is severely handicapped by the lack of data on which to base their decisions.

127. One example of this situation is in the transfer of funds from an industrial enterprise to the Government. Product prices are set so as to include a profit of 10%. That sum, together with reserves for depreciation, is transferred to the Government in equal monthly payments without regard to actual production and sales for that month. If actual profit is less than projected, the Ministry of Finance can send a commission to ascertain the reasons. If the reasons are valid, the Ministry may reimburse the difference. Under certain conditions it may even subsidize the enterprise by repaying it a larger amount. Furthermore, income may be so low that the enterprise suffers a cash flow crisis, making it impossible to meet its payroll. Such situations could be avoided if accounting data were more reliable and is available timely.

Project Development and Implementation

128. The capacity for project development and implementation is very reduced in the Lao PDR. Most of what has been accomplished in this field has been done by expatriates. In theory, ideas for industrial projects are conceived within the Ministry of Industry and submitted to the SPC. However, this committee lacks the expertise to evaluate and assign priorities to the suggested projects. As a result, the country's financial resources - already severely constrained - will not necessarily be used in the most appropriate manner. The same problem arises in project implementation. The problem of equipment procurement has been mentioned in an earlier chapter; even after the materials and equipment have arrived, there are long delays in their installation.

129. There is still no experience in the operation of plants established with external aid once the foreign experts have departed. Even when the project includes a significant training component, there is no assurance that subsequent operations will be free of major difficulties.

C. Recommendations

130. All of the problems mentioned above can be solved. However, efforts on the part of the Lao PDR and of the external aid agencies are needed to institute a process of steady advances.

Training in Accounting

131. This problem requires the most urgent attention. To some extent it is already being addressed in as much as that some of the

Lao students abroad are studying accounting; but this is not enough. A body of accounting clerks needs to be developed to maintain records and follow accounting practices on which the graduate accountants base their work. The training of these personnel must take place in the Lao PDR and not abroad; instructors and facilities will be necessary and may be provided from external assistance.

Autonomy of Industrial Enterprises

132. In an effort to improve operating efficiency and increase productivity, experiments began giving some autonomy to industrial enterprises, including a change in the method of transferring profits to the Government. In certain cases the Government allows the enterprise to retain 40% of profits. This is now possible for the plywood, beer and cigarette plants. Since 1980 these three enterprises have also been permitted to retain 50% foreign exchange earnings in excess of the projected figures, which is used for direct procurement of spares and raw materials.

133. At the time of writing this report, there is no indication of productivity gains in the enterprises because of these measures. It appears that the autonomy granted has not been fully exercised because of a lack of decision-making capacity in the enterprises. Nonetheless, the experiment should be continued and technical assistance for management should be sought in order to take maximum advantage of this autonomy and permit its extension to other enterprises.

Establishment of an Office of Project Development

134. A solution must be found for the lack of institutional infrastructure and expertise in the identification, preparation, evaluation, and implementation of the projects required by the Lao economy. It would not be practicable to continue depending on the rest of the world in this area. Such expertise is required in several government agencies. Given the centralization inherent in a planning system, it might be advisable to centralize this expertise in a separate technical unit. Its areas of activity. in addition to the industrial sector, would include agriculture, forestry, transport - in short, all sectors of the economy. It should also be separate from the SPC, which undoubtedly would wish to maintain a certain distance and preserve its independence in the evaluation and selection of proposals made by the unit. Inasmuch as financial resources needed to implement projects would be the most important aspect of the work of the unit, it could be established as a department within the State Bank.

135. Another advantage of such a unit is that it would fill the gap between the large-scale projects ordinarily preferred by development agencies and the small-scale projects needed by the Lao economy, which cannot be implemented in the absence of an appropriate financial intermediary. With this structure, large credits or lines or credit could be divided within the unit, which would be responsible

to the external lender for developing, evaluating and supervising their implementation. In essence, what is proposed is the establishment of an embryonic development bank.

136. We are aware of the problems inherent in the establishment of such a unit, particularly as regards decision-making on economic policy, the structural changes that will remain necessary in the country's transformation towards socialism, and above all the lack of qualified specialists. But the advantages of such an institution, as sketched in the foregoing paragraphs, could go far to compensate for the efforts required to bring it into existence.

VI. INDUSTRIAL DEVELOPMENT

A. The Obstacles

137. The obstacles to industrial development may be classified in two groups, according to their origin:

- Obstacles related to the new orientation of the economy, and
- Structural obstacles.

Obstacles Related to the New Orientation of the Economy

i) Human Resources

138. There is a lack of management capacity at the upper and middle levels in the enterprises, owing mainly to the departure of professionals from the country after 1975. This obstacle unquestionably remains the most critical one and is at the root of many weaknesses observed during the Mission's visits to the plants, such as lack of maintenance, poor planning of supply and production, total absence of quality control, etc. The Government is aware of this crucial problem and vigorous measures have been taken to deal with it. Since 1975, from 1,500 to 2,000 students have been sent to various socialist countries each year to follow university and technical courses. The first graduates are beginning to return to the Lao PDR, but their performance in industry has not yet been qualified. It would be dangerous to assign these young graduates immediately to management positions in industry. Rather, additional training should be given abroad in plants similar to those in which they will be working.

139. For managers in service, even those who have some training and experience, accelerated courses should be held in several fields: principles of accounting, production planning, quality control, etc. Assistance in this regard could be sought from international agencies such as UNIDO. Experience with such courses in other developing countries has shown beneficial results.

140. Among production workers, the problem lies more in a lack of productivity than in the level of competence. This lack of productivity is linked in part to the low level of production and to the very low wages paid. The low level of competence has been exacerbated by the flight of many skilled workers abroad since 1975. The constraint is less telling than might be expected, given the comparative simplicity of industrial operations in most plants. If industrial development were to be oriented toward more sophisticated technologies, the problem of worker competence would become more significant. An initial effort to improve the technical competence of production workers has been made through courses held at the Pakpassak Technical School. Such courses should be continued and strengthened.

ii) Foreign Exchange

141. The lack of foreign exchange is partly due to a reorientation of trade and external aid toward the socialist countries, whereas the requirements of plants for raw materials and spare parts must still be met by sources that require payment in foreign exchange and are difficult to finance. As a result, it is ofter not possible to supply the inputs needed by the plants. Since the great majority of industrial capital goods are of western origin, the problem will not find a lasting solution as far as spare parts are concerned. In the case of raw materials (hops, plastic pellets, steel, adhesives, etc.) procurement could be oriented more towards the socialist countries, where financing is obtained more easily.

iii) Planning System

142. The lack of refinement in the planning system also poses certain obstacles - hoped to be temporary - in the operations of enterprises. These are manifested in delays in the approval of annual plans and the authorization to obtain foreign exchange, and the distortion of prices. There is no clear policy on private initiative or on commercial-technical-financial agreements with foreign enterprises. These last two deficiencies have caused an almost total suspension of private investment in production or production-related services, although private enterprises nonetheless seem to be recognized by the Government as necessary for the building up of socialism. Moreover, there is a total lack of interest on the part of foreign companies in western countries in any trade, technical agreements, or joint ventures with the Lao PDR.

Structural Obstacles

143. One of the structural obstacles is the extent of the country's underdevelopment exemplified by such factors as:

- The absence of intersectoral linkages, especially between industry and agriculture. Most agricultural production is for home consumption and therefore cannot be marketed or processed.

- The absence of intra-industry linkages. There are few or no connections among the different industries. Subcontracting and supporting industries are virtually unknown.
- The lack of services to industry.
- The low purchasing power of the population.

144. Another structural obstacle is the country's geographical isolation, both from abroad and in terms of lack of internal connections, which hinders international trade as well as transport within the country. This isolation could be translated as representing a natural protection against imports. However, the Lao PDR has a long border with Thailand which is easily crossed, allowing an inflow of contraband consumer goods from that country at relatively affordable prices. The fact that contraband goods must be paid for in foreign currency (Thai bhat or U.S. dollar) is not a hindrance because a large amount of foreign currency circulates in the parallel market. Finally, the small size of the domestic market, aggravated by its distribution over a large area with poor internal connections, prevents many projects from reaching a minimum economic scale.

B. OUTLOOK

Strategy

145. The 1981-85 Five-Year Plan indicates that industrial production in 1985 should be 2 - 2.2 times greater than in 1980, which means an average annual growth rate of 15 - 17%. Even considering the very low base year that has been used - 1980 - it may be that this target will not be achieved because of the constraints indicated in the preceding chapter.

146. The longer-term industrialization prospects (1986-90) may be improved significantly with the alleviation of these constraints. However, this will require the adoption of the correct objectives, i.e. the processing of local raw materials primarily for export, and restructuring of some of the existing industries and its better integration in the economy; and appropriate industrialization policies implemented.

147. The Lao PDR has a wide range of natural resources, both agricultural (forest products, rice, tobacco) and mineral (tin and iron ore, potassium, gypsum and coal). The exploitation of some of these products - for example, wood, coffee, tobacco, tin ore - and their good prospects on the world market suggest that they might well afford a basis for the country's industrial growth.

148. With regard to the development prospects of existing industry, it should be noted that most of these plants were inherited from the preceding regime and reflected quite different economic motivations.

It appears that the Government is endeavouring to keep all plants going without determining through individual economic studies whether they are well suited to the new set of conditions. In order to make these industries part of a sustained industrial development, some of them will have to be restructured, which will need large investments and substantial allocations of foreign exchange, for those productions in which the Lao PDR has a minimum comparative advantage. The other plants should be eliminated gradually.

149. A two-fold objective for industry may therefore be envisaged for the period covered by the second Five-Year Plan, namely:

(1) A group of industries requiring substantial investments, adding value to local primary raw materials and oriented largely toward exports, which would constitute the true engine of industrial development and become major foreign exchange earners.

(2) A group of industries based on the present import substitution industries, smaller in size than the preceding category, but with higher value added and an improved degree of integration in the economy.

Industrial Integration. Services to Industry

150. The main thrust to industrial development should be provided by resource-based activities. Such development will depend heavily on the proper functioning of upstream and downstream linkages, i.e., the supply of raw materials and the marketing of finished goods, and on the availability of services and other inputs required for production (maintenance, spare parts, etc.) Since such linkages are far from complete, higher degree of integration of the plants is needed to ensure their proper functioning.

151. In the longer term, with the improvement of supply and marketing and the availability of services required by industry, industrial enterprises could place more emphasis on purely production matters.

C. SUGGESTIONS FOR AID TO INDUSTRIALIZATION

General Considerations

152. A programme to assist the industrial sector should be integrated vertically to ensure that all production inputs will be available and that efficient marketing will provide outlets for finished goods at appropriate prices. Horizontal integration is also needed to ensure that projects have all the services necessary for their functioning, such as maintenance and repair. It is recognized

that such integration will increase costs, since a portion - possibly substantial - of the resources needed must be set aside for the upstream, downstream and auxiliary activities that would not ordinarily be part of the project.

153. Industrial projects based on agricultural raw materials not yet available in the Lao PDR in the necessary quantities/qualities can be developed only as combined agricultural-industrial ventures. These projects, for example cotton and sugar, should begin in the agricultural sector on a pilot scale; only after yielding satisfactory results should they be extended to embrace both sectors. Accordingly, this type of project will demand substantial financial resources.

154. Recent experience with project components calling for rehabilitation of equipment has been unsatifactory. During project implementation, equipment was found to be beyond repair in several cases. Before including such components in a project, there must be assurance that the equipment involved can be rehabilitated.

155. The foreign marketing aspects of an industrial project should receive special attention as regards routes and prices. It is foreseen that foreign trade will be conducted increasingly under barter agreements. In this case it will be necessary to see that this trade is based on international prices.

Government Agencies Responsible for Project Development and Supervision

156. In the absence of a well-defined industrial project it is difficult to identify the agencies that will be responsible for its development, implementation and supervision, and the coordination required among those agencies. This identification is made more difficult by such other circumstances as:

- The shift of the center of decision-making on industrial matters form the Ministry of Industry to the SPC.
- The greater independence for industrial enterprises in matters of management, finance and trade.
- The sudden and unexpected changes of policy, affecting, among other matters, foreign trade and the status of private firms.

157. The identification of the institutional context of a project, even if clear at its beginning, gives no assurance that modifications will not be necessary during its implementation because of circumstances as mentioned above, as shown by experience with other projects. The subsector studies recommended in para. 161 et seq. should indicate with particular care and detail the agencies involved in the proposed projects, and the coordination required among them.

External and Domestic Financial Resources

158. Experience with other financing projects related to industrial development attests to the need for a significant proportion of external financial resources with respect to local resources. Thus, the IDA III project (which includes several industrial components in a rural development project) calls for 71% participation by the World Bank, UNDP participation of 7.5% for technical assistance, and a 21.5% local contribution to cover local wages, civil engineering works (60%) and 25% of the project's operating costs (including imported consumer goods such as petroleum and chemical products). In the case of a project financed by ADB entirely within the industrial sector, the foreign exchange component was 60%, technical assistance 6%, and local costs a comparatively large 34%, because the Government decided to finance all operating costs relating to imported consumer goods in order to keep pace with the same level of foreign contribution, at equipment costs which were higher than envisioned during the preparation of the project.

159. As already mentioned in this report, the technical assistance component should be large, and if possible, obtained through a grant rather than included in the financing. The good results obtained in other projects support this recommendation. The UNDP Resident Representative has agreed to recommend the inclusion of an industrial technical assistance project in support of an industrial loan in its next programming cycle (1987-91). Inasmuch as the industrial sector will receive higher priority under the next Plan, this course of action, - which has to be taken by decision of the Government, - seems quite feasible.

160. The focal point of this assistance should be a long-term expert who will supervise project implementation on-site, particularly the installation and commissioning of equipment, and training. The expert could be assisted by more specialized short-term personnel, whose number and length of assignment would vary with the complexity of the project. The training component, for production workers as well as professional staff, should take place almost entirely within the enterprise, apart from some traineeships abroad for senior management personnel.

D. Ideas for Financing Projects

161. The ideal accomplishment of this survey would have been to identify and prepare, along general lines, a project for financing in the industrial sector. However, the absence of a clear industrial development policy, coupled with the general lack of reliable basic data, made it impossible to achieve this goal. The preparation of this study has nevertheless made it possible to identify a number of branches of industry where such a project could be developed. The next step would be to conduct a more in-depth study of some of these

branches in order to select the most suitable one. The briefs below provide data compiled by the Mission on selected branches of industry, the reasons for their selection, and a rough approximation of the project costs in those cases where an estimation was at all possible.

i) Sawmills

162. Fifty percent of the national territory is covered by forests, with a wide range of ecotypes and several high-value varieties. Recorded production of logs has fluctuated considerably, but is still far short of the target established in 1976 of 1.5 million m^3 in 1980.

Table 6.1: Production of Logs
(in thousand m^3)

Seasons	1972/3	1973/4	1974/5	1975/6	1976/7	1977/8
	98	159	132	42	46	96
	1978/9	1979/80	1980/1	1981/2	1982/3 1/	1983/4 1/
	139	127	162	128	400	400

Source: Forestry Department

1/ Planned figures.

163. It is estimated that between 35,000 and 95,000 m^3 are harvested additionally each year for non-industrial purposes (heating, charcoal, sawn wood for rural use). Furthermore, the illegal cutting of trees - especially high-value species - may exceed the recorded production figures.

164. Production of sawn wood also has fluctuated widely.

Table 6.2: Production of Sawn Wood
(in million m^3 - equivalent in logs)

1977	1978	1979	1980	1981	1982
83	106	131	140	147	150

Source: IMF and Forestry Department

165. The deficit in sawing capacity is much greater than the figures in the above tables would suggest, owing to a significant unrecorded production of logs, while production of sawn wood is almost entirely recorded and uses logs accumulated in the forests from earlier seasons. This deficit is aggravated by the fact that only two sawmills are currently capable of producing export-quality timber (those of Société de Bois Lao - private - and Société Plywood which produce only for their own needs). Logs cut during seasons after 1980-81 can be exported only as timber or in the form of wood products. A great deal of the exported timber is re-sawn at its destination because of the low quality of sawing.

166. Although a number of prior surveys of sawmills in the Lao PDR exists, 1/ the lack of detailed information on geographic coverage, and the recent deterioration of many sawmills preclude obtaining a current indication of the effective sawing capacity. It is estimated that the country has some 80 sawmills with a sawing capacity of 500,000 m^3 (sawn wood), and that utilization is on the order of 10 - 25%. The actual situation may be different, since many of these sawmills have ceased production and are beyond recovery, while others, though in operation, cannot process wood of adequate quality.

167. With regard to the production of logs, the situation has been regulated to a certain extent with the establishment of nine State forest development companies (SEFs) under government control. These companies have large forest areas over which they hold exclusive rights as regards inventory, extraction (clearing, cutting and sawing), control and replanting. Cutting and sawing operations are the weakest link, and it appears that only SEF 3 is capable of supplying sawn wood of acceptable quality. The companies are receiving external technical assistance, mainly from Sweden, which is aiding companies Nos. 1 and 3 in the aspects of inventory, replanting and extraction (clearing and cutting). A sawmill has been installed with Swedish aid at SEF 3, although SIDA intends to concentrate its future activities in operations upstream from sawing (excluding sawing) and leave downstream operations to other sources of assistance. Aid is provided by USSR, Poland, Bulgaria, Czechoslovakia and Viet Nam to the other forestry development companies, especially in the area of inventory, but also in the extraction of resins and other forestry products other than wood.

168. In order to plan possible assistance to sawmilling, a survey of the existing situation should be carried out. The purpose of the study would be to evaluate present capacity and future requirements. It would be necessary to determine, with some precision, which sawmills could be recovered. The establishment of new sawmills and the rehabilitation of some others would be based on this study and would be the subject of a possible investment project. To ensure a continues supply of logs in an eventual project, it would be advisable to concentrate on SEF 1 and 3 and plan for their requirements as regards sawing and additional processing (such as impregnation). These companies are already receiving assistance up to the sawing stage. Such a project oculd entail total investments in the order fo US$4 million.

1/ Including those prepared by UNIDO in 1976 and under Swedish bilateral assistance in 1979-81.

169. Downstream, the project should address the problem of marketing sawn wood. Since 1980 the foreign monopoly has been transferred to SCL, whose lack of expertise has been causing timber and logs to be sold at less than world market prices. An office to market wood and wood products was established in late 1982 in the Department of Forestry. Assistance to this office to build up its technical and marketing ability should be envisaged as a part of the project.

ii) Tobacco

170. The necessary conditions exist in the Lao PDR for developing the cultivation of high-quality tobacco. However, drying capacity is limited and only permits an output around 250 tons of dried leaves per year, making it necessary to import more than 200 tons of leaves from Thailand and precluding exports. For example, there are trade contracts with CMEA calling for the export of 1,000 tons/year of dried leaves which cannot be fulfilled. In 1981, 250 tons were to be exported, but because of the shortage of dried tobacco only 50 tons were actually exported. Furthermore, the international price of Lao tobacco is higher than the price of lower quality tobacco such as that now being imported from Thailand. Unlike other agricultural commodities, tobacco faces no problems in the area of purchasing prices, since the price paid to the farmer seems to be sufficiently attaraccive (K 5 to 7 per kilo of green leaves in January 1983).

171. The Government would like to see a substantial increase in drying capacity during the present Five Year Plan, either by installing about 250 additional dryers (4 tons/year each), or by installing larger modern dryers, using electricity. In addition, the cigarette manufacturing plant would need a laboratory and supplementary production equipment to control and stabilize the presence of dangerous substance in the cigarettes, which is presently unchecked. The financing required for such a project would amount to about US$3.5 million.

iii) Textiles

Cotton

172. The Lao PDR has a tradition of spinning and weaving which has not been continued or developed. Almost all cotton grown is exported to Thailand, most frequently without controls, in the form of cottonseed. There is no industrial cotton gin in the Lao PDR. Weaving is done in three plants (about 40 looms per unit) which together produce about 800,000m of cloth per year from imported yarn. There is also an artisan sector, about which little is known, but which seems to be very large, consisting of spinning and weaving units as well as tailors and seamstresses, scattered throughout the country.

173. There is very little integration of the activities described above. Consideration could be given to the integrated development of cotton textiles in several stages, installing a ginning facility

(about 16,000 tons), partly for export, and providing for spinning, dyeing, weaving and printing in order to meet the country's long term requirement - about 4,000 tons of cloth per year. Such an integrated project would require an investment of at least US$40 million.

Silk

174. To complement to the textile project, consideration should be given to resuming the production of silk and silk articles, which has a long tradition in the Lao PDR, but which has now practically disappeared. A pilot installation established at Ban Saiphong in 1971 with Japanese bilateral aid is working a mulberry plantation (2 ha), raising worms and doing a small amount of spinning (5 kg/day). The project would entail moving from this experimental stage to the production stage, with a target output of possibly 100 tons per year. A project, or project component, involving the sectors concerned (agriculture, industry, trade) could be considered.

(iv) Sugar

175. Registered imports of sugar were about 9,000 - 10,000 tons/year until 1974, but at present amount to only 5,000 tons. Consumption is higher than that figure because of small-scale production of raw sugar and unrecorded imports across the border. Several studies and experiments have demonstrated the feasibility of production at various scales.

176. For an integrated agriculture-industry project producing 12,000 tons of sugar per year, the total required investment would be about US$15 million. However, the depressed world market prices of sugar, with no improvement foreseen in the medium term, casts doubt on the feasibility of a large-scale project. A more suitable alternative would be the building up of a sugar production capability based on small mills (around 2,000 tons/year each).

(v) Mineral Extraction and Processing

177. Significant reserves of metallic and non-metallic minerals have been identified in the Lao PDR. Little is known about these reserves. However, there has been some prospecting in Vientiane-Bochan (coal), Van Vieng and Thakhek (limestone) and Jars Plains (iron). Tin ore is mined at Phontieu, north of Thakhek, and at Bo Neng, with about 1,500 tons/year extracted and exported to Malaysia and more recently to the USSR. Salt is extracted by boiling underground water at Kok Saat north of Vientiane and at Ban Keun, with a production of 4,000 tons/year. There are plans to increase this output to 6,000 tons and in a second stage to 12,000 tons Gypsum is mined near Savannakhet, with about 30,000 tons/year extracted. Other mineral resources not yet exploited include copper, gold, lead, manganese, petroleum, quartz and potassium.

178. The Mission was unable to discuss the Government's plans in this sector, or to obtain the results of the investigations now underway. It appears, however, that on the basis of the positive findings of these studies, a number of mineral extraction and concentration operations could be developed, including limestone in the Phu Khanmak region (mainly to supply the future cement plant), coal in the region northwest of Vientiane, potash on the Vientiane plain, and tin for export in more concentrated forms.

(vi) Rehabilitation of Plants under the Ministry of Industry

179. The plants under the Ministry of Industry described in Chapter I are in need of physical rehabilitation, as well as restructuring of their management, manpower, supply of raw materials and disposition of final products. To this end, a line of credit might be envisaged for about ten enterprises, at a very approximate total cost of US$10 million. The Mission learned that such a credit line would be attractive to the Government because it would mean returning a number of plants that currently have a wide variety of problems to normal operating conditions. However, not only the lack of an appropriate financial intermediary to manage it, but also the poor integration of most of these plants in the Lao economy as a whole, hinder the establishment of such a credit line. Except for the plants manufacturing parquet, matches, tiles, plywood, furniture, rattan and cigarettes, all raw materials are imported. Some plants have deteriorated to such an extent, and their equipment old and worn out, that they would not justify the investment req for their rehabilitation. New plants should be then considered, provided their production has economic justification.

(vii) Other Ideas

180. Other industrial projects have been reviewed by the Mission and apprear less suitable for financing by the World Bank. They are mentioned briefly below, together with the reasons why they should not be considered for the short term.

Rice Mills

181. Present production of paddy enables the Lao PDR to be reasonably self-sufficient in rice, with some deficits and surpluses depending on the province. Present hulling capacity can handle only a fraction of the rice harvested. The IDA III project, another financed by AsDB, and yet another financed by UNCDF, are carrying out a plan for the modernization and installation of new rice mills which will increase capacity substantially. It appears that a further increase in capacity, owing to problems in the transport of paddy, can only be achieved through the establishment of a number of small rice mills (300-500 kg of paddy per hour) at a cost of $7,400 each. Such an effort would be poorly suited to a World Bank-financed project because of the small size of its components. In any case, this question merits further study since the present capacity of the rice mills in each province (besides the

three at which the IDA III project is in operation, namely Savannakhet, Paksay and Vientiane) is not known precisely. A more thorough study of the rice mills in the other ten provinces would be needed in order to assess accurately future requirements for rice mills and to identify ways of covering the deficits.

Cement

182. Before the revolution a private company had begun construction of a plant that was to produce 300 tons of cement per day with two physically separate installations, one at Vang Vieng and the other at Thong Pong, near Vientiane. The revolution halted the construction of these facilities. Cement consumption in the Lao PDR is estimated at about 60,000 tons per year. With assistance from the Soviet Union, the Government has drawn up plans to build a plant with a capacity of 200,000 tons per year at Vang Vieng, which should amply meet local requirements.

Steelmaking

183. The country's requirements for steel and iron are met through imports, which amount to about 10,000 tons for all products and therefore do not justify the installation of a steel mill, even a small one. Not more than half is steel bars for construction (concrete reinforcing bars), which is also insufficient to justify a rolling mill using imported ingot. The only feasible steelmaking activity appropriate for the short term in the Lao PDR would appear to be small smelting furnaces (100-200 kg) to supply the foundries of the agricultural implement plants. In the longer term, it does not appear that there will be a significant expansion of construction activity, which means that the demand for concrete-reinforcing bars will not suffice to justify a local rolling facility.

Preserved Food Products

184. The processing of preserved food products requires a regular supply of raw materials and efficient foreign marketing. These two conditions are not present in the Lao PDR, which precludes the implementation of such projects in the next few years.

Paper. Pulp

185. Because of the small size of the local market, any project in this area should be oriented mainly towards exports. The amount of the required investment and the problems involved in transporting and marketing the final products argue against it. On the other hand, pulp production could be feasible if the transportation problems are overcome and regular buyers are found. AsDB is studying the feasibility of such a project.

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TABLE 1: BUDGETARY DEVELOPMENT, 1979-82
(in million Kips)

	1979	1980	1981		1982	
			Budget	Actual	Budget[1]/	Prelim. Estim.
Revenue	268.0	748.2	961.4	989.2	1,190.0	2,755.0
Transfers from State Enterprises	184.2	567.8	710.4	715.9	872.5	2,255.0
Operational surpluses	-	(312.4)	(367.2)	(420.4)	(470.4)	(1,595.0)
Depreciations	-	(53.4)	(83.2)	(100.0)	(150.0)	(300.0)
Corporate tax	-	(81.0)	(132.7)	(119.3)	(166.0)	(223.5)
Import taxes	-)	(121.0)	(71.0)	(54.9)	(56.0)	(83.5)
Export taxes	-)		(56.3)	(21.3)	(30.1)	(53.2)
Taxes on private sector	48.4	98.3	153.0	200.1	251.7	415.0
Others	35.4	82.1	98.0	73.2	65.8	85.0
Expenditure	636.0	1,776.9	2,181.4	1,955.8	2,152.0	5,475.0
Current	393.9	1,028.0	1,127.1	1,028.3	1,053.6	2,259.0
Salaries	(113.9)	(269.6)	(198.0)	(200.0)[2]/	(200.0)[2]/	(280.0)
Other	(280.0)	(758.4)	(929.1)	(828.3)	(853.6)	(1,979.0)
Capital Expenditure	242.1	748.9	1,054.3	927.5	1,098.4	3,216.0
Industry, Mining) Energy, Trade) Transport, Communications)	(24.5)	(43.4)	(153.1)	(148.9)	(174.3)	(573.0)
Public Works)	(113.1)	(282.8)	(442.9)	(373.0)	(440.0)	(1,237.2)
Agriculture, Forestry	(74.3)	(178.8)	(233.3)	(282.8)	(307.3)	(955.5)
Others	(30.2)	(243.9)	(225.0)	(122.8)	(176.8)	(450.3)
Deficit	-368.0	-1,028.7	-1,220.0	-966.5	-962.0	-2,720.0
Financing	368.0	1,028.7	1,220.0	966.5	962.0	2,720.0
External resources	354.5	1,032.7	1,220.0	966.5	962.0	2,720.0
Internal (BEL credit)	13.5	-4.0	0	0	0	0

Source: Ministry of Finance and IMF

1/ Does not include the January 1982 devaluation of the Kip and the public salaries increase.
2/ IMF estimates.

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TABLE 2: VALUE AND VOLUME OF PRODUCTION OF INDUSTRIAL ENTERPRISES UNDER THE MINISTRY OF INDUSTRY, 1981-82

	Actual production		Forecasted Production	
	Value (1,000 current NK)	Volume	Value (1,000 current NK)	Volume
Zinc roofing	30,537	1,007,260 pieces	56,420	1,500,000 pieces
Agricultural tools	1,869	57,970 pieces	4,076	150,000 pieces
Oxygen	537	3,027 m^3	880	4,000 m^3
Plastic articles	6,360	...	7,314	...
Detergent	11,788	833 tons	12,158	900 tons
Insecticide spirals	762	100,600 pieces	2,351	120,600 pieces
Tyre recapping	1,224	1,587 tyres	1,920	2,000 tyres
Parquet	1,716	13,240 m^3	10,502	46,000 m^3
Furniture (km 7)	1,646	37,317 pieces	1,908	33,810 pieces
Furniture (km 10)	6,385	11,881 pieces	11,168	13,400 pieces
Matches	2,071	2,584,000 boxes	2,400	3,000,000 boxes
Weaving	4,124	327,700 m	5,250	400,000 m
Artisan co-operatives(weaving)	3,922	15,285 m	4,224	37,760 m
Ceramics	500	39,018 pieces	740	44,000 pieces
Garments	6,041	74,317 pieces	6,585	80,400 pieces
Wood, rattan, plywood	19,505	...	84,421	...
Beer and soft drinks	28,285	31,000 hl	71,336	33,000 hl
out of which beer	16,701	15,000 hl	...	18,000 hl
Cigarettes	56,060	30,008 boxes of cartons	164,413	36,000 boxes of cartons
Total	183,332		448,066	

Source: Ministry of Industry, Handicrafts and Forestry.

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TABLE 3: VALUE ADDED IN THE FORECASTED PRODUCTION OF INDUSTRIAL ENTERPRISES UNDER THE MINISTRY OF INDUSTRY, 1982

(1,000 current Kips)

Plants	Value of Production	Value Raw Materials	Value Energy	Value Added Value of Production
Zinc roofing	56,420	38,830	17,590	0.31
Agricultural tools	4,076	3,238	838	0.21
Oxygen	880	252	628	0.71
Plastic articles	7,314	5,722	1,592	0.22
Detergent	12,258	11,830	328	0.03
Insecticide	2,351	1,478	873	0.37
Tyre recapping	1,920	1,357	563	0.24
Parquet	10,502	6,340	4,162	0.40
Furniture (km 7)	1,908	1,463	445	0.23
Furniture (km 10)	11,168	8,063	3,105	0.28
Matches	2,400	1,004	1,396	0.58
Weaving	5,250	3,877	1,373	0.26
Artisan co-operatives(weaving)	4,224	2,640	1,584	0.37
Ceramics	740	262	478	0.65
Garments	6,585	4,611	1,974	0.30
Wood, rattan, plywood	84,421	37,650	46,711	0.55
Beer and soft drinks	71,336	31,103	40,233	0.56
Cigarettes	164,413	83,887	80,526	0.49
Total	448,066	243,607	204,459	0.46

Source: Ministry of Industry, Handicrafts and Forestry.

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TABLE 4: LABOUR AND FOREIGN EXCHANGE NEEDED BY THE INDUSTRIAL PLANTS UNDER THE MINISTRY OF INDUSTRY, 1982

Plants	Labour (Number)	Foreign Exchange (US Dollars)
Zinc roofing[1/]	150	1,609,426
Agricultural tools	112	67,041
Oxygen	35	11,930
Plastic bowls and other	54	700,000[2/]
Detergent	100	700,000
Insecticide[1/]	-	-
Tyre recapping	25	122,000
Parquet	120	40,000
Furniture (km 7)	22	-
Furniture (km 10)	230	-
Matches	52	16,000
Weaving	175	300,000
Artisan co-operatives(weaving)	...	20,000
Ceramics	44	12,000
Garments	190[3/]	10,000
Wood, rattan, plywood	985	670,223
Beer and soft drinks	285	794,773
Cigarettes	385	1,572,390
Total	2,964	6,645,783

Source: Ministry of Industry, Handicrafts and Forestry.

1/ Figures for insecticides included in the zinc roofing plant.

2/ Comprising the imports of copper wire needed for the manufacture of plastic coated electric wire.

3/ Including trainees.

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TABLE 5: EXTENT OF IMPLEMENTATION OF THE 1981 PLAN BY INDUSTRIAL ENTERPRISES UNDER THE MINISTRY OF INDUSTRY, HANDICRAFTS AND FORESTRY (PERCENTAGES)

Plants/Products	Ratio between met and planned productions	
	In volume	In value
Oxygen	43.6	42.2
Tyre recapping	36.4	46.1
Detergents	50.5	50.4
Plastic bags	47.8	50.8
Plastic covers for electric wire	65.2	141.4
Plastic bowls and ware	0.9	...
Mosquito smoke spirals	0.6	0.7
Agricultural tools	27.1	83.1
Zinc roofing	125.2	140.0
Nails	30.6	27.7
Plywood	24.5	32.5
Wood exploitation for above	85.2	...
Rattan	341.6	778.4
Furniture (km 7)	89.2	113.6
Furniture (km 10)	...	101.0
Saw mills	18.4	79.7
Parquet	7.0	6.8
Wood products	108.3	104.0
Matches	66.6	61.5
Weaving plant	93.9	97.0
Handicraft clothing	68.8	105.3
Clothing plant	94.1	80.4
Pottery	231.3	209.9
Cigarettes	100.4	126.9
Beer	100.2	97.2
Soft Drinks	105.9	109.9

Source: World Bank Mission, February 1982.

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TABLE 6: SELECTED CUSTOM TARIFFS

(% of CIF prices)

	Imports				
		Tax		Purchase	Export
	Tariff	State	Private	Tax	Tariff
Heavy machinery for industry and mining	0	5	10	-	-
Machines for light industries and handicrafts	5	5	10	-	-
Construction machinery	10	5	10	-	-
Commercial vehicles	10	5	10	-	-
Steel wire and sheet	10	5	10	-	10
Chemical products	10	5	10	-	-
Cement	10	5	10	-	-
Painting materials	20	5	10	-	10
Construction bars	10	5	10	-	-
Corrugated steel	20	5	10	-	-
Plywood	60	5	10	-	10
Parquet	60	5	10	-	10
Gasoline	40	-	-	25	-
Diesel fuel	10	-	-	10	-
Lubricants	10	5	8	-	-
Spare parts	20-40	5	15-25	-	-
Logs	80	5	15	-	25
Timber	80	5	15	-	10
Coffee beans	---------Not allowed----			-	10
Tea	80	5	15	-	10
Tobacco leaves	80	-	-	10	10
Fabrics - normal	20	5	15	-	-
Fabrics - high quality	40	5	-	-	-
Clothing	30-40	5	25	-	10

Source: Tariff Code

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TABLE 7: BALANCE OF PAYMENTS, 1979-82
(in million dollars)

	1978	1979	1980	1981	1982 2/
Trade Balance	-46.5	-51.1	-78.8	-98.5	-73.1
Exports	11.8	35.2	30.5	21.2	47.8
Cash exports	8.1	19.2	13.5	14.0	29.9
Barter exports	3.7	16.0	17.0	7.2	17.9
Imports	-58.3	-86.3	-109.3	-119.7	-130.9
Cash imports	-9.6	-20.3	-42.0	-53.0	-35.9
Imports under aid programmes	-40.0	-45.9	-45.6	-59.2	-50.0
Barter imports 1/	-8.7	-20.1	-21.7	-7.2	-35.0
Services and Private Transfers	-15.1	-20.5	-19.7	-20.3	-21.1
Receipts	7.9	7.4	11.4	13.1	n.a.
Payments	-23.1	-27.9	-31.1	-33.4	n.a.
Payment of Interest	-1.5	-1.4	-1.2	-1.3	-2.1
Technical Assistance	-20.0	-25.0	-27.9	-29.5	-30.0
Others	-1.6	-1.5	-2.0	-2.6	n.a.
Current Account	-61.6	-71.6	-98.5	-118.8	-94.2
Capital and Transfers	70.2	80.7	83.8	111.7	95.7
Short term capital. Errors and ommissions	-1.0	-2.5	3.7	2.6	n.a.
Overall Balance	7.6	6.6	-11.0	-4.5	1.5

Source: BCEL

1/ Comprising imports under clearing arrangements
2/ Estimated

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TABLE 8: COMPOSITION OF EXPORTS, 1978-82
(million dollars)

				1981		1982	
	1978	1979	1980	First Half	Full year	First Half	Full Year 1/
Cash Exports	8.1	19.2	13.5	7.0	14.0	11.8	29.9
Timber	2.7	8.5	6.1	1.7	5.0	1.6	5.9
Other Forestry products	0.2	0.1	0.2	0.1	0.1	...	0.1
Tin ore	0.8	0.2	0.5	0.4	0.4	...	...
Coffee	1.1	4.1	1.1	0.1	0.1	...	1.2
Electric Energy	1.9	6.1	5.3	4.3	7.9	10.2	22.5
Others	1.4	0.2	0.3	0.4	0.5	...	0.2
Barter Trade	3.7	16.0	17.0	6.0	12.6	n.a.	n.a.
Under clearing arrangements	...	...	...	2.3	5.4	6.2	17.9
Border trade by government of provinces	2.0	8.0	8.5	2.2	2.6	n.a.	n.a.
Border trade by private traders	1.7	8.0	8.5	1.5	4.6	n.a.	n.a.
Total of Official Exports	8.1	19.2	13.5	8.3	19.4	18.0	47.8
Total of Exports	11.8	35.2	30.5	13.0	26.6	n.a.	n.a.

Source: Trade Department

1/ Projections

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TABLE 9: EXPORTS THROUGH THAILAND[1/], 1978-81
(in thousand dollars)

	1978	1979	1980	First half 1981
Wood and wood products	4,325	14,020	14,575	2,105
Furniture	525	430	330	110
Coffee, tea, spices	2,180	5,330	2,610	1,965
Metallic ores	960	325	835	630
Art objects	280	305	295	260
Others	685	1,395	440	345
Total	8,955	21,805	19,085	5,415

Source: Thai Foreign Trade

1/ Electricity not included

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TABLE 10: IMPORTS THROUGH THAILAND, 1978-81
(in thousand dollars)

	1978	1979	1980	First Half 1981
Rice, wheat, corn	12,455	16,240	16,650	135
Flour	5,640	3,745	1,015	160
Sugar	245	600	35	55
Other foodstuffs	8,475	7,480	4,145	1,775
Tobacco	35	340	550	465
Cement	905	1,640	1,620	660
Oil products	8,750	10,865	19,245	5,115
Chemical Products	860	559	1,410	235
Pharmaceutical Products	1,275	525	970	855
Painting materials	90	185	375	160
Soap	510	460	860	245
Artificial resins and plastic	380	335	365	165
Artificial rubber	320	490	835	240
Paper and paper articles	480	915	1,150	330
Manmade fibers	705	1,660	7,660	265
Cotton	1,120	2,205	3,475	320
Clothing	280	1,610	1,575	475
Other textile products	205	380	270	605
Footwear	240	70	340	150
Plastic products	600	70	365	460
Ceramic products	50	180	230	155
Iron and steel	8,535	4,965	4,580	1,210
Alumimum	115	650	1,100	745
Zinc	65	995	1,070	750
Tools	215	360	715	210
Mechanical equipment	6,085	4,525	8,935	3,480
Electrical equipment	2,605	2,245	2,185	1,335
Vehicles	4,502	14,730	15,345	6,260
Furniture	120	270	430	20
Art Objects	2,375	4,695	3,940	2,175
Others	2,650	2,370	4,625	2,745
Total 1/	70,905	86,335	106,030	31,955

Source: Statistics of Thai Foreign Trade

1/ Difference due to roundings

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TABLE 11: COMPOSITION OF IMPORTS, 1978-82
(in million dollars)

	1978	1979	1980	1981 First half	1981 Full year	1982 First half	1982 Full year
Cash Imports	9.6	20.3	42.0	18.7	36.2	21.3	35.9
Rice and other foodstuffs	0.3	1.3	10.7	0.3	2.0	0.4	1.6
Oil products	7.3	8.8	12.9	5.8	12.9	7.5	12.0
Machinery and raw materials	1.3	1.8	11.1	7.5	21.3	7.8	22.3
Other imports	0.7	8.4	7.3	5.1		5.6	
Barter Trade	8.7	20.1	21.7	6.0	n.a.	n.a.	n.a.
Under clearing arrangements 1/	5.0	4.1	4.7	2.3	13.8	18.3	35.0
(Credit financed)	(5.0)	(4.1)	(4.7)	(n.a)	(8.4)	(22.1)	(27.1)
Border exports by provincial governments	2.0	8.0	8.5	2.2	n.a.	n.a.	n.a.
Border exports by private traders	1.7	8.0	8.5	1.5	n.a.	n.a.	n.a.
Imports under Aid Programmes 2/	40.0	45.9	45.6	18.3	40.2	30.0	50.0
Convertible zone	n.a	n.a	8.0	9.1	n.a	n.a	n.a.
Non-convertible zone	n.a	n.a	37.6	9.2	n.a	n.a	n.a.
Total of official imports	54.3	70.3	92.3	39.3	90.2	69.6	120.9
Total of Imports	58.3	86.3	109.3	43.0	n.a.	n.a.	n.a.

Source: Trade Department

1/ Including the imports financed by credits under clearing arrangements with CMEA countries.

2/ Values partially estimated by the mission.

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TABLE 12: BEL and BCEL: CONSOLIDATED BALANCE SHEETS, 1979-82
(in million Kips)

	1979	1980	1981	1981	1982
	31 Dec		31 Dec	30 Jun	30 Jun
Assets					
Assets in foreign exchange	270	191	139	140	292
Internal credit	417	1,034	1,297	1,273	1,313
Public sector & Government	(413)	(1,002)	(1,145)	(1,230)	(1,260)
Private sector	(4)	(32)	(52)	(43)	(53)
Other assets (net)	183	316	282	194	164
Total	870	1,541	1,650	1,695	1,769
Liabilities					
Liabilities in foreign exchange	499	619	653	614	649
International organizations	(337)	(374)	(464)	(426)	(435)
Short term	(8)	(22)	(23)	(24)	(44)
Long term	(96)	(97)	(97)	(97)	(97)
Credit letters	(56)	(123)	(66)	(64)	(70)
Others	(2)	(3)	(3)	(3)	(3)
Deposits in Foreign exchange	14	19	10	4	10
Checking accounts	253	736	788	902	870
Public sector & Government	(235)	(654)	(713)	(831)	(793)
Private sector	(18)	(82)	(65)	(71)	(75)
Savings accounts	4	10	10	10	9
Currency in circulation	100	157	169	165	231
Total	870	1,541	1,630	1,695	1,769

Source: BEL and BCEL

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TABLE 13: BEL: CREDIT DISTRIBUTION, 1978-81
(in million Kip)

	31 December		30 November
	1979	1980	1981
State Enterprises	100	417	505
Trade	(77)	(344)	(365)
Industry and Transport	(23)	(73)	(140)
Agro-forestry Sector	4	18	30
Artisans and small scale traders	1	14	25
Government	125	190	190
Total	230	639	750

Source: BEL

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TABLE 14: OFFICIAL TRANSACTIONS IN FOREIGN EXCHANGE, 1979-81
(in million Dollars)

	1979	1980	1981
Receipts			
Electricity Exports	6.13	5.33	7.91
Other Exports	13.11	9.86 1/	6.07
Sales to Diplomatic Missions	1 40	0.80	0.65
Sales to Tourists	0.29	-	-
Receip^s of other Services	5.69	1.90	10.32
Overflight fees	3.58	3.99	3.52
Total	30.20	21.88	28.47
Payments			
Merchandise Imports	20.31	41.97	53.01
Government Expenditures	1.52	1.81	2.56
Private Sector Expenditures	-	0.01	0.01
External Debt Service	6.86	4.14	4.90
Other	-	-	2.70
Total	28.69	47.93	63.18
Balance	-1.51	-26.05	-34.31

Source: BCEL

1/ Unexplained difference in relation to Table 8