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PROMOTING INDUSTRIAL DEVELOPMENT IN CAMBODIA :
NEEDS ASSESSMENT AND ASSISTANCE PROGRAMME RESPONSES

Report of a UNIDO mission to Cambodia

8 - 30 January 1992

This report was prepared by the Regional and Country Studies Branch, Industrial Policy and Perspectives Division and the Asia and Pacific Programme, Area Programmes Division.

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TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
II. OVERALL FRAMEWORK FOR INDUSTRIAL DEVELOPMENT	3
1. Economic structure and recent economic development	3
2. Recent economic policy changes	5
III. INDUSTRIAL DEVELOPMENT IN CAMBODIA: STATUS AND PROSPECTS	8
1. Stock-taking of existing industrial capacities	8
2. Institutional framework for industrial development	
a) Main Ministries	12
b) Financial institutions	13
c) Training institutes	14
3. Key areas for future industrial development efforts	15
IV. CONSTRAINTS AND PRIORITY ISSUES FOR FUTURE INDUSTRIAL DEVELOPMENT	19
1. Structural integration	19
2. Industrial policy and institutional environment	20
3. Promotion of foreign and domestic investment	21
4. Human resources and skill development	24
5. Regional industrial development	27
V. PROPOSED RESPONSE OF THE DONOR COMMUNITY	29
1. Present framework of external assistance	29
a) UNDP programme approach to humanitarian assistance and rehabilitation in Cambodia	29
b) Industry-related activities	29

	<u>Page</u>
2. Proposed programme of assistance during the rehabilitation phase	30
a) Introduction to policy options for industrial development	30
b) Studies on development potential in selected industrial sub-sectors	31
c) Foreign investment promotion	33
d) Human resources development	33
e) Improving consumer protection in food and agro-industrial products	34
f) Support to the relocation of displaced persons	35
g) Support to the rehabilitation of infrastructure	37
h) Direct technical support	38
3. Proposed programme of assistance during the reconstruction phase	39
a) Support to the implementation of policy decisions	39
b) Infrastructural support to industries	40
c) Investment promotion	41
ANNEX I. List of persons consulted	42
ANNEX II. Project concepts for the rehabilitation phase	44
ANNEX III. Summaries of factory visits	68

LIST OF TABLES

		Page
Table 1.	Growth of Net Material Product 1984-90	3
Table 2.	Composition of NMP by economic sectors, 1986-88	4
Table 3.	Total exports and imports, 1987-1991	5
Table 4.	Second Five-Year Plan 1991-95: Sectoral allocation of State investment funds	7
Table 5.	Industrial establishments and industrial employment (end of 1991)	9
Table 6.	Branch composition of industrial production under the Ministry of Industry, 1990	9
Table 7.	Privatization of state-owned enterprises under the Ministry of Industry: Status as of January 1992	11
Table 8.	Structure of Cambodia's educational system (November 1991)	25

LIST OF ACRONYMS

ACR	Australian Catholic Relief
AFSC	American Friends Service Committee
CDRI	Cambodia Development Resource Institute
CIDSE	Coopération Internationale pour le Développement et la Solidarité
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement
CSI	Cottage and small-scale industries
EIA	Environmental Impact Assessment
FAO	Food and Agriculture Organization
GNP	Gross National Product
GRET	Groupe de Recherche et d'Echange sur la Technologie
HRD	Human Resources Development
IDF	Industrial Development Fund (UNIDO)
ILO	International Labour Organization
IPF	Indicative Planning Figure (UNDP)
IPS	Investment Promotion Service (UNIDO)
IRCA	Institut de Reserches sur la Caoutchuc
JPO	Junior Professional Officer
MOI	Ministry of Industry
NFLS	Nairobi Forward Looking Strategies
NGO	Non-governmental organization
NMP	Net Material Product
SNC	Supreme National Council
SSE	Small-scale enterprise
UNCTC	United Nations Centre for Transnational Corporations
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
UNTAC	United Nations Transitional Authority in Cambodia
WCC	World Council of Churches

I. INTRODUCTION

Following signature of the comprehensive Peace Agreement on Cambodia in September 1991, UN operations in Cambodia have intensified considerably. UNDP's IPF has started to be released and the UNDP presence in Cambodia has been accorded the status of a full-fledged office under a Resident Representative accredited to the Supreme National Council (SNC). It is expected that a United Nations Rehabilitation Coordinator will be appointed within the general framework of the United Nations Transitional Authority in Cambodia (UNTAC) to oversee and coordinate the provision of assistance to Cambodia. It is envisaged that the UNDP field office will serve as the secretariat for the coordination and management of rehabilitation and reconstruction assistance under the Rehabilitation Coordinator.

Within this context UNDP has initiated work with a variety of partners, including the government, UN specialized agencies, NGOs, etc., to prepare sub-sectoral needs assessments and concrete rehabilitation programmes and projects. To contribute to these vital activities paving the way for a comprehensive programme of assistance UNDP requested UNIDO to launch an industry needs assessment mission to Cambodia to prepare a report providing an overall review of the industrial sector in Cambodia and major prospects and constraints for its future development. The report was also to present project concepts to be pursued by the donor community at large and the UN system in particular during the rehabilitation and reconstruction phases within the field of industry.

The present report reflects the findings of this UNIDO mission which visited Cambodia in January 1992 and consulted key official and private sector institutions and representatives involved in industrial development.

Due to time constraints and logistical problems the team was unable to visit sites outside Phnom Penh. This limits the data basis for any assessment to sources available in the capital and must be borne in mind when reviewing the conclusions. As the mission's main aim was to assess the status, constraints and priority needs of the industrial sector, its intention was not to present fully formulated project proposals. Following UNDP's recommendation the mission concentrated particularly on identifying programme areas for which projects could be formulated and implemented during the rehabilitation phase, i.e. before the general elections. This report, in addition to describing the status and main constraints of the industrial sector, provides such programme proposals for the first phase, as well as an overall assessment of priority areas in which assistance will be required in the long run, pending the political development and the prospects made during the rehabilitation phase. The latter assessment intends to create a first basis for an iterative process through which initially conceived broad areas of possible cooperation are narrowed down, subsequently elaborated and possibly reformulated.

The present assessment of the industrial sector covers issues related to manufacturing including policies, human resources, financing and raw material supply, but excludes power generation which in the classification used by Cambodian authorities is a part of industrial production. This is reflected in the data and statistics presented and analyzed in the report.

The first part of the report (Chapters II and III) provides a description of the present status and prospects of industrial development in Cambodia based on data and information collected from various government authorities and reviews made by other international agencies, and during visits to factories and institutions. It is to be noted that the collection of industrial statistics in Cambodia is presently undertaken in a rudimentary manner and is not based on a comprehensive coverage of all establishments. Therefore, all quantitative data quoted in this report should be assessed with great reservations.

The second part (Chapter IV) analyses the constraints and priority issues for future industrial development in Cambodia. This analysis aims at drawing the attention of the Supreme National Council, various government authorities and the donor community to issues to be addressed in all programmes and projects linked with the industrial sector in order to ensure balanced development.

The third part (Chapter V) provides a basis for a dialogue within the donor community aiming at setting priorities and formulating projects in a phased and structured manner taking into consideration the absorptive capacity of the country and the need to avoid regional imbalances. In addition, some specific project concepts are proposed to be considered particularly by the UN system for immediate elaboration and implementation, if accorded priority by the SNC. These project concepts are presented in Annex II. With a view to making them self-contained, a certain degree of overlap between the concepts and the main text of this report is unavoidable.

The members of the UNIDO mission team wish to express their thanks to the various entities in Cambodia for suggestions made and information provided during stimulating, open and frank discussions (see Annex I of this report for the list of persons met).

The present report is issued as a restricted document for internal use by UNIDO. It has not been officially cleared by the Supreme National Council and by UNDP. The report reflects information available as of March 1992.

II. OVERALL FRAMEWORK FOR INDUSTRIAL DEVELOPMENT

In the following, a brief account is given of recent economic development and economic policy changes in Cambodia. Only the most important issues are dealt with in a concise manner. It is not intended to provide a historical perspective on the country's economic development or otherwise to repeat more detailed information available elsewhere.^{1/}

1. Economic structure and recent economic development

With an estimated GNP per capita of around \$150 (1990), Cambodia belongs to the poorest countries in the world. The country has undergone a tragic history of civil war and socio-economic experiments in the 1970s which cut down production, incomes and standards of living to levels considerably below those attained in the 1960s. It is only in the second half of the 1980s that economic growth has again accelerated. Based on Net Material Product figures^{2/} estimated by the Cambodian authorities, average annual growth between 1985-90 reached 8.0 per cent, with a 10 per cent growth rate recorded for 1989 and 1990 (Table 1)

Table 1. Growth of Net Material Product (NMP), 1984-90
(in million Riels at 1984 prices)

	1984	1985	1986	1987	1988	1989	1990
NMP value	17,151	17,776	18,437	19,774	21,593	23,752	26,128
NMP growth rate	-	3.6	3.7	7.1	9.4	10.0	10.0

Source: Ministry of Planning, Five-Year Plan 1991-95 (unauthorized translation)

The Cambodian economy is predominantly agriculture-based. Official data put the share of agriculture in total NMP at 40 per cent (1988), down from 46 per cent two years earlier (Table 2). The corresponding share of industry is reported to be 26 per cent (1988), up from 21 per cent two years earlier. While this excludes construction, it includes energy production.

^{1/} For more comprehensive analyses see Curtis, G., Cambodia. A Country Profile, Stockholm 1990; Muscat, R.J., Cambodia: Post-Settlement Reconstruction and Development, 17 August 1989 (mimeo); UNDP, Kampuchea Needs Assessment Study, August 1989.

^{2/} NMP data, unlike GDP data, exclude depreciation and non-material services and are largely based on public sector production only.

Table 2. Composition of NMP by economic sectors, 1986-88
(in million Riels at 1984 prices)

	1986		1987		1988	
	mn Riels	%	mn Riels	%	mn Riels	%
Agriculture	8,419	45.7	8,312	42.0	8,720	40.4
Industry	3,948	21.4	4,869	24.6	5,616	26.0
Commerce	2,167	11.8	2,135	10.8	2,562	11.9
Construction	2,434	13.2	1,010	5.1	2,230	10.3
Others	1,469	8.0	3,448	17.4	2,465	11.4
TOTAL	18,437	100	19,774	100	21,593	100

Source: See Table 1.

No figures are available for the relative importance of manufacturing proper. In interviews with officials, the share of manufacturing in NMP was estimated to be around 12 per cent. There are reasons to believe, however, that this reflects an over-estimation. Looking at employment figures (see chapter III.1), it emerges that total industrial employment, including handicraft and cottage production, is below 100,000 which corresponds to at most 4 per cent of the economically active population. Therefore, a more realistic estimate of the share of manufacturing in NMP would arrive at a figure well below 10 per cent, probably in the range of 6-8 per cent.

As in the case of overall production levels, also export levels have so far remained below pre-war performance. Basic data for the last 5 years are presented in Table 3; they have to be interpreted, however, with great caution. In general, it can be assumed that actual trading activities are grossly undercovered. Smuggling is widely practised both on the import and export side. Moreover, the legalized and fast growing border trade carried out by private traders is not reflected in the official statistics. Cambodia's major export products are unprocessed agricultural and forest products, including raw rubber, round timber, soybeans, fish and maize. Manufactured exports are negligible and comprise limited amounts of car and truck tires, semi-processed rubber and sawn timber, the latter from a joint venture established in 1989 between a Japanese investor and a Cambodian state company. From Table 3 it can be noted that

- exports to the non-convertible area have decreased significantly since 1988 whereas imports from this area have remained at above roubles 100 mn thus causing a huge trade deficit;
- since 1987, and above all in 1991, exports to the convertible area have risen sharply. However, with imports from this area having grown more than four fold in 1991, the total trade deficit was further aggravated.

Table 3. Total exports and imports, 1987-1991

	1987	1988	1989	1990	1991
A. <u>Convertible Area</u> (in \$ mn)					
Exports	4.7	11.5	17.4	14.6	26.5
Imports	7.4	16.6	24.1	12.05	2.5
Trade Balance	-2.7	-5.1	-6.7	2.6	-27.0
2. <u>Non-Convertible Area</u> (in roubles mn)					
Exports	22.5	32.5	26.8	20.1	n.a.
Imports	113.0	110.3	110.9	103.3	n.a.
Trade Balance	-90.5	-77.8	-84.0	-83.2	n.a.

Source: Ministry of Commerce.

While data for 1991 trade with the non-convertible area are not available, there is every reason to assume that it has almost collapsed. A number of long-term trade agreements with the former Soviet Union and Eastern European countries expired in 1990 and have not been followed by new contracts or, where this was the case, these have not been fulfilled. Furthermore, foreign assistance from former CMEA countries has been discontinued. In the past, these resource transfers were largely used to finance imports from the corresponding donor countries.

Thus, the foreign trade parameters have radically changed. Cambodia is forced to find new market outlets for its exportable products and has indeed managed to some degree to identify new clients in Singapore, Hong Kong, Taiwan Province of China and, predominantly, Thailand. Yet the country's present export capacity is grossly insufficient to finance even the most urgent import requirements such as fuels, industrial raw materials etc.

2. Recent economic policy changes

Until very recently, the economic policy approach adopted in Cambodia was based on comprehensive central planning and state ownership of all important means of production. Public sector investment was to be the main driving force of economic development. The state held a monopoly on all foreign trade transactions which were largely carried out under long-term trade agreements in the CMEA framework involving substantial barter trade activities.

Annual development plans were introduced in 1982 which set specific targets for sectoral outputs and investments, mostly in physical terms, and specific raw materials and other resources to be allocated to provinces, districts and productive units under various ministries. Financial policies were geared at accommodating the requirements of the physical plans.

The country's first Five Year Plan covering the period 1986-1990 was adopted in 1985. It formulated a number of medium-term economic priorities including specifically

- to increase agricultural production with special emphasis on the four "spearhead-branches" of the economy, namely food, rubber, timber, and marine products;
- to restore industrial capacity through rehabilitation and expansion of existing factories using domestically available raw materials, the creation of new factories, and the promotion of new small- and medium-scale enterprises;
- to rehabilitate and expand the country's transport and communication infrastructure and to develop indigenous (hydro) energy sources;
- to increase and diversify export production;
- to concentrate capital investment in the "spearhead branches" of the economy; and
- to improve economic management by building up cadres of managers and skilled workers.

The first Five-Year Plan was a milestone in Cambodia's economic development as it triggered off a process of far-reaching economic reforms which began in 1985 and accelerated significantly in 1988. With this Plan, for the first time, the positive developmental contribution of the private sector was officially acknowledged. Private enterprise formation was encouraged and seen to complement the state economy which was to continue its lead role. Furthermore, in 1989, joint ventures between the state and the private sector were allowed.

In late 1988, price controls were lifted with the exception of those applying to essential goods such as petroleum, electricity, fertilizers, iron and cement. In February 1989, private property rights with respect to land ownership were restored, including the rights to inherit property and to build on privately-owned property. This was specially aimed at encouraging private investment activities in agricultural production.

Another important policy reform initiative was taken in June 1989 when a new Foreign Investment Decree was enacted allowing foreign investors to establish joint ventures with state companies as well as 100 per cent foreign-owned enterprises.

Finally, in 1990 an ambitious privatization programme for public manufacturing enterprises was launched which during 1991 has been implemented rapidly (for details see section III.1. below).

Cambodia's Second Five-Year Plan covers the period 1991-95 and marks a further significant economic strategy shift. The Plan expresses principal reservations about the State's capability to centrally plan and manage economic development and confines itself to setting sectoral priorities and

outlining related action requirements. The lead role in bringing about required investments is assigned to the private sector. While the specific policy changes to be implemented and the precise role to be played by the State in the future have not been spelled out in detail, it is clear that the government is endeavouring (i) to encourage and enlarge the scope for international industrial co-operation, specifically through foreign direct investment; (ii) to infuse modern technology into the country's industry with a view to increasing productivity and becoming more competitive, also in export markets; and (iii) to privatize state-owned companies, deregulate the economy and rely increasingly on market forces.

In sectoral terms, the Second Five-Year Plan accords top priority to the agricultural sector and to the rehabilitation of the country's physical infrastructure (Table 4). The share of total state investment funds allocated to industry amounts to 10 per cent. Industry is expected, however, to grow at an above-average annual rate of 15 per cent and to increase its share in total production. Industry's major development contribution is seen in processing domestic natural resources and improving the population's supply with essential consumer goods.

Table 4. Second Five-Year Plan 1991-95:
Sectoral Allocation of State Investment Funds

Sector	Share (percentage)	Amount (Riels mn at 1984 prices)
Agriculture	30	3,318.90
Industry	10	1,106.30
Electrical energy	15	1,659.45
Communication	25	2,765.75
Tourism	5	553.15
Other	15	1,659.45
TOTAL	100	11,063.00

Source: See Table 1.

Apart from the Second Five Year Plan, a 1991-2005 Long-Term Perspective Plan has been prepared by the Ministry of Planning.^{1/} In general, this Plan confirms the economic strategy and priorities outlined above. It further states that heavy industries are not considered to possess comparative advantages in Cambodia and will therefore not be actively promoted.

^{1/} This Plan could not be made available to the UNIDO mission in English. It was referred to, however, in various meetings.

III. INDUSTRIAL DEVELOPMENT IN CAMBODIA: STATUS AND PROSPECTS

1. Stock-taking of existing industrial capacities

Any analytical stock-taking and assessment of the status of industry in Cambodia at present is extremely difficult to undertake and necessarily incomplete. The country's industry is in a process of rapid and far-reaching transition and restructuring. Many of the larger companies are being closed down temporarily due to lack of essential raw materials and spare parts previously imported or due to changes in ownership and/or management. At the same time, there is a mushrooming growth of small private industrial activities on which virtually no information is available. It would be pointless, therefore, in an overall situation so intensely in flux, to present available outdated statistics which over the last 2 years have lost much of their validity. More recent statistical data, however, are generally not available.

Accordingly, the present report is relatively short on quantitative data. While some selected data are given below, more emphasis is generally put on a qualitative outline of the sector's critical development constraints to be addressed in the future. The lack of quantitative data itself is among these constraints and a number of sub-sectoral in-depth studies are proposed to be undertaken to improve the information basis for subsequent co-operation programmes.

As outlined above (see section II.1.), according to UNIDO estimates the entire manufacturing sector accounts for less than 10 per cent of the country's net material product. Most of the larger industrial enterprises come under the supervision of the Ministry of Industry: 53 establishments with a total labour force of approximately 8,000 workers (Table 5). In addition, some state-owned industrial companies are controlled by other ministries. This applies for example to three drug-producing factories under the Ministry of Health, a number of rice mills under the Ministry of Commerce as well as four large rubber-processing plants under the Directorate of Rubber Plantations. Furthermore, about 100 so-called regional industries employing approximately 3,000 workers are operated directly by various provincial departments of industry. The bulk of industrial establishments is accounted for by private cottage and small-scale industries, estimated by the Ministry of Industry to number around 42,000 at present and to provide employment to roughly 70,000 persons. The relative contribution of these cottage and small-scale industries to total industrial production is not precisely known. In interviews with government officials their share was estimated to be in the range of some 40 per cent.

Aggregate data on the branch composition of industrial production are not available. In Table 6, such data are provided for the companies which in 1990 were operated by the Ministry of Industry. It emerges that food processing industries predominate with a share of 43 per cent, followed by textiles/garments industries (25 per cent), chemical industry (16 per cent), engineering industry (11 per cent), various light industries (5 per cent) and construction materials (1 per cent).

Table 5. Industrial establishments and industrial employment
(end of 1991)

Type of industry	No. of establishments	No. of workers
Industries under Ministry of Industry	53	8,200
Regional industries	99	3,000
Cottage and small- scale industries	42,000	70,000

Source: Ministry of Industry.

Table 6. Branch composition of industrial production
under the Ministry of Industry, 1990
(based on current prices)

Industrial branch a/	Production value (in '000 riels)	Share in total (percentage)
Engineering industry	1,064	10.8
Chemical industry	1,527	15.5
Construction materials	81	0.8
Textiles and garments	2,470	25.0
Food processing	4,267	43.3
Light industry	455	4.6
TOTAL	9,865	100

a/ Excluding energy production.

Source: Ministry of Industry.

Food processing 1/ is heavily dominated by cigarette manufacturing which accounts for the lion's share of total production in this sub-sector. Beverage-processing represents another significant product group, ranging from milk to soft drinks and liquors. Ice-, flour- and sugar-processing are further activities in this sub-sector which is entirely directed at supplying the domestic market.

1/ For the following section, see also Curtis, op. cit., pp. 101 ff.

The same applies to textiles/garments industries. In Phnom Penh seven textile factories are supervised by the Ministry of Industry; a number of additional ones are located in some of the country's provinces. They all serve the domestic market with a small range of low-quality essential products such as cotton scarves, simple cloth, mosquito nets and blankets. Production is cotton-based and is now encountering major supply problems as the cotton thread used to be imported from the USSR.

The chemical industry is largely rubber-based. Apart from 4 large crepe-processing plants under the Directorate of Rubber Plantations, other factories produce a range of simple rubber products including above all tires and inner tubes for bicycles, passenger cars and trucks as well as rubber sandals, rubber hoses and belts. Car and truck tires are among the very few industrial products that currently are being exported to some countries in the region. The few non-rubber chemical industries comprise a phosphate fertilizer factory, a flashlight battery factory and several gas factories.

The product range in the country's rudimentary engineering industry is confined to very simple fabricated metal products including household items, agricultural implements (ploughshares, hoeheads), water tanks and various types of basic production tools and spare parts. There is at present no production capacity for any kind of machinery and transport equipment.

As mentioned above, the present government has embarked upon a comprehensive privatization programme which was rapidly implemented during 1991 (Table 7). In interviews with Ministry of Planning officials the UNIDO Mission was given to understand that it is intended to eventually privatize all state-owned manufacturing enterprises. As of January 1992, out of the 53 enterprises under the Ministry of Industry

- 8 have been sold to private investors;
- 19 have been leased to private investors;
- 10 are in the process of lease contracts being finalized;
- 12 have been offered to interested private investors for leasing;
- in the remaining 5 cases no decision has yet been taken which does not imply, however, that they are to remain under state control.

In those cases involving a transfer of management rather than a transfer of ownership, the lease contracts tend to be of a long-term nature covering periods between 10-20 years.

In terms of the origin of private investors, a heavy dominance of foreign investors is to be noted so far. In about 65 per cent of all cases, companies were sold or leased to businessmen from Thailand; in 25 per cent of all cases the investors came from other Asian countries including Taiwan Province of China, Australia and Japan; and in only 10 per cent the transactions involved domestic Cambodians. However, a large portion of foreign investors appear to be expatriate Cambodians.

Evidently, as an immediate result of the privatization measures, employment levels have decreased substantially. The new private owners or managers have laid off considerable numbers of workers within immediate efforts to cut costs. While the enterprises under the Ministry of Industry

Table 7. Privatization of State-owned Enterprises under the Ministry of Industry: Status as of January 1992

Company	No. of staff	Visit by UNIDO Mission
I. Sold to private investor		
Machinery factory no. 2	127	Yes
Machinery factory no. 3	208	No
Machinery factory no. 4	107	No
Machinery factory no. 7	123	No
Machinery factory no. 9	140	No
Bata shoe factory	38	No
Flour factory	21	No
Soap factory annex	4	No
II. Leased to private investor		
Machinery factory no. 5	82	No
Gas factory	97	No
National cigarettes factory	1,091	Yes
Milk factory	78	No
Alcohol factory (Sorabaa)	320	No
Paddy-oil factory	56	Yes
Brewery	25	No
Chack Angrea saw-mill	89	No
Saw mill Km 10	108	Yes
Chrouy tile-brick factory	96	Yes
Textile factory no. 2	636	Yes
Textile factory no. 3	543	No
Thread factory	32	No
Leather factory	53	Yes
Disk factory	167	No
Machinery factory no. 1 Annex	10	No
Bicycle tyre factory no.1 Annex	n.a.	No
Hose factory Annex	n.a.	No
Glass factory	201	Yes
III. Lease contract with private investor under negotiation		
Hose factory	62	No
Soft drink factory no. 1	125	Yes
Soft drink factory no. 2	183	Yes
White grain/sugar factory	n.a.	No
Board factory	69	No
Cement factory	230	No
Textile factory no. 5	380	No
Textile factory no. 6	245	No
Plastics factory	55	Yes
Paper factory	113	Yes
IV. To be leased		
Machine factory no. 1	186	No
Car tyre factory Takmao	375	No
Bicycle tyre factory no. 1	147	No
Bicycle tyre factory no. 2	95	No
Car tyre processing factory	182	Yes
Soap factory	24	No
Textile factory no. 1	469	Yes
Textile factory no. 4	326	No
Textile factory no. 7	121	No
Printing house	80	No
Paint factory	n.a.	No
Shoe factory	66	Yes
V. Others		
Machine factory no. 8	86	Yes
Booth factory	62	Yes
Fertiliser factory Touk Meas	135	No
Saw mill Chrouy Changra	63	No
Ceramic factory Takmao	24	Yes
TOTAL	8,224	18 out of 53 visited

1/ State-private joint venture.

employed a total work force of approximately 14,000 in mid-1989, this figure went down to slightly more than 8,000 at the beginning of 1992 and can be expected to further fall significantly in the future. (For specific observations based on visits to about one third of all companies under the Ministry of Industry the reader is referred to Annex III).

2. Institutional framework for industrial development

a. Main Ministries

The government machinery for planning and guiding economic development in general and industrial development in particular is in a state of disarray. Old structures have been effectively dismantled while new ones have not yet taken shape. A special Committee has been set up, therefore, to work out proposals for a restructuring and rationalization of ministries and other government institutions.

As regards industrial development, the Ministry of Industry naturally assumes the lead role. In the past, it was directly in charge of operating the state-owned enterprises in terms of fixing production levels and prices and securing adequate plan allocations for raw material supplies and other production inputs. With privatization rapidly progressing and the remaining public manufacturing enterprises being accorded greater autonomy, the Ministry has been stripped of its traditional functions and is seeking to define its new role. The main emphasis in the future is to be on macro-guidance rather than micro-planning and on promotion of private industries rather than regulation of public ones. Yet, at present the Ministry is lacking the resources, the expertise and the appropriate staff to carry out these new functions. While the total number of staff amount to approximately 300 people, only very few of these have direct industry-related experience. The vast majority is to be found in the Department of Mines and Geology and comprise professional engineers as is the case in the Technical Department (in charge of standards, measures and quality control) and the Department of Energy. Also the Department of Planning (employing about 50 people) is heavily dominated by engineers. It is being advised by an economist from the Economic Science Institute who is reported to be the only professional economist within the Ministry.

The same situation prevails in principle in the Ministry of Planning whose total staff was indicated to be in the range of 350 people. The Ministry of Planning plays an important new role now in connection with foreign investment approvals. It hosts the Secretariat of the newly established National Committee on Foreign Investment which undertakes a first screening of all investment proposals submitted by foreign investors. It then formulates recommendations for final decisions to be taken by the Council of Ministers.

The Ministry of Finance releases funds to all other ministries and has approval authority for expenditure proposals. It is also in charge of the taxation system and customs duties. Apart from an annual licence fee, industrial enterprises are subject to a turnover tax (2 per cent for state enterprises; 1 per cent for private manufacturing enterprises) and a profit tax. The profit tax ranges from 8-26 per cent for manufacturing enterprises (12-40 per cent for commerce and other services) and varies according to the

level of profits. In addition, provincial taxes are also collected of which 10 per cent go to the Ministry of Finance while the other 90 per cent remain within the provinces. At present, only Kompong Som and the surrounding province are financially self-sufficient; all other provinces depend upon financial assistance from the central Ministry.

The Ministry put into effect a new customs duty system in October 1991. According to this system, essential imports are subject to 5 per cent import duty, consumer goods to 15-35 per cent and luxury items (including, inter alia, motorcycles and cars) to 35-100 per cent. Export taxes are in the 5-10 per cent range. It is to be noted, however, that all directly production-related imports such as machinery and equipment can enter the country duty-free.

b. Financial institutions

Cambodia's financial sector consists of only two banks, the National Bank of Cambodia and the Commercial Bank of Cambodia. The National Bank of Cambodia, controlled directly by the Council of Ministers, is the country's monetary authority (the national currency was reintroduced in 1980) and the government's depository bank and, at the same time, also acts as development bank. In the latter function, the bank operates some 30 branches in Phnom Penh and in various provincial centres. The savings funds attracted by these branches have been small in the past (less than \$1 million in 1990) and credit activities have been very limited and primarily confined to Phnom Penh. The interest rate for loans to the private sector is 1.2 per cent per month with maturities mostly ranging up to 3 months. The UNIDO Mission was told that some of these branches are to be abolished because of lack of capital.

The 'international arm' of the National Bank of Cambodia is the Foreign Trade Bank which holds the Government's foreign exchange reserves, allocates foreign exchange to state-owned companies and is responsible for international settlements with foreign banks. The network of international correspondent bank has been expanded recently and now comprises a total of 64 banks in 28 countries.^{1/} Data on the country's foreign exchange reserves and its balance-of-payments position are apparently not available. Among the bank's most pressing problems at present is the stabilization of exchange rate movements. In 1990, a unified exchange rate system was adopted which since has been characterized by high fluctuations.

In July 1991, the first joint venture in the banking sector was established under the name Commercial Bank of Cambodia with equity shares of 30 per cent held by Siam Commercial Bank of Thailand. The bank's services comprise savings deposits, loans, and opening of letters of credit. This also includes the opening of accounts in foreign currency (US-dollar and baht) and

^{1/} Singapore (7), Hong Kong (5), Viet Nam (5), Lao PDR (2), Thailand (4), India (2), Japan (1), Republic of Korea (1), Indonesia (1), Malaysia (1), Taiwan Province of China (1), France (8), England (3), Germany (4), Switzerland (1), Belgium (1), Sweden (1), Denmark (1), USSR (2), Bulgaria (1), Hungary (2), CSFR (1), Poland (2), Austria (1), Australia (2), Canada (2), Cuba (1) and USA (1).

foreign currency loans, also to Cambodian nationals. In January 1992, the bank had some 800 deposit accounts with a total amount of approximately \$6 million (80 per cent of this amount and 50 per cent of accounts held by foreigners). Interest rates are 12 per cent per annum for local currency accounts and 2-5 per cent for dollar accounts. The bank extends short-term loans (not exceeding 2 years, mostly below 6 months) at 18 per cent interest rate for investment purposes. The total number of loan accounts is around 100, most of them in the field of agriculture, fisheries, and construction (including hotels). The bank carries out only very limited industrial financing activities so far. One case was cited in connection with the privatization of a ceramic tiles factory. The bank is planning to establish a number of branches outside Phnom Penh with the first one to be operated soon in Battambang. It may also soon set up a small market research department.

Further joint ventures to establish commercial banks are being planned in a number of cases involving foreign banks from Thailand, Singapore, Malaysia and Hungary.

c. Training institutes

There is a limited number of industry-related technical training institutions which restarted their operations in the 1980s, including the Russey-Keo Institute, the Soviet-Khmer Institute and the Toek Thla Institute. Furthermore, the Economic Science Institute provides tertiary-level education in economics. The overall orientation and activities of these institutions is briefly outlined below.

The Russey-Keo Institute is a technical training school under the Ministry of Industry. It was reopened in 1980 and assumed its full functions at various teaching levels in 1988. At present, the institute provides 2-year training courses for skilled workers and a 3-year intermediate level 'technicum'. After successful completion of the latter the students (recruited at the 9th grade) receive the BST diploma (Brevet Supérieur de Technicien) which is fully recognized by the Ministry of Education. Efforts are underway to shorten the training periods to 2 years for the BST cycle and to 1 year for skilled workers. The institute receives technical assistance from Australia and from OXFAM with a view to upgrading its facilities and training more national teachers. OXFAM has provided 4 foreign advisers who utilize English teaching material. National staff comprises 16 teachers, including 3 professional engineers and 5 BST graduates. The total number of students is 250, thereof 75 in the BST programmes. The major training fields are automobile repair, metalworking, utilization of machine tools and electricity. The available equipment is generally in a good condition with most of the machine tools being brand new.

The Soviet-Khmer Institute is a high-level technology education institute which trains about 150 engineers per year in five faculties: construction, electro-technics, hydro-agriculture (including dams and hydro-power plants), mines and geology, and industrial chemistry. In addition to the 5-year training programme for engineers, there is a 3 1/2-year training course for technicians which, however, is planned to be discontinued in the future. The Institute's staff used to comprise 54 teachers from the ex-USSR and about the same number of national assistant teachers. The Institute is facing great difficulties now due to the withdrawal of teachers and financial

assistance from the former Soviet Union. An emergency fund has been set up by UNDP/UNESCO to finance at least 50 per cent of these teachers so as to complete the ongoing teaching cycle. In the longer run, new teachers will have to be found and a shift in the teaching language from Russian to English will have to be undertaken. To this end, contacts have been established with a number of potential partners in Australia, Japan and Thailand. At the same time, a complete overhaul of the curricula is required with a view to adjusting them to the new requirements of a market-oriented economy. In particular, this involves basic training in business management as the institute's graduates will have to assume great responsibilities in building up new industries in the country.

The Toek Thla Institute was established in 1981; it is a vocational training institute involved in the training of skilled workers and technical teachers. Course duration varies from 1 to 3½ years which is at present under reconsideration as most courses are thought to take too long. The specific areas of industrial training covered by the institute comprise mechanical engineering (fitters, equipment repairing, welders, lathe and grinding machine operators), electrical engineering (electricians for network installation, electric motor repairing), automobile-related work (car repairing, tractor repairing, tractor driver) and construction (carpenter, bricklayer). Up until now, all training courses have been held in Khmer. Soviet experts were present until 1990 as advisers so that their withdrawal had only a limited impact on actual teaching.

The Economic Science Institute, set up in 1984 under Vietnamese assistance, provides university-level teaching in economics to approximately 150 students per year. The present programme is based on 5-year courses in 5 different faculties following the traditional Soviet concept. In addition to the normal programme, the Institute offers special 'preparatory' courses to more than 1,400 students to upgrade their education to university level. The institute employs some 45, mostly young teachers. It is at present in a process of radical restructuring with assistance from France. The current faculty structure is to be given up and substituted by just two basic faculties: one for economics and one for business management. A small number of teachers will be sent to France for studying new curricula; French (and possibly English) will be adopted as new teaching language. The Institute has highly motivated and competent staff; a small micro-computer section is at present being created upon their personal initiative with a view to providing basic computer training to selected students.

3. Key areas for future industrial development efforts

Cambodia is relatively richly endowed with agricultural, forest and marine resources and thus possesses a good foundation for a range of natural resource-based industrial processing activities. They would appear to be a particularly promising starting point for present and future efforts to enhance the contribution of industry to national economic development. Accordingly, as mentioned above, the government has given priority to food, rubber, timber and fisheries which are seen as 'spearhead' sectors of

Cambodia's economic development. A brief outline of the status in these sub-sectors is given below.1/

Cambodia's agricultural sector was seriously hit by the events of the 1970s to the extent that in many provinces agricultural production virtually came to a standstill. After almost a decade of recovery efforts production in the late 1980s was slowly approaching pre-war levels. The country's agricultural production is dominated by rice farming which accounts for roughly 85 per cent of total cultivated land and a similarly high share of total agricultural employment. In 1990/91, total paddy production reached 2.1 million tons on an area of 1.7 million hectares which corresponds to roughly two thirds of the pre-war acreage. Average yield per hectare amounted to 1.25 tons which is among the lowest in the world. In most areas of the country, rice farming is carried out without the use of chemical fertilizers and without extensive irrigation. However, as compared to a 0.7 million tons rice deficit in 1979, Cambodia reached rice self-sufficiency again in 1989 and recorded only a minimal deficit in 1990.

Subsidiary crops supplementing the population's dietary needs are grown on some 180,000 hectares (some 60 per cent of the corresponding pre-war acreage) and comprise maize, cassava, sweet potato, beans, soya and groundnuts, mostly grown under riverbank farming. In addition, small amounts of crops for industrial use are grown such as tobacco, cotton, jute and mulberry leaves (for silkworm production).

Rubber cultivation and rubber-based processing are an economic activity of great present significance and future potential. Again, in the last 10 years efforts were undertaken to reach pre-war production levels following the destruction and/or abandoning of approximately 40,000 hectares of rubber plantations during the 1970s. While in 1969, some 48,000 hectares were tapped generating 50,000 tons of dried rubber annually, in 1991 the total area under exploitation stood at 46,000 hectares with an output of 37,000 tons (up from 13,000 tons in 1984 and 27,000 tons in 1988). This implies an average yield of 0.8 tons per hectare which is considerably lower than in pre-war times when the country's rubber plantations were among the most efficient in the world. Until 1989, more than 90 per cent of crepe rubber was exported, mainly to the ex-USSR and other former CMEA countries, making rubber the second-largest foreign exchange earning sector (after timber) of the country. Lately, exports to some Asian countries have increased; it is not clear, however, to what extent these have been able to substitute for dwindling markets in Eastern Europe. The Directorate of Rubber Plantations is in charge of all rubber plantations and four large crepe-processing factories. It employs close to 20,000 people out of which approximately 50 only are skilled technicians.

1/ Based on Curtis, op. cit., Muscat, op. cit.; FAO, Cambodia Report of the FAO Mission Assessment of the Agricultural Situation, Rome, July 1991; supplemented by information obtained by the UNIDC Mission during interviews.

A number of simple rubber-based goods are produced for the domestic market under the Ministry of Industry. In 1990, this included 33,000 truck and car tires, 32,000 motorcycle tires, 270,000 bicycle tires, 15,000 metres of rubber hose, 10,000 pairs of rubber sandals and 60,000 tons of other rubber goods.

Cambodia possesses vast forestry resources which are depleted, however, at an unsustainable rate. While in 1969 total forest lands comprised 13 million hectares, this was reduced to only 7.5 million hectares in 1979 as a result of a variety of factors including war damage, expansion of agricultural lands, commercial exploitation and firewood usage. At present, closed untouched forests occupy 4.4 million hectares and over-logged semi-closed forests account for 1.8 million hectares. The annual deforestation rate from the beginning of the 1960s to the end of the 1980s is estimated at 50-100,000 hectares with an increasing trend. Forest exploitation in recent years has regularly exceeded plan targets and reached 305,000 m³ in 1987 (excluding firewood). Official figures indicate a reduction to 250,000 m³ in 1990 which was set as a limit for environmental reasons by the Forestry Department. Replanting programmes exist yet with only limited impact. In 1990, a total of 2,350 hectares was reforested. Round timber is the country's top foreign exchange earner with approximately 280,000 m³ having been exported in the 1986-90 period. As in the case of rubber, these exports were largely the result of bilateral trade agreements with former CMEA countries and will have to be replaced by other markets.

Wood-processing activities in the country are very limited at present and confined to primary processing of sawn timber in a number of saw mills, mostly under the Forestry Department. A plywood factory producing some 3,300 tons of plywood in 1968 was destroyed in the 1970s and has not been rehabilitated so far. In 1989, a new large-scale saw mill was established as a joint venture of a state company and a Japanese investor. It has a processing capacity of about 12,000 m³ sawn timber annually most of which is exported to Japan.

The fisheries sub-sector has traditionally played an important role in the country's economy with about two thirds of the population's animal protein consumption accounted for by fish. Fresh water fish production has always been dominant, largely derived from the Mekong and Tonle Sap rivers and the Tonle Sap Lake. In 1970, total inland catch stood at some 160,000 tons. It suffered drastic reductions in the 1970s (down to 18,000 tons in 1980) and has since increased again to a level around 60,000 tons in the late 1980s. At the same time, marine fish catches have recovered to their pre-war level of roughly 20,000 tons although the government has given priority attention to revitalizing the fishery sector in inland waters. A major environmental problem in this respect has been the rapid deforestation of the so-called flooded forest zone surrounding the Tonle Sap Lake which serves as breeding ground for many fish species. As regards marine fishing, recent years have seen increasing activities of foreign companies in the underexploited Cambodian waters of the Thai Gulf. 12 Thai trawlers have been granted fishing rights since 1989. Two fish-processing plants exist in Phnom Penh and Kompong Som for which the government has recently purchased refrigeration equipment. Agreements have also been reached with French, Vietnamese and Singaporean companies for the export of frozen seafood products and the government is planning to promote the development of required processing and storage facilities.

While scattered information is available on the sub-sectors reviewed above, there is a general lack of any in-depth studies which could provide a systematic assessment of resource endowments, development constraints and development prospects in these sub-sectors. The creation of a knowledge base for strategic decisions to be taken in the future is thus of critical importance and should receive high priority in the first phase of the resumption of a technical assistance programme in Cambodia. For concrete proposals to address this issue, an outline is provided in Chapter V.2.b. and Annex II, Concept 2.

IV. CONSTRAINTS AND PRIORITY ISSUES FOR FUTURE INDUSTRIAL DEVELOPMENT

1. Structural integration

The industrial sector in Cambodia is small, highly dualistic (a small number of large formal enterprises contrasting with a vast number of informal cottage and micro industries), generally inefficient and operating with outdated equipment at low capacity utilization rates. This is very much the result of the political events of the 1970s causing the destruction of significant industrial capacities which had to be rehabilitated in subsequent years. The situation was compounded, however, by the country's isolation from the regional and international economy and by the shortcomings of a rigid central planning system which was uncondusive to the efficient utilization of natural and human resources for industrial development.

While the central planning system has stifled private initiative and innovation it did not by itself achieve the creation of a dynamic industrial sector characterized by interlinked specialized activities. A large number of officials in various ministries used to be involved in the decision-making processes related to industry - with little transparency and often unclear delineations of responsibilities. Accordingly, resource allocations have sometimes been more the result of struggles among various ministries and state-owned enterprises than of decisions based on cost-benefit analyses. Similarly, in cases where equipment has been purchased from foreign suppliers, the availability of a loan often has been the key selection criterion without any assessment of cost-efficient alternative options.

As a result, Cambodia's industrial sector is highly fragmented with individual production units existing in isolation from each other. There is a serious lack of communication and exchange between the different industrial companies. Beyond what has been administratively conceived by the central planning system, few exchanges seem to exist. The Mission noted that so far public and private industries, large-scale and small-scale industries, urban and rural industries have been operating without substantial linkages. Enterprises themselves are not actively searching for new opportunities to exchange final products, parts and components, and services. It will be essential, therefore, in the future to build up a more integrated industrial sector able to respond to changing market conditions and to generate mutually supporting impulses for technological and organizational improvements.

Also, economic linkages between agriculture and industry are very weak. Such linkages need to be substantially strengthened in view of the overall importance of a productive agricultural sector, its large need for equipment and other vital manufacturing inputs and the great potentials for increased industrial processing of agricultural products.

2. Industrial policy and institutional environment

As outlined above in chapter II, the central planning system is being dismantled at present with a view to providing more autonomy to industrial companies; relying increasingly on demand, supply and prices resulting from market forces; and assigning the lead role in industrial development to the private sector. However, to initiate and carry through such a drastic turn in Cambodia's economic strategy is a formidable task requiring wide-ranging changes in policies, institutions, technology acquisition and development, company organization and management, the legal framework and traditional attitudes and modes of behaviour. Every effort should be made, therefore, in the near future to gear the industrial technical assistance programme towards providing advice and crucial inputs to this transition process so as to minimize the adjustment costs involved.

In this context, the present lack of any systematically conceived industrial policy is considered by the Mission as a serious development constraint. The current situation in Cambodia is indeed characterized by an almost complete absence of any policy framework for and policy guidance of industrial development efforts. Perhaps paradoxically, it appears that the country has turned from a centrally planned economy to a state of virtual *laissez-faire*.

Specifically, the most significant industrial policy initiative recently taken, namely the privatization programme, was found to be carried out in a piecemeal, unsystematic manner without clear objectives and implementation guidelines. While the programme is proceeding at a rapid pace with approximately 70 per cent of all state-owned manufacturing enterprises (under MOI) already privatized, it has been suffering from a number of shortcomings. First, the Ministry of Industry staff is lacking the expertise to properly value the asset base of state enterprises. This effectively weakens their negotiating position vis-à-vis potential investors and in many cases has resulted in transfers of viable enterprises at rockbottom prices. Second, there are no criteria for deciding whether a definite transfer of ownership or a temporary transfer of management is preferable. Third, it seems that no performance requirements are imposed on private investors in terms of commitments to continue production or to rehabilitate the acquired enterprises.

The manner in which the privatization programme has been implemented is indicative of the general insecurity of the country's policy-makers with respect to their new role in a market-based economy. There is a danger that the strategy shift taking place at present may be 'overshooting' in the direction of a completely unguided economic and industrial development. Thus, again, there is a crucial need at this stage in Cambodia's development to provide support in industrial policy formation and related institution-building. The country's future industrial development needs to be conceived in a longer-term perspective and, above all, against the background of relevant trends in the international and regional economy.

Given the present exceptional political situation in Cambodia, essential economic policy decisions cannot be expected to be taken immediately. It would be essential, however, to create a knowledge base for strategic decisions to be adopted in the future. In doing so, broad exposure to

relevant experience of other developing countries in the region could provide valuable insights.

Among the most urgent tasks in this respect is the putting into effect of an appropriate legal framework for industrial development. This would involve clearly defined material and intellectual property rights, a company establishment law, labour laws, a modern taxation system, etc.

Furthermore, the widespread lack of industrial financing acts as a serious impediment to industrial expansion and will soon require priority attention. As described above, only one commercial bank exists in Cambodia at present which focuses on the provision of short-term credit. Hence, there is no source of long-term capital for industrial investment. Also, no rural credit schemes are available for the benefit of small-scale enterprises in the various provinces of the country. Moreover, there is no financial institution which could encourage socially desirable yet risky investments through equity capital participation.

Finally, a wide range of industrial support institutions will need to be created with a view to providing critical services to industry. Here again, the dissemination of assessed information will be much needed by industrialists who for so long have not been in touch with external developments. For instance, this relates to technology information concerning available production technologies, sourcing and transfer options, prices etc. It also involves information about external markets and assistance in export marketing. In these and other areas, the private industries expected to be established now in great numbers, will urgently require advice and consultancy services.

3. Promotion of foreign and domestic investment

In the opinion of the Mission, the potential contribution of rehabilitation efforts to future industrial development in Cambodia is rather limited. Many of the state-owned manufacturing enterprises have reached a state in which costly rehabilitation investments cannot be economically justified. In other positive cases, the required modernization of equipment and/or reorganization of production is being undertaken by new private investors or managers without direct government involvement. This will undoubtedly result in a selective restoration of production capacities in some important areas and in a better supply with some essential consumer goods. Yet it will not be able to provide the backbone for creating dynamic industrial development in Cambodia.

Priority should be accorded, therefore, to the promotion of new industrial investment and to the mobilization of funds for this purpose from private sources, both foreign and domestic. As mentioned above, foreign investment is now actively sought by the government since it has become legally permitted through the 1989 Foreign Investment Law. Under this law, foreign investment is allowed in various forms ranging from joint ventures to wholly-owned foreign companies and contractual business co-operation. Capital and property of foreign investors are protected against requisition, confiscation and nationalization and foreign investors have the right to

transfer capital and profits abroad. Furthermore, income tax exemptions may be granted for up to four years "depending on the type of investment, the amount of capital investment, the volume of exports, and the nature and duration of operations of an enterprise." Foreign investment is allowed in all sub-sectors of manufacturing.

All foreign investment proposals have to be submitted to the Secretariat of the National Commission on Foreign Investment for a first screening. The final approval process involves both this National Commission and the Council of Ministers with the latter sanctioning the purchase of land and deciding about project locations. The Mission was told that so far some 200 applications of interested foreign parties had been submitted of which 60 have received approval. Approximately 80-90 per cent of all submitted projects were said to be of a small-scale nature. More detailed information on the nature of these proposals, in particular a breakdown by economic sectors, was not available. It appears, however, that so far only a very limited number of new investments have been undertaken by foreign investors. Within the manufacturing sector - apart from enterprise take-overs within the privatization programme - only a single case has been reported which concerns the production of chopsticks by a Singaporean investors in a plant near Kompong Som. While a number of expatriate Cambodians and other businessmen have recently visited Cambodia to explore opportunities, this has apparently not resulted in actual investments taking place. The reasons are manifold and comprise:

- the fact that the country is in a political transition process the outcome of which is not easily predictable;
- the widespread lack of important infrastructural facilities in areas such as transport, communication and power supply and expected long gestation periods for their establishment/rehabilitation; and
- the expectation that the present Foreign Investment Law will soon be revised and complemented by new commercial laws providing a more formalized business environment.

Despite the present reluctance of foreign investors to commit funds to new projects, the medium-term prospects - assuming the peace process will be sustained and a political settlement reached - are excellent. Cambodia is located in the fastest growing economic region of the world in which foreign trade and investment interlinkages are higher than in any other developing region. Foreign companies from a number of countries, including Thailand and Taiwan Province of China in particular, will be attracted by Cambodia's available resources and by a wage level which can be expected to remain below the regional average for quite some time. It is noteworthy in this context that Thailand and Taiwan Province have recently agreed on a joint exploration of business opportunities in Cambodia. This would be aimed at joint ventures based on Taiwanese capital and technology coupled with Thai marketing networks. Target investment areas of Thai companies, as outlined in a recent report by the Board of Trade, are furniture and paper pulp manufacturing, rubber processing, gems cutting, cement production, canned seafood, garments and footwear.

It appears imperative at an early stage to build up capabilities and knowledge required in Cambodia to cope with a massive inflow of foreign investment which the country may soon be experiencing. At present, the limited staff in the Secretariat of the National Commission on Foreign Investment is not trained to undertake an economic appraisal of investment proposals and to assess their overall impact on the national economy.

The new emphasis on attracting foreign investment represents a significant economic policy change which can be expected to lead to the infusion of much needed new production technologies, technical and management skills, and access to foreign markets. At the same time, it will be important not to neglect the essential role of domestic investment in fulfilling basic needs and increasing the supply of consumer goods for the population. Also, it needs to be emphasized that in general strong complementarities exist between foreign investment on the one hand and domestic entrepreneurship on the other. First, the establishment of joint ventures is contingent upon the availability of attractive local partners. Second, small-scale companies often act as important suppliers of specialized parts and components, i.e. they are essential elements in creating industrial networks the availability of which can be an important investment incentive for foreign companies. Third, it is only through domestic entrepreneurship that significant spread effects of foreign investment can be generated and utilized for overall industrial development.

The establishment of an investment climate of confidence and security is seen by the Mission as a key precondition to boost private domestic investment. In this context, the whole system of taxation for private and state enterprises as well as the regulations governing foreign exchange allocations need to be reviewed with a view to eliminating existing distortions. Furthermore, as already referred to above, the need to provide investment finance is to be emphasized. Industrial expansion will imply a new and increasing role for the banking system in servicing enterprises. Short-term and, more so, medium- and long-term credits must be assigned an active developmental role which implies both responsibility and risk-taking, and thus involvement in investment decisions, for the banking sector. Yet a more active role of the banking sector is but one of the preconditions for an effective encouragement of private industries. Given that the existing private industries in Cambodia are almost exclusively of a small-scale nature and have not been exposed to a commercial environment in the past, a broad range of support measures would be required to improve their performance. This would encompass technological upgradation services, the enhancement of managerial capabilities (including basic issues such as accounting techniques) and efforts to more effectively utilize the potential of small and medium private industries as suppliers of inputs to large-scale enterprises. In this context, the establishment of a specialized centre for small-scale industry promotion may be considered.

In addition to small-scale companies, there is a vast yet unknown number of cottage- or micro-enterprises, mainly engaged in household-level processing of crops, sewing, and similar activities. The number of these is apparently increasing rapidly. However, the threshold to small-scale industry is rarely crossed, it appears. This would partly be related to the fact that such activities are not the sole occupation (paid or unpaid) of a family or

family member, but are carried out alongside other activities. They would usually not constitute the sole source of income, and there would often be no ambition to increase the scale of operations.

For those micro-entrepreneurs, who wish to expand their activities, the constraints are probably similar to those existing for small-scale industry, though they may even be more severe: no access to funding, deficient equipment, skills (including administrative and management skills) that are inadequate for production on an increased scale. It is likely that a disproportionately large number of women is involved in micro-and household-level manufacturing, and that they are therefore also disproportionately affected by the obstacles to expansion.

The lack of precise information on micro-enterprises points to the need for a more detailed study to provide a basis for assistance to this particular segment of industry. However, the very nature of micro-enterprises makes it unlikely that comprehensive studies fully covering these industries are possible.

4. Human resource and skill development

While the reconstruction and expansion needs of Cambodia's educational and training system are vast, the truly remarkable achievements of the last decade must be recognized: "The re-establishment of the education system is perhaps (the country's) signal achievement over the past 10 years. The investment in education has resulted in significant social and economic dividends. Indeed, without the rapid re-establishment and expansion of education services ... it is unlikely that the country could have recovered so much lost ground in every domain."^{1/} From a virtual collapse in the seventies the country's educational system has been rebuilt gradually to an impressive level. Its structure and magnitude in November 1991, according to information provided to the Mission by the Ministry of Education, is reflected in Table 8.

A general issue cutting across the various elements of the educational system is the use of the most appropriate language of instruction. In the past, a number of foreign languages (French, Russian, Vietnamese, English) and Khmer have been used simultaneously depending on the history and the origin of teachers of the various institutions. At present, French and English are being favoured and the question of introducing English as first priority foreign language is being considered. In this context, it should be noted that despite the rapid growth of private English tutorial services there is an acute shortage of English interpreters and translation services. This situation is bound to further worsen with the arrival of increasing numbers of foreign tourists, businessmen and officials. The impact - already noticeable at present - will be a diversion of many scarce technically trained Cambodians into better paid translation services.

^{1/} Curtis, *op. cit.*, p. 145.

Table 8. Structure of Cambodia's educational system (November 1991)

Level and type of education	Number
I. GENERAL EDUCATION	
1. <u>Kindergardens</u>	264
- children	51,461
- staff	2,901
2. <u>Primary schools</u>	4,665
- students	1,322,143
- staff	40,820
3. <u>Lower secondary schools</u>	402
- students	230,763
- staff	14,351
4. <u>Higher secondary schools</u>	66
- students	48,014
- staff	2,057
II. ADULT EDUCATION	
1. <u>Literacy courses</u>	
- trained since 1979	1,075,105
- remaining illiterates	220,631
2. <u>Complementary courses</u>	
- regular schools	19
- part-time schools	24
- evening schools	92
- primary level students	35,816
- lower secondary level students	9,560
- higher secondary level students	24,433
III. SPECIALIZED SECONDARY SCHOOLS AND COLLEGES	
1. <u>Soviet-Kmer Institute of Technology</u>	
- faculties	5
- engineering graduates	602
- technicians	439
2. <u>Economic Science Institute</u>	
- faculties	5
- students	972
3. <u>Medical Institute</u>	
- faculties	3
- tertiary-level students	1,411
- secondary-level students	1,390
4. <u>Agricultural Institute (Chamcar Daung)</u>	
- faculties	5
- students	466
5. <u>University of Arts</u>	
- faculties	5
- tertiary-level students	417
- secondary-level students	541
6. <u>Education Management College</u>	
- students	104
7. <u>Pedagogical University (Phou Penh)</u>	
- students	2,401
- regional centers	7
- provincial centers	18

With respect to industrial development as such, it is now generally acknowledged that it is primarily the quality of a country's human resources which determines its competitiveness and the efficiency of a continuous industrial restructuring process. This relates both to the ability to operate modern industrial technologies and to the surrounding industry-related services such as maintenance and repair, research and development, marketing skills etc. In the Cambodian context, the extreme shortage of skilled workers, technicians and managers in all branches of industry is among the critical constraints for future industrial development. The existing training institutions suffer from serious shortcomings, including above all:

- outdated equipment even in formal training environments in Phnom Penh; training establishments in the provinces have been found to be almost devoid of any usable equipment;
- deficiencies in teaching materials and curriculum developments resulting from limited availability of outside information;
- excessively theoretical orientation of training with no or only limited exposure to practical industrial experience at the company level;
- extremely low salary levels of teachers.

The present weak state of industrial training in Cambodia calls for major foreign assistance efforts at all levels. In terms of priority setting, the increased supply of well-trained mechanics and technicians assumes special importance. This would require a rapid expansion of vocational training institutions combined with on-the-job apprenticeship programmes. In this context, the experience of other countries in combining apprentice training with formal education in vocational schools and technical colleges should be drawn upon - coupled with technical assistance and possibly provision of equipment from these countries.

Special emphasis should be paid to the extension of vocational training schools to various provinces of the country. While this would be desirable in general with a view to establishing a broader regional skill base for industrial development, it would also provide easier access to training programmes for special target groups such as returning refugees and displaced persons as well as military personnel expected to be demobilized in great numbers.

Obviously, in view of the country's new economic strategy, there is also a pressing need to impart basic managerial skills required in a market economy to present and potential industrial decision-makers. The most effective short-term response to this may be the organization of study tours to and attendance of available training courses in other countries of the region. This would have the advantage that the theoretical training could be combined with a practical exposure to the operation of modern private industries not yet established in Cambodia.

As a first step to be able to design effective national and supportive multilateral and bilateral programmes for industrial skill development in the coming years, it is suggested that a survey be undertaken of key human resource bottlenecks and emerging skill requirements in the

context of expected further development and technological upgrading of the industrial sector and its institutional infrastructure. The survey would:

- identify priority industrial sub-sectors and/or across-the-board industrial activities for which industrial training needs are deemed most urgent;
- define training and retraining needs in the identified priority sub-sectors, taking also into account the following functions that are directly or indirectly concerned with industry:
 - research and development,
 - marketing, including export marketing,
 - industry-related services,
 - government policy making and planning;
- assess the existing industrial training capabilities to meet the needs identified;
- recommend ways and means by which existing training programmes can be improved and expanded including new approaches, activities and programmes such as:
 - upgrading the operating capabilities of graduate professionals in industry through well-designed in-plant and on-the-job training programmes designed to meet specific identified needs and to prepare these professionals to assume managerial responsibilities in their enterprises;
 - expose the professionals from industry to modern industrial technologies and organization applied in industrialized and other developing countries by sending them abroad for study tours and practical training.

The carrying out of such a survey could be initiated through a workshop on industrial human resource requirements and policies (see also section V.2.d. below).

5. Regional industrial development

It can be observed at present that the more rapid economic revitalization process taking place in Cambodia since 1989 has led to increasing income disparities between different population groups which is becoming a source of social and political concern. Also, given the better availability of infrastructural facilities and of skilled labour, the growth of economic and industrial activities has been predominantly confined to Phnom Penh and areas in its vicinity.

It is generally observed in both developed and developing countries that industrial development tends to concentrate on only a few (or even only one) central areas with the other regions falling behind in terms of income, technology and productivity levels. To some extent this may be unavoidable

and indeed required to reap the benefits of economies of scale, complementarities and efficient networking of industrial activities. Yet often regional development potentials are underutilized because either they have remained unidentified or crucial infrastructure and other supporting services are not available.

In the context of promoting private investment in Cambodia, early attention should thus be given to avoiding the further aggravation of regional imbalances. In view of both security issues and the need to rehabilitate basic infrastructure in the various regions, it may be premature to immediately conceive regional investment promotion programmes. However, an assessment of industrial development potentials of selected regions would provide a valuable information basis for such efforts in the reconstruction phase.

It is suggested, therefore, to integrate such assessments into the industrial sub-sector studies (see V.2.b. below). Specifically, this would involve (i) to analyze the resource base for and prospects and constraints of industrial development in the specified regions; (ii) to identify the most urgent requirements in terms of infrastructural facilities (transport, water, energy, communication); (iii) to identify in particular the existing capabilities in small and cottage industries, and the type of support measures required to upgrade them with a view to promoting industrial linkages; (iv) to prepare pre-feasibility studies on potential new industries to be set up; and (v) to present an action programme (including technical assistance requirements) for the regions' future industrial development requirements.

V. PROPOSED RESPONSE OF THE DONOR COMMUNITY

1. Present framework of external assistance

a) UNDP programme approach to humanitarian assistance and rehabilitation in Cambodia

UNDP acts as focal point for technical assistance to Cambodia and as secretariat for the coordination and management of rehabilitation and reconstruction assistance under the United Nations Rehabilitation Coordinator. The accumulated total IPF for Cambodia together with trust funds to UNDP amount to some US\$120 million. Cambodia having been included in the UN category of least developed countries will also be entitled to an additional allocation to the IPF. The IPF for 1992-1996 was released on 17 September 1991 with the signing of two umbrella projects, KAM/91/002 Humanitarian Assistance and Rehabilitation Operations and KAM/91/003, Training for All Cambodians. A number of specialists have been fielded in various areas and a team of resident experts is being established in Phnom Penh to advise on specific technical issues.

UNDP's role in the interim period and the remainder of the fifth IPF cycle can be placed in the following distinct but inter-related categories:

- humanitarian assistance;
- rehabilitation assistance;
- re-integration of war-affected populations;
- aid coordination; and
- reconstruction/development assistance.

It is envisaged that the period before the elections, scheduled for 1993, will concentrate on humanitarian and rehabilitation assistance and re-integration of war-affected populations. Actual reconstruction and development assistance in the traditional sense is envisaged for the period after the elections. This programme approach provides a framework for the proposed and planned activities of all UN agencies. Therefore the proposed response of the donor community in the industrial sector follows the same phased approach.

b) Industry-related activities

A wide variety of activities relate to all the categories included in the programme approach described above. Humanitarian assistance foresees projects related to small-scale rural credit schemes, micro-capital investment programmes, employment generation pilot programmes and vocational training schemes, which all include an industrial dimension in terms of cottage and small-scale industries. Within the UN system, particularly ILO and UNIDO expertise can be tapped in these areas. These areas provide also ample scope for the development finance institutions, bilateral agencies and NGOs planning technical and capital assistance programmes in Cambodia. As regards the local production of orthopaedic equipment, NGOs such as Handicap International, AFSC and ICRC have initiated or are in the process of initiating extensive activities covering most provinces in the country. Furthermore, strengthening of existing or the establishment of new capacities in the production of essential drugs and vaccines constitutes an important area to be considered

by the donor community as a sustainable alternative to supplying such drugs through imports.

During the rehabilitation phase UNDP envisages that, at least initially, activities will focus on transport (roads, bridges, railway), essential utilities in urban areas, urgent irrigation rehabilitation, and training for the management of essential infrastructure. This should, however, be seen in a broad context and chapter V.2. below will provide proposals for industry-related activities that will help in creating the necessary basic environment in addressing these priority areas and in setting up a basis for balanced and vigorous development during the reconstruction phase.

UNDP's programme for the re-integration of war-affected and uprooted populations contains industry-related elements particularly in the development of artisanal industry linked to agricultural production (tools, small machinery, etc), machine maintenance capacity and agro-industry and cottage industries, as well as other income- and employment-generating activities. These areas will be addressed in V.2 below.

The reconstruction phase will require a comprehensive and broad assistance programme in the industrial sector. The UNDP programme envisages this to include, i.e., assistance in the identification of sectors with highest potential for private investment (foreign and domestic) and in attracting and encouraging the appropriate forms of investment, as well as the review and identification of aspects of the economy which still require central planning and management and assistance in strengthening this capability through training. To be adequately prepared for these complex activities and considering the constraints described in Chapter IV above it is recommended to start with the introduction of basic policy options, training and related support activities before the actual launching of the comprehensive and large-scale programme. The proposed programme described in Chapter V.2. addresses those requirements. A general outline for areas to be addressed during the reconstruction phase is presented in Chapter V.3.

The involvement of other multilateral and bilateral donors in the industrial sector is presently marginal and information of planned activities was not available to the assessment mission team. The aim of the following presentation of proposals is to provide government authorities, the UN and the donor community a basis for planning, dialogue and coordination.

2. Proposed programme of assistance during the rehabilitation phase

The following thematic programme components are strongly interlinked and should be addressed in a coherent manner in order to make maximum use of their complementarity. For this reason a summary scheme outlining the proposed timing of each activity is attached as Annex II. The method of formulation and presentation of actual detailed project proposals will depend on the priorities expressed by the SNC and the source of financing for different components.

a) Introduction to policy options for industrial development.

The absence of policies and the constraints emerging from that are described in chapter IV above. The transition from a centrally planned economy

to a market-oriented system has taken place at a very rapid pace and the staff at various levels of the administration do not possess the necessary experience with and exposure to the complex issues related to industrial development including privatization, industrial legislation and regulations, financing, accounting, management, project appraisal, statistics and information etc. This has resulted in the almost complete absence of a coherent system of laws, regulations, institutions, promotional activities and support services that would be guided by a well-founded industrial policy.

Before actual policies can be designed and introduced by the elected government it is recommended to initiate a process of developing options including the familiarization of senior officials and managers with all elements necessary to be taken into account when formulating industrial policies. It is proposed to start this process with a high-level national seminar on industrial strategies and policies with particular emphasis on experience of relevant countries in the region. Subsequently an Industrial Policy Advisor, to be attached to the UNDP team of specialized experts, will carry out a comprehensive review of the existing laws, institutions, etc. and coordinate all other activities related to assistance to the industrial sector in order to synchronize the various elements of the industry support programme strongly linked with and dependent on the policy environment.

It is also proposed that a series of workshops be held on various issues related to policy design techniques, taxation and accounting policies, institutional requirements, human resource development policies, etc. The Industrial Policy Advisor will need to be supported by a number of specialized consultants to carry out preparatory activities in developing programmes to establish or strengthen industrial financing, support and extension services, industrial information and statistics, etc.

The main legal basis for private investment at the moment is the Foreign Investment Code of 1989. This Code has recently been reviewed by UNCTC and may be revised in the near future. The UNDP Environmental Institution Capacity Mission has recommended the establishment of a National Investment and Environment Board to be initially supported by an Environmental Advisory Group. Similarly it is recommended that this Board be initially supported by an Industrial Investment Advisor to train the Board secretariat and other relevant officials in appraisal techniques and to assist the Board in appraising investment proposals. The Environmental Impact Assessment (EIA) specialist, to be attached to the Environmental Advisory Group, would support this appraisal and training through the introduction of a systematic environmental assessment.

Towards the end of this programme component related to policy issues, it is envisaged that a specific policy agenda based on experience gained will be prepared to provide options and overall guidance to the elected government. A project concept describing this programme element is attached in Annex II (concept 1).

b) Studies on development potential in selected industrial sub-sectors

As concluded above in Chapters III and IV, the main emphasis of future industrial development in Cambodia rather than on the rehabilitation of existing industries, will have to be put on the promotion of new domestic

and foreign investment. While the necessary policy environment and support activities conducive to such investment are addressed under programme element V.2.a., it is further proposed that concrete studies be undertaken in selected industrial sub-sectors to determine their development potential in order to guide and direct potential new investors to areas most beneficial to the economy and population in the long run.

The selection of industrial sub-sectors to be studied as first priority will be based on the likely comparative advantage of Cambodia in terms of immediately accessible raw materials, shortage of locally produced essentials and areas in which exports could be rapidly promoted in a regional context. FAO will be conducting by mid-1992 an agricultural sector study leading to the identification of investment opportunities particularly for development finance institutions. That study needs to be supplemented by studies on related industrial processing potentials and industrial input requirements (fertilizer, implements, basic processing machinery) in agro-industries, including fisheries, livestock, forest-based industries (secondary wood processing in particular) and rubber-based industries (diversification potential, etc.). In these sub-sectors questions related to the availability and quality of local raw material need to be carefully reviewed and environmental sustainability ensured before new investment is encouraged. However, it is likely that with organized resource base management these sub-sectors will form an important basis for successful industrial development.

Cambodia's location in the world's fastest growing economic region coupled with a liberal foreign investment legislation and low labour costs provide a basis for the possible encouragement of labour-intensive export-oriented industries such as garments, and other simple consumer goods. This applies particularly to some centres on the seashore where minimum infrastructure in terms of power, water and transportation facilities can be made available. It is proposed to study the potential of such industries in the regional context.

The dispersal of industrial activities in most areas of the country is essential to prevent extreme regional imbalances and deformed industrial structure. The backbone of such flexible and regionally adaptable industries are cottage and small-scale industries (CSI). Although much of the CSI presently cater for the domestic market, export orientation particularly in handicrafts can be developed and strengthened with an integrated programme including finance schemes, skill training, design, marketing assistance, etc. Information on the extent and type of CSI in Cambodia is at present imperfect and unreliable. Before embarking on country-wide development schemes for this vital sector, including the integration of women in industrial development, a review of the status, constraints and development potential of CSI in Cambodia is required. This study will guide the forthcoming attempts of the government and donor community to strengthen this sector.

In order to constitute a sound basis for strategic industrial decision-making and priority setting, such sub-sector studies would need to be comprehensive in nature. They would have to analyze all interrelated economic aspects of the selected sub-sectors from the raw materials base to processing technologies; backward and forward linkages with other sectors of the economy; human resource requirements; support services required in areas such as technology adaptation, quality control, packaging, financing, etc.; the existing institutional framework and policy measures (e.g. taxes,

incentives, customs duties) relevant to the sub-sector; the need and potential to rely on foreign investors for technology acquisition and market access; and many other issues. A project concept for studies in the selected sub-sectors is attached in Annex II (Concept 2.).

c) Foreign investment promotion

UNCTC has assisted the government in reviewing the foreign investment law. The establishment of a National Investment and Environment Board and the policy environment for investment and strengthening the appraisal capabilities of relevant units are addressed under programme component V.2.a. To use the momentum gained in this area it is recommended that, in addition to policy advice and training, a workshop be organized in the region to present the revised investment law, other emerging regulations and policy incentives, and the results of the sub-sector studies on industrial development potential (see V.2.b above) to interested potential investors. The venue as well as actual agenda are to be determined in light of the developments in 1992. UNIDO's extensive experience in investment promotion activities in the region, the established contacts and the network of Investment Promotion Service (IPS) offices can be made full use of in this work.

d) Human resources development

One of the main constraints, as described in IV.2. above, hampering industrial development is the severe shortage of skilled manpower. At the level of various levels of education it is recommended that the following efforts be made:

- i) Primary education
 - Teaching of foreign languages, particularly English and French; and
 - Introduction to handicrafts and technology.
- ii) Vocational training
 - Adaptation of teacher training by adopting the principles of Modular Employable skills (M.E.S) and Training Within Industry (T.W.I);
 - Reduction of the length of vocational training through M.E.S. and its extension to all provinces;
 - Use of on-the-job training and a system of apprenticeship introducing technical specialities, in particular electronics, physical laboratories and chemistry;
- iii) Vocational training for adults
 - Although a number of new private schools have emerged, it should be considered to use modular and on-the-job training at centres to be established at the provincial level;
 - Degree holders from existing higher-level institutions need reorientation and updating of skills.

- iv) High school education
 - More intensive and practically oriented foreign language training;
 - Vocational and job orientation at the end of second high school cycle;
 - Creating a technical degree and a degree in economics equivalent to a matriculation examination (baccalaureate);
 - Creating classes in administrative management and accounting, typing, computer use, secretarial work, accounting, commerce, etc.

- v) University education
 - Economic Science Institute to consider introducing classes in the curriculum of the economic science and commerce faculties in computer-use, entrepreneurship development, business plan design and language laboratory training;
 - Institute of Technology to consider introducing classes listed above plus those in preventive maintenance, quality control concepts, safety and environment.

To establish a human resource development framework it is necessary to evaluate the needs for the coming decade and to plan required steps to be taken. To initiate this complex process, it is suggested that a workshop be held under programme component V.2.a) (included in Annex II, concept no.1).

To address the most immediate and urgent training requirements, a programme component for some practical activities is outlined as project concept in Annex II, concept no. 3.

Human resource issues are an inherent part of the proposals related to the relocation of displaced persons. In addition to those activities and addressing particularly the needs of the rural areas it is proposed to launch a training programme for women entrepreneurs in the food-processing industry. The project outline in Annex II, concept no.4, although designed for the preparatory assistance phase, provides the main objectives of the proposed long-term project as well.

e) Improving consumer protection in food and agro-industrial products

Although strengthening or setting up of service, research and development institutions is not to begin in full scale until the reconstruction phase, some key elements would require immediate attention. The importance of appropriate control of agricultural products in terms of health standards, competitiveness and reliability (including export potential) is apparent. Customers in rural and urban areas can be best protected through the gradual introduction of reliable testing and quality control supported by appropriate legislation and a credible institution with dynamic links with the producers. The best suited institution in Cambodia for this task is KAMCONTROL under the Ministry of Commerce with adequate number of staff with basic relevant educational background. Instead of strengthening KAMCONTROL in all the various areas of expertise for which it has a mandate, it is proposed to initiate the organizational modernization and intensification of links with manufacturers through the establishment of facilities, legislation and implementation network for the quality control of food- and other

agro-industrial products, including the standardization and calibration of weights and measures for these products. The main aim is consumer protection with additional benefits related to increased exports including certificate marking (see v.2.b also for sub-sectoral studies in agro-industries). Close association with the Ministry of Health will be required. A brief project concept outline is attached in Annex II (concept no.5).

f) Support to relocation of displaced persons

The relocation of refugees is a large-scale programme in which it is proposed that an industrial component be addressed while formulating a detailed plan. UNIDO proposes to address the question in two categories, first focusing on the provision of support with immediate effects, second focusing on actions with longer gestation periods preparing for the construction stage. As information is incomplete and plans are not finalized, the issues to be raised and possible approaches to be considered are:

(i) Multi-purpose workshop programme

The resettlement process would compel structural adjustment in the regions where resettlement takes place. This will include suddenly increased demand, therefore a competition, for limited amounts of food, clean water, land, production equipment such as agricultural hand tools and implements, clothing, housing, sanitation facilities, energy, transportation, etc. as well as competition in the job market. Social relationships would also require adjustments.

Humanitarian and rehabilitation assistance could be combined to provide opportunities to the re-settlers who do not have simple tools or facilities to provide services and produce goods required for their immediate consumption.

Targeting the communities where re-settlers will primarily be located, general purpose rural workshops could serve as a facility for a self-help re-settlement process. The type of economic activity to be accommodated at each workshop and the size will be determined after a quick and practical survey of the communities where resettlement is taking place. Each workshop should consist of a simply constructed shed with security measures, divided into several sections for different activities. The size of the shed should be large enough to allow an expansion at a later stage.

At some point in the near future when the activities accommodated at each shed become commercially successful, the most suitable person at each section could take it over to become an owner of an independent shop, or a group of interested parties could form a cooperative, association or other suitable business forms. The transfer of the ownership could be carried out on hire-purchase or leasing arrangements. Several of such general purpose rural workshops could be established within each community area depending on the demand from the community and its social and economic characteristics. Eventually, they could serve as nucleus for a small industrial estate.

Some data should be collected as soon as possible in order to evaluate the economic, technical and financial feasibility of launching a general purpose rural workshop programme and design details of a specific project.

Preparatory assistance should be carried out to provide basic information including the following:

- Which communities or locations are most affected by the resettlement process and at what pace;
- What skills are available among the re-settlers;
- How many skilled people are interested in the workshop;
- What industrial activities they are interested in starting up at the workshop and whether such proposals are commercially justifiable currently or in near future;
- Social and economic characteristics of people already residing in the community, including market potential, distribution channels, potential for economic integration etc.;
- Existing physical and institutional infrastructure, including availability of fuel supply, electricity, telecommunication, municipal administrative authorities, commercial institutions such as trade associations etc;
- What design of general purpose rural workshop programme would be most suitable and how much resources are required;
- Feasibility and modalities of a possible revolving fund to finance transitional ownership of the workshops.

Input requirements for the preparatory assistance would be some US\$90,000 including 6 w/m of international expertise (Industrial Engineer and Business Management expert for SSI) national experts on local economy and sociology and support/logistics costs.

(ii) Skill training programme

Human resource development requires a relatively long gestation period and it should start at the earliest practical opportunity. The feasibility to introduce an elementary industrial skill training programme should be assessed as soon as possible in order to smoothen the resettlement process on the basis of a self-help effort. The areas inside the country where returning people are already accumulating would be the priority areas to introduce the training programmes in order to enhance the integration of the re-settlers into the community. Second priority locations could be camps outside or inside the country where repatriation would be delayed most.

The target population group would be those who have already had some experience in cottage and small-scale industrial activities as well as those with part-time involvement in processing activities prior to their departure from Cambodia or during their stay at refugee camps. A special programme should be introduced to those physically disabled people who are interested in participating in the training programme. This group would require special attention from the beginning since the resources of their immediate family members would be extremely limited to support them. For this purpose, an occupational therapist should be involved for specific work element analysis in accordance with physical disability.

Preparatory assistance would be required to obtain basic information, including the following, to formulate a specific project:

- Identification of locations where voluntary as well as organized returnees are accumulating;
- The number of returnees and the pace of accumulation;
- Economic activities surrounding the re-settlers;
- Physical and institutional infrastructure;
- Relevant skill background of the target population;
- The number of physically disabled people, type and degree of disabilities and their skill background;
- Potential local cooperators;
- Elements of training curriculum;
- Logistic and material requirement;
- Resource requirements for the training programme for implementation.

Input requirements for the preparatory assistance would be some US\$110,000 including a training methodology expert, industrial engineering trainer, management trainer and an occupational therapist and support/logistic costs.

g) Support to the rehabilitation of infrastructure

The rehabilitation of infrastructure is an essential part of the country-wide programme for providing improved development opportunities including industrial development. A number of donors are supporting the local authorities in the rehabilitation of roads, railways, airports, harbours, telecommunications, power lines, etc. In addition to directly improving the productivity of existing industries and potential for new investment, there are industry-related components in the actual rehabilitation activities. UN/UNIDO and other multi- and bilateral donors should support these essential industrial components particularly in the following areas:

(i) Development of rural infrastructure

An important element of the reconstruction and rehabilitation of rural areas relates to construction of schools and other community buildings on the one hand and bridges and other structures on the other. There are substantial timber resources in the country and FAO is proposing to look more closely into these resources and investment potential in them. Following that, it is proposed under V.b) above to carry out a sub-sector study on investment potential in forest-based industries. Linked to this process and addressing practical applications at the rural level it is proposed to launch a programme component aiming at promoting appropriate use of wood as a building and construction material to serve domestic needs. It is assumed that once it has been demonstrated to the population that the forests have a substantial value not just for export but for satisfying urgent needs for bridges, schools, health centres, etc. thus raising the standards of living of the rural people, they would be more receptive to policies aimed at properly managing the forests for sustained development rather than exploitation.

More specifically it is proposed to develop rural infrastructure by introducing standardized components and systems for bridges, schools and other community buildings. The main outputs of this programme component should be demonstration bridges, schools and other community buildings, appropriately illustrated manuals with design explanations and erection instructions, as well as trained staff of the supplying and fabricating industries (mainly wood and metalworking), of road building contractors and government officials responsible for this developmental area. These objectives will be achieved through a process in four main stages starting with an assessment of needs and technical requirements including static calculation of the bridge system or study of building codes and standards and architectural requirements related to the design of community buildings. A review of timber processing facilities and an appraisal of supply reliability should also be made as an economic study. During the interim stage materials and supplies will be ordered and site work undertaken. The construction and training stage should involve a number of national counterparts directly responsible for the demonstration constructions, including a series of training seminars focusing particularly on building and road contractors who will, by bidding for construction work, create the demand as far as the private sector supplying and fabricating enterprises are concerned.

It is estimated that this programme component would be of three years duration and requiring international expert services and other external inputs totalling US\$700,000-900,000 depending on the modalities and extent of desired activities.

(ii) Repair and maintenance of vehicles, railway stock and ships

The private sector and a number of ministries and aid agencies have or are planning to set up repair and maintenance facilities for cars, lorries, buses and other road transportation equipment. No special assistance programme needs to be launched in this area. However, repair and maintenance facilities for railway stock as well as river and ocean-going vessels requires more geographical concentration and substantial investment. Therefore it is proposed that a detailed economic and technical assessment be carried out in both areas including the preparation of concrete project proposals for the establishment of such facilities. This pre-investment work should be completed by mid-1993 to allow the implementation of the investment projects immediately from the start of the reconstruction phase.

h) Direct technical support

In addition to the closely interlinked components of the proposed industrial sector assistance programme for the rehabilitation phase, the mission recognized that a number of technical and enterprise-specific interventions would be both highly desirable and feasible for formulation and implementation as soon as possible. The donor community may wish to consider direct assistance in the form of fellowships, training materials, curriculum advice, hardware and software, etc. for training institutions and individual industrial enterprises. Details on some of them are available in Annex IV.

One crucial area for the development of agriculture and the improvement of conditions in the rural areas is the gradual reintroduction of the manufacture of agricultural tools and implements in Cambodia. Currently

a very small portion of the demand can be met from local production. UNDP and GRET (French NGO) have assisted in starting the production of hoeheads in a new factory for which machinery had been delivered but not installed at the time of political change. The factory is state-owned and works under the Ministry of Industry. For the time being privatization appears unlikely. The factory lays the foundation for necessary low-cost agricultural tools production for the benefit of a large part of the population and it is recommended that UNDP/UNIDO consider developing and financing a short-term intense project to assist the hoehead factory in the formulation of a business plan including management training, and in making concrete plans for product diversification. This project should be implemented with immediate effect.

Other important areas in which external intervention will be necessary and which could start as soon as possible are, i.a.:

- Support to the Ministries of Health and Social Welfare, with private sector participation, to set up a furniture production unit for hospitals and health centres.
- Preparatory work with the aim of establishing a research centre for the promotion of the use of traditional medicinal and aromatic plants to benefit from the rich resources of minor forests products available in the country.

3. Proposed programme of assistance during the reconstruction phase

The proposals for a concrete assistance programme presented above concentrate on the period of rehabilitation and relocation of displaced persons. The proposed activities are also necessary steps in preparing the country to be able to absorb development projects to be started once the reconstruction phase can be launched. In the following, a brief outline of the main areas to be addressed in the industrial sector is presented to be elaborated further in light of the experience gained and progress made during the rehabilitation phase.

a) Support to the implementation of policy decisions

The programme component for the introduction to policy options for industrial development is envisaged to have increased the capabilities of the administration at various levels to respond to the requirements of market mechanisms and international practice. It is also envisaged that the emerging and rapidly growing private sector will have established a base for analysis and representation of common interests in the form of an Association of Manufacturers. Based on the gradually developing dialogue between the different partners of the economic system, the newly elected government will need to take a number of important policy decisions after the elections. The policy agenda prepared during the rehabilitation phase will assist in doing this.

These decisions will relate to a multitude of issues such as corporate, taxation and accounting laws, environmental policies and regulations, human resource development policies, basic strategic planning mechanisms including a solid statistical basis for decision making, etc. Once the decisions have been taken, the new government and the responsible parts

of the administration will need support in enhancing their capabilities in implementing them. This will include areas such as:

- i) Terms of reference and organizational structure of different ministries, agencies and institutions related to industry.
- ii) Strengthening of the industrial reporting system and database (statistics).
- iii) Continued exposure to and training in emerging trends and techniques in industrial financing, tariffs, laws and regulations, and strategic planning and forecasting including fostering a continuous dialogue between public and private sector institution and agencies.
- iv) Industrial safety and health regulations.
- v) Manpower development studies and plans.
- vi) Elaboration and implementation of a technology policy and protection of intellectual property, etc.

b) Infrastructural support to industries

Many of the policy decisions require the creation of facilities to monitor, promote and facilitate their implementation. During the rehabilitation phase such institutions will be supported only very selectively. It is imperative, therefore, that during the reconstruction phase resources and assistance be allocated to the improvement of the business environment including the establishment or strengthening of various service institutions. Particularly the following interlinked issues, for which preparatory work will have been done under V.2.a., need to be addressed:

- i) Establishment of an Industrial Development Bank or other credit facilities for promoting particularly the establishment of cottage, small and medium scale industries including emphasis on regional dispersion and environmental concerns.
- ii) An integrated entrepreneurship development programme for selected target groups to foster the development of new cottage, small and medium scale industries.
- iii) Advisory and extension services to cottage, small and medium scale industries including possible conversion of existing underutilized factory premises to common facility centres.
- iv) Technology development and transfer services (including database).
- v) Strengthening the Association of Manufacturers.
- vi) Planning, design and establishment of industrial estates.
- vii) Upgrading and reorienting technical and management training capabilities/centres.
- viii) Gradual expansion and strengthening of standards and quality control services for products with most direct relevance to local consumer protection and export promotion.
- ix) Establishment of basic research and development facilities in key areas such as rubber- and agro- based industries.
- x) Export promotion training and institution building.

c) Investment promotion

During the rehabilitation phase it is envisaged that the National Investment and Environment Board has become operational, relevant secretariats trained in appraisal techniques and interested potential foreign investors introduced to the legal framework, policy environment and most promising areas for investment in Cambodia. During the reconstruction phase it will be necessary to establish clear-cut and streamlined procedures for a one-window service for potential domestic and foreign investors, and start active promotion of foreign investment. This will require activities in the following fields:

- i) Strengthening of the secretariat of the National Investment and Environment Board in appraisal techniques, preparation of project profiles and promotional activities including dynamic links with overseas agencies such as UNIDO Investment Promotion Service offices.
- ii) Strengthening local capabilities of preparing and appraising pre-investment and feasibility studies for industrial projects including the preparation of such studies for projects identified by sub-sector studies carried out under V.2.b. and through other activities.
- iii) Organization of an investment forum for Cambodia in Phnom Penh to present a portfolio of project profiles with local investor interest and the investment environment emerging from recent development.

ANNEX I

LIST OF PERSONS CONSULTED

Supreme National Council (SNC)

Mr. Penn Thoi, Member of the SNC Secretariat
Mr. Yu Hokri, Member of the SNC Secretariat
Mr. Sok An, Member of the SNC Secretariat

Ministry of Planning

Mr. Hul Lim, Vice-Minister
Mr. Ouk Chay, Director, Planning Department
Mr. Chhin Nam, Deputy Director, Planning Department

Ministry of Industry

Mr. Phan Phin, Vice-Minister
Mr. Ho Vichit, Director, Technical Department
Mr. Ken Vath, Deputy Chief, Planning Department

Ministry of Commerce

Mr. Ouk Rabun, Vice-Minister
Mr. Mao Thora, Director, Foreign Trade Department
Mr. Uy Sambath, Deputy Director, Foreign Trade Department

Ministry of Finance Committee

Mr. Prak Leng, Chief of Cabinet
Mr. Samboun Hak, Chief, Department of Social Welfare

Ministry of Education

Mr. Ek Sam Ol, Vice-Minister

Ministry of Agriculture

Mr. Chea Kong, Director, Department of Planning,
Statistics and International Cooperation

Ministry of Health

Dr. Hong Theme, Vice Minister

Directorate of Rubber Plantations

Mr. Ouk Thay Srun, Chief of Cabinet
Ms. Tan Theamy, Deputy Chief, Department of Planning and Cooperation

Economic Science Institute

Mr. Yuok Ngoy, Vice-Director

Foreign Trade Bank of Cambodia

Mr. Tim Bophal, Deputy General Director

Cambodia Commercial Bank

Mr. Wanakiti Wanasilp, Managing Director

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Ms. Eva Mysliewic
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Mr. E. Watzel, Resident Representative
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Other multilateral agencies and NGOs

Ms. L. Sonn, Economist, FAO/World Bank Cooperative Programme
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Dr. J. Dennis, Indochina Coordinator, World Wildlife Fund Institute;
UNDP Environmental Institution Capacity Mission

PROJECT CONCEPT\OUTLINE

Country: Cambodia

Project Title: Introduction of Policy Options for Industrial Development in Cambodia

Total UNDP/UNIDO budget: 1,000,000

Estimated Starting Date: 2 years Planned duration: 2 years

Project Site: Phnom Penh

Responsible Government Agency: SNC

Other Cooperating Agency:

Preparation Date: February 1992

A. Analysis of Situation:

1. Target Beneficiaries:

The main beneficiaries of the project will be the decision makers and policy makers in the Supreme National Council Secretariat, Ministry of Planning, Ministry of Industry and Ministry of Commerce.

2. Problem to be addressed:

The transition from a centrally planned economy to a market system has taken place at a very rapid pace and the staff at various levels of the administration do not possess the necessary experience and exposure to deal with complex issues such as privatisation, industrial legislation and regulations, industrial financing, national and social accounting, project appraisal etc. This has resulted in the almost complete absence of a coherent system of laws, regulations, institutions, promotional activities and support services that would be guided by a well founded industrial policy. Moreover, the lack of a comprehensive statistical data base for industrial policy and decision making is also a major constraint which needs to be addressed urgently. Another related problem relates to the appraisal and approval of industrial investment proposals, both foreign and domestic, which presently does not follow systematic and well established criteria.

3. Immediate Objectives/Outputs/Activities:

The immediate objective of the project is to expose the country's policy makers to relevant industrial policy options with a view to establishing the basis for the adoption of policies and measures conducive to rapid industrial development following the national elections.

Strategy:

It is proposed that the project be launched by a High-level Industrial Policy Seminar in the course of which key policy makers will be exposed to assessed information about (a) pertinent industry-related trends in the global economy, inter alia in the area of foreign investment and trade, (b) the functioning of international and national markets, and (c) industrial policy experience of countries in the region concerning issues such as privatization, deregulation, investment promotion, entrepreneurship development and others. Analytical papers for presentation at the seminar will be prepared by international experts and UNIDO staff.

Following this seminar, a high level industrial policy advisor, who will be part of a team of experts attached to the UNDP office, will carry out a comprehensive review of, regulations, modalities and institutions affecting industrial development including privatisation policies and practices. This assessment will be supported by a series of local workshops to be coordinated by the policy advisor in collaboration with other short-term consultants in the areas of industrial information and decision support methodologies, industrial financing, support and extension services to the private sector, fiscal and credit policies, institutional requirements, human resource development policies etc. His activities will also be supported by an Industrial Investment Advisor who will provide technical advice and training in appraisal techniques.

Once such an assessment and review has been completed a policy agenda based on various policy options, including an assessment of the impact of these options on key macroeconomic variables, will be prepared.

Output/Activities:

1. Holding a High-level Industrial Policy Seminar in Phnom Penh (duration: 3-4 days) to be attended by approx. 20-25 policy makers and representatives from financial institutions and private industry.
2. A comprehensive report including:
 - a review of existing laws, regulations and institutions affecting industrial development, including privatisation policies and the role of the government.
3. A series of local workshops on:
 - policy design techniques and methodologies
 - fiscal, credit and accounting policies
 - institutional requirements
 - design, enforcement and implementation of human resource development policies.
4. 3-4 government officials trained on relevant aspects of industrial policy formulation, methodologies and techniques.
5. Assistance in setting up of an Association of Manufacturers.
6. Selected ministry staff and staff of National Committee on foreign investment trained in investment appraisal techniques.
7. An industrial policy agenda to provide policy options to the Supreme National Council.

B. Justification

1. Government priorities

The government accords highest priority to the swift implementation of the new market-based and private sector-led industrial development strategy. This strategy is to be substantiated by concrete industrial policy measures in different fields encompassing, i.a., industrial legislation, creation of supporting institutions, investment promotion, industrial financing and others. Exposure to relevant experience gained by other developing countries in these areas as well as a provision of advice on the principal options available to tackle these issues is actively sought. At a meeting with the Supreme National Council, UNIDO was specifically requested to provide advisory services in this respect.

2. Linkage with other UNIDO activities

The project will coordinate and lay the basis for all other technical assistance programmes and projects. In particular, close coordination with the preparation of subsectoral studies, training of selected target groups and assistance in environmental policy and control will be essential.

3. Financing modality

It is proposed that the project will be funded from UNDP's IPF resources.

4. Sustainability of Project Activities

The training and familiarisation programmes during the course of project implementation will be geared towards increasing the capabilities of the administration at various levels to sustain the policy making and decision making activities introduced by the project.

5. UNIDO's experience

UNIDO has successfully carried out work of a similar nature in Namibia where assistance was provided to the new Namibian Government for the formulation of industrial strategies and policies (XA/NAM/90/631).

C. Special Considerations

The Industrial Policy Advisor attached to the UNDP office will be required to coordinate project activities with those of a proposed Environmental Advisory Group to ensure that the industrial policy advice is integrated with environmental policy matters.

D. Skeleton Budget

	<u>w/m</u>	<u>US\$ (incl. fee, travel, DSA)</u>
International Expertise		
(a) Industrial policy Adviser	24	312,000
(b) Industrial Investment Adviser	12	156,000
(c) Short term Consultants	24	312,000
Staff travel		25,000
Study tours		40,000
Subcontract (workshops)		60,000
Equipment		
2 vehicles		80,000
2 PC's		
Software		
Miscellaneous		<u>15,000</u>
TOTAL		<u>1,000,000</u>

PROJECT CONCEPT\OUTLINE

Country: Cambodia

Project Title: Studies of the Development Potential in Selected Industrial Sub-sectors

Total UNDP/UNIDO budget: US \$ 445,000

Estimated Starting Date: September 1992 Planned duration: 6 months

Project Site: Phnom Penh

Responsible Government Agency: Ministry of Industry

Other Co-operating Agencies: Ministry of Planning

National Contribution: In kind

Preparation Date: March 1992

A. Analysis of Situation

1. Who are the target beneficiaries and other parties concerned with the project?

The project's target beneficiaries comprise all national, bilateral, regional and international institutions involved in the promotion of industrial development in Cambodia. The studies to be prepared under this project will serve as a conceptual analytical basis for guiding their activities in key sub-sectors of the country's industry. Specifically, in Cambodia itself, the Ministry of Industry, the Ministry of Planning, the National Commission on Foreign Investment and the country's emerging banking sector are the primary target institutions envisaged to utilize the project results. Furthermore, as the project will also come up with a number of investment opportunity profiles, potential domestic and foreign investors will be able to benefit from analyses and assessments developed by the project.

A wide dissemination of the final study reports to (i) national industry-related institutions, (ii) the international donor community and (iii) selected industry associations in other countries will therefore be essential to ensure an effective follow-up of the project's recommendations.

2. What are the problems to be addressed?

The project addresses the lack of analytical information on Cambodia's industrial sector and the lack of in-depth assessments of the development potential in key sub-sectors. This deficit has been pointed out by all recent development co-operation reports on Cambodia and efforts to strengthen the knowledge base for future industrial development efforts have been called for as a first priority in launching assistance programmes. No other agency is presently engaged in undertaking such studies. With respect to agriculture, FAO is in the process of launching a comprehensive sector study which could serve as an important input for this project as most of the industrial sub-sectors proposed to be studied involve the processing of natural resources.

3. What is the immediate objective of the project?

The project is aimed at creating a sound conceptual basis for strategic industrial decision-making and priority setting. Its output will be a set of industrial sub-sector studies covering the industrial processing potential in the so-called "spearhead branches" of Cambodia's economy: food, rubber, timber and marine products. The studies will analyze all interrelated economic issues in these sub-sectors, including inter alia the suitability of the raw material base for industrial processing; level and structure of demand in domestic and export markets; input requirements in terms of processing machinery, fertilizers etc.; human resource requirements; support services required in areas such as technology adaptation, quality control, packaging, financing etc.; existing institutional framework and policy measures (e.g. taxes, incentives, customs duties) relevant for the sub-sector; the need and potential to rely on foreign investment for technology acquisition and market access; etc.

Based on this comprehensive analysis the studies will identify priority areas and product groups seen to have particularly good development prospects in each sub-sector. With respect to these, action recommendations for their promotion (including technical assistance needs) will be elaborated and a limited number of investment opportunity profiles will be developed. In each of the sub-sector studies, the issues of environmentally sustainable development will be given special emphasis.

In addition to these sub-sector studies in a narrow sense, the project will study the industrial development prospects and constraints in two further areas which cut across different industrial sub-sectors. The first concerns cottage and small-scale industries on which so far there is an almost complete absence of any systematic information. The second area refers to the potential role of Cambodia as new location for export-oriented, labour-intensive manufacturing activities by foreign investors. This study would focus on the regional economic context and would primarily be aimed at ascertaining the specific fields envisaged by foreign businessmen for potential investments in Cambodia as well as their investment motives and their assessments of the country's prospects to compete with other regional locations.

4. How are the project achievements to be sustained after completion of the external assistance?

The studies are to be seen as a first step in initiating a long-term process of industrial technical co-operation between the Cambodian authorities and the international donor community. The results will be discussed and specific technical assistance programmes and projects presented in a workshop at the end of the project activities for follow-up by UNIDO and other agencies. The concrete investment project profiles emanating from the sub-sector studies will be followed up by UNIDO's investment promotion programme with a view to identifying interested foreign partners.

5. What relevant experience has UNIDO in the proposed field?

UNIDO has a long-standing experience in carrying out industrial sub-sector studies in all developing regions. More specifically, a number of such studies have recently been prepared for Viet Nam in the context of projects DP/VIE/88/034 and DP/VIE/89/007.

B. Justification

1. What are the relevant Government priorities in this field?

The sub-sectors selected for this in-depth study exercise correspond to the priorities explicitly set by the Government and were agreed upon in meetings between the Supreme National Council, various government agencies and the UNIDO Industrial Needs Assessment Mission.

2. What is the linkage with UNIDO's mandated activities?

UNIDO is the UN system's lead agency on all matters pertaining to industrial development. Inter alia, its mandate comprises the provision of analytical and advisory services to governments of developing countries. Such services are of particular urgency in countries which are reappraising and changing their industrial strategy.

3. What is the proposed modality of financing the project activities?

The project is proposed to be financed from IPF sources.

4. Is a project formulation mission required?

No.

C. Special considerations

In the sub-sector studies dealing with natural resource processing, the issue of environmental sustainability will be given special consideration.

D. Inputs: Skeleton budget

	<u>w/m</u>	US-\$ (incl. fee, travel, DSA)
Personnel		
- International experts	30	390,000
- National experts (incl. interpreters)	10	20,000
Staff travel		20,000
Miscellaneous (incl. workshop and reporting cost)		15,000
TOTAL		<hr/> 445,000

PROJECT CONCEPT/OUTLINE

Country: Cambodia

Project title: Industry-related training programme for selected target groups

Total: US\$ 360,000

Estimated Starting date: July 1992 **Planned duration:** 1 year

Project site: Phnom Penh, Chups, Mimot, Chamcar Andong and Prekkak

Responsible Government Agency: Ministry of Education with
Ministry of Industry

Other cooperating agencies: Directorate of Rubber Plantations

PROJECT CONCEPT

A. Analysis of Situation

1. Who are the target beneficiaries and other parties concerned with the project?

At the present time it is estimated that some 8,000 people are employed by the formal industrial sector in Cambodia. The number of people in the cottage- and small-scale industries sector is several times higher. Most of these employees are in the private sector after the changes of policy in recent years. The Ministry of Industry employs 300 staff. In addition, some 20,000 people are employed in the state-owned rubber plantations (including factories) of whom 50 are engineers and technicians.

The various training institutions providing human resources to the industrial sector are as follows:

- Economic Science Institute (150 students graduating annually).
- Russey-Keo Institute with 175 students for skill training and 75 for a BST (Brevet Supérieur de Technicien) diploma.
- Soviet-Khmer Institute with some 160 graduates annually - diplomas in construction, electro-techniques, hydro-agriculture, industrial chemistry, and mines and geology.
- Toek Tla Institute training 245 skilled workers and 60 technical teachers annually.

The management of enterprises, staff in ministries and institutions as well as the students and graduates of various training institutions are directly affected by the rapid change of policy, ownership, corporate practice and investment environment. As a number of long-term programmes and projects will address various levels of technical, managerial, skill and reorientation training during the years to come, it is proposed that specific well-defined target groups be selected for immediate short-term training courses to be implemented before the beginning of the actual reconstruction phase in Cambodia. The groups with immediate impact on productivity and output in vital sectors, including establishment of new enterprises to be selected for this initial practical training programme are:

- teachers and advanced students of the Economic Science Institute;
- teachers and advanced students of the Soviet-Khmer Institute; and
- engineers and technicians of the processing factories of the Directorate of Rubber Plantations.

For the large number of enterprise managers, ministry officials, replaced refugees and released military personnel different training activities will be provided under separate programmes.

2. What are the problems to be addressed?

The Economic Science Institute in Phnom Penh has received Vietnamese assistance and has been using a concept of 5 faculties and a 5 year courses common in the former USSR. In 1990-1991, 300 students were recruited. Vietnamese assistance ended and French assistance is foreseen at the level of curriculum revision and language teaching. Due to the new market-oriented economic environment in Cambodia, the students particularly at the last two grades are in an urgent need of reorientation and upgrading of knowledge to be able to provide an adaptable and flexible human resource base for the ministries as well as existing and emerging private sector industrial enterprises. At the Soviet-Khmer Institute the problems are the same at more technical level coupled with the repatriation of Russian teachers who had formed the core of the trainers of trainers.

It is tentatively estimated that the private sector needs for qualified staff for the next five years are:

- semi-skilled workers	20,000
- skilled workers	2,500
- supervisors	500
- skilled clerks	500
- accountants	300
- maintenance specialists	300
- quality inspectors	500
- salesmen and sales administration	500
- engineers and executive staff	1,000

These staff will come mainly from among the new graduates from the existing training institutions, released civil servants and military, and industrial workers displaced after the privatization of state enterprises. In addition to a rapid increase in vocational (including accounting, data processing, secretarial work) and language training at all levels, it is necessary to strengthen the existing institutions in a number of ways to bring them closer to the reality and requirements of the industry. The problems to be addressed by the project relate to the absence of capabilities in training in management practices, entrepreneurship development, requirements of a market-oriented economy, business planning and computer sciences. Particular attention will be paid to promotion of cooperation between the institution and the industry. Preparatory activities will also be initiated to establish regular management training at the Economic Science Institute.

A particular problem requiring immediate attention in one the most important export earning sectors, rubber production, is the lack of skilled workers, technicians, supervisors, engineers, quality control specialists, chemists, trainers and experienced managers at the four rubber-processing factories located at Chups, Mimot, Chamcar Andong and Prekkak. Some assistance for R&D and the plantations including training and fellowships are considered by France (IRCA of CIRAD), but the 50 young engineers and technicians working at the factories lack the necessary skills in modern preventive maintenance practices, production planning, quality control and management practices.

It is proposed that the above problems at the institutes and the rubber processing factories be addressed through intensive short-term training courses to provide direct benefit to the enterprises and agencies employing the staff after training.

3. What is the immediate objective of the project?

The project aims at upgrading the capabilities of the Economic Science Institute and the Soviet-Khmer Institute in providing training in areas relevant to modern industrial enterprise in a market-oriented economy, and, while doing this, at preparing the senior-level students for the labour market through reorientation and training in relevant skills not included so far in the curriculum of these institutes to render them more adaptable to and conversant with the requirements of the changed economic environment in Cambodia. In addition, the project aims at improving the productivity and output of the four rubber-processing factories under the Directorate of Rubber Plantations through intense training of the 50 engineers and technicians in maintenance, repair, supervision and management practices.

The area of human resource development will be addressed by a number of donors and under a number of projects. Human resources policy aspects will be addressed under the proposed programme component Introduction to Industrial Policy Options, included in the UNIDO industrial needs assessment report. It is also proposed to prepare a comprehensive HRD plan for the reconstruction phase and to introduce the MES (modular employable skills) methodology to vocational schools. The present project aims at bridging the gap between the acute problems and the impact of longer-term programmes in selected key areas.

4. How are the project achievements to be sustained after completion of the external assistance?

The students trained during the project will apply their skills in their assignments with the government or private sector industries. The teachers trained in new orientation will apply the acquired skills in their curriculum and to new groups of students. The third group in the rubber-processing factories will sustain the improved productivity and output through improved managerial, repair and maintenance practices.

C. What relevant experience has UNIDO in the proposed field?

UNIDO has extensive experience in a large number of developing countries in designing and implementing programmes and projects related to industrial human resources development including training of trainers, industrial enterprise management, business planning and repair and maintenance systems. ILO has the expertise and experience in programmes and projects related to vocational training.

B. Justification

1. What are the relevant government priorities in this field?

Human resources development and rapid conversion to a market-oriented economy have been high priorities of the government, particularly starting 1991.

2. What is the linkage with UNIDO's mandated activities?

The Programme and Budget of UNIDO for 1992-93 indicates, i.a., the following components in the scope of work related to the human resources priority area: support to enhancing the capabilities and capacities of industrial training institutions, and implementation of training programmes in specific priority areas such as repair and maintenance, quality assurance and the training of trainers.

3. What is the proposed modality of financing the project activities?

IPF either as a component of an industry-related rehabilitation programme package or as a separate project.

4. Is a project formulation mission required?

The needs identification was carried out during a specialised consultant's visit to Cambodia in January 1992.

D. Inputs: Skeleton budget

	UNIDO
Personnel	
International 21 m/m	US\$290,000
Subcontracts	US\$ -
Training	US\$ 30,000
Equipment	US\$ 30,000
Miscellaneous	US\$ 10,000
Total	US\$360,000

PROJECT CONCEPT/OUTLINE

Country: Cambodia

Title: Training Programme for Women Entrepreneurs in the Food-processing Industry - Preparatory Phase

Total budget: US\$ 60,000

Estimated starting date: August 1992

Planned duration: 1.5 months

Project site: Phnom Penh, with possible in-country travel

Government Implementing Agency:

n.a.

Host Government/Agency:

n.a.

PROJECT CONCEPT

A. Analysis of the Situation

1. Who are the target beneficiaries and other parties concerned with the project?

The overall objective of this project proposal is to strengthen the capacity of potential women entrepreneurs in the food-processing industry. Thus, women entrepreneurs in Cambodia are the intended beneficiaries of this project proposal. In Cambodia, women constitute 64 per cent of the adult population and head 35 per cent of the households. It is not rare to find villages with up to half the households headed by women. Families headed by women on their own are always likely to suffer economic hardship. Furthermore, constitutional provisions and national policy on equality for women have not necessarily yet been incorporated in daily life. By tradition, women have shouldered heavy responsibilities from an early age but in recent years these have been increased. The scattering and decimation of families in the 1970s has resulted in women bearing additional responsibilities without the support traditionally provided by the extended families.

Several institutions and organizations - governmental, international and NGOs - are active in the field of Women-in-Development in Cambodia which are listed below:

The Women's Association: The main objective of the Women's Association, to which all the approximately 1.8 million women over the age of 18 are supposed to belong, is to diffuse and explain government policies in order to gain women's political support. The Association has played an important role in social mobilization, especially for literacy campaigns and women's education. Other activities recently initiated include income generating projects. Besides serving to increase the women's technical competence and stimulate employment opportunities, the projects have helped the Women's Association to gain experience in programme development and implementation.

Australian Catholic Relief (ACR): Gives support to women's groups of the Women's Association in Srok Traeng of Takeo province.

American Friends Service Committee (AFSC): Has started family food production with the Women's Association in three districts of Kompong Chhnang, first conducting a baseline survey to ascertain women's situation and children's nutritional status. The programme is directed particularly at poor women, widows and minority groups.

Co-operation Internationale pour le Développement et la Solidarité (CIDSE): In collaboration with the Women's Association supports a revolving fund for silk weaving in a district in Takeo province. Also conducting a study of four districts in Takeo on women in relation to income generation and agricultural production.

Joint Australian NGO Office (a consortium of four Australian Aid Agencies - JANGOO): Supports income generating activities for women in a number of provinces in conjunction with the Women's Association.

World Council of Churches (WCC): supports Women's Association publications and income generating programmes and funds overseas travel for Association officials.

UNICEF: Apart from literacy, health education and child care programme, it also provides assistance in income-generating activities such as sewing, silk production and weaving, cotton production and weaving, sugar cane production and processing, soap-making, fish-raising, etc.. Wherever possible, credit schemes are introduced to set up a revolving community loan fund.

The project proposal should be discussed with each of those institutions and organizations mentioned above and with the actual target group, i.e., the potential women entrepreneurs. This should be done during the proposed preparatory phase.

2. What are the problems to be addressed?

Women's economic role is now extremely important in Cambodia, a primarily agrarian country in which 60 per cent of the farmers are female. They also raise supplementary income in rural areas by other seasonal or year-round activities, including the production of handicrafts. Lack of credit, skills, and infrastructure, however, constrain income generation. One third of the state workforce are women, employed mainly at the lower levels in the health and education sectors, in light industry and as manual workers. In addition, increasing numbers of women are involved in the formal and informal private sector.

Women in Cambodia have always been involved in business activities. In the town and village markets, which are the main places for commercial transactions, practically all the sellers are women. In urban areas, there are now a number of family-run retail shops, hairdressing salons, tailors, restaurants, etc., employing considerable numbers of women. These establishments are usually managed by women. The informal business sector, also predominantly run by women, is very extensive in urban areas. Women, the majority of them adolescent girls, sell cigarettes, petrol in one-litre bottles and food and drinks. They often have to borrow money each morning and return it plus high interest to the money-lender the same evening, so there is little profit.

In 1979, some two thirds of the country's one million illiterates were women between the age of 14 and 40. After two three-year literacy campaigns 70 per cent acquired literacy skills. In order to maintain and enhance these skills and to enable the women to become functionally literate, additional education is needed.

3. What is the immediate objective of the project?

Considering the important role of women in economic activities (as described above) and their involvement in food production in Cambodia UNIDO

is now proposing to introduce the Training Programme for Women Entrepreneurs in the Food Processing Industry to Cambodia. This programme would provide women entrepreneurs in the food processing sector with the necessary skills to establish and operate a small-scale manufacturing enterprise within this sector. Enhancing the skills of women and enabling them to upgrade their current activities to become more commercially oriented will increase their income and eventually stimulate the development of small-scale industries.

The underlying methodological approach used throughout the training is "learning by doing". This concept emphasizes the active participation of the trainees; the role of the trainer is to act as a facilitator and not as a traditional teacher.

It would be necessary to field a mission to Cambodia consisting of an entrepreneurship training specialist and a food technologist in order to determine the suitability of the training programme to the situation in the country and identify institutions interested in using this programme.

4. How are the project achievements to be sustained after completion of the external assistance?

Food processing being an agro-related industry, offers an especially interesting business opportunity for women, given their traditional important role in the food cycle. Women tend to find employment within the small-scale, informal sector, since activities within this sector require less investment, less formal training and can easier be combined with the traditional tasks of women. This tendency is reinforced by women's general lack of education, technical skills and experience.

The UNIDO Training Programme for Women Entrepreneurs in the Food-processing Industry aims at providing women with the entrepreneurial, managerial and technical skills required to set up and operate a small-scale enterprise in the food processing sector through expanding the training opportunities open to them and the business advisory services available for them.

Although the training programme was developed in a South-East African context, the training materials are made generic to the extent possible. With necessary adaptation to the business environment and the specific characteristics of the food processing sector in Cambodia, the training programme can be utilized by training institutions or small industries development organization that want to expand their current programmes by specifically targeting women.

Technical co-operation is expected to cover the following activities: (i) adaptation of the training materials to the business environment and the characteristics of the food-processing sector; (ii) a training of trainers course in which a number of business/management experts and food technologists are to be trained in a participatory training approach and in its delivery; (iii) a joint organization of a pilot course for women entrepreneurs with the national trainers. If further modifications are required, these will be carried out before the course is arranged on a regular basis.

At the end of the technical assistance Cambodia is expected to have a tailor made training programme and a set of trainers fully familiar with its delivery.

5. What critical assumptions have been made?

Although it might be possible for an institution to use the training programme as it is, field tests have indicated that it is advisable to introduce it to a given country in co-operation with UNIDO in order for it to be of maximum effectiveness and tailor made for the country. Thus, when the Training Programme is to be introduced to Cambodia, a preparatory phase is required in order to make an assessment of the current and potential role and participation of women in small-scale manufacturing activities and their training needs, the food-processing sector, and of the business environment in which small-scale entrepreneurs operate as well as an assessment of the institutional framework for delivering the training programme.

An identification and assessment of the training institutions interested to conduct the training programme is of great importance. Ideally, the implementing (or counterpart) institution should meet the following criteria: (a) It should have an extension service devoted to the promotion of small-scale enterprises and have a field staff in regular contact with its clientele. (b) Enhancing the role and contribution of women in the socio-economic development of the country should be an important part of its activities. (c) It should either possess or have access to properly equipped food processing facilities. (d) It should have good linkages with appropriate financing agencies and to the business/industrial community as well as a good knowledge of legislation and procedures governing SSE establishment and operation. (e) It should be solidly and securely financed, properly staffed, and have the necessary physical facilities including premises and equipment, communication networks and channels to and from the field.

This is the ideal case. However, it may not be possible for one institution to meet all these criteria in Cambodia. It would thus be advisable to bring together two or three institutions, each of which meets one or more of the above criteria and is willing and able to co-operate with the other(s). It is, however, absolutely essential that one organization is designated the co-ordinating agency with overall responsibility for the success of the project and that the others are considered as co-operating institutions, and that a mechanism for co-operation be established at the outset.

6. What relevant experience has UNIDO in the proposed field?

The UNIDO Training Programme for Women Entrepreneurs in the Food Processing Industry offers training simultaneously in both managerial and technical aspects of entrepreneurship specifically for women. The Programme, which was developed with inputs from institutions in Zambia, Zimbabwe, Tanzania and Malawi in the period 1987-90, is to the extent possible generic.

However, for each country to which the programme is introduced, the materials have to be adapted to the prevailing business environment and the specific characteristics of the food processing sector of the country. The training materials developed under the programme comprise a trainer's session guide which gives the instructor stepwise guidelines on how to conduct the

training, recommendations on how to recruit and select trainees, and detailed information on 11 different food processes. They were field-tested in Zambia and Zimbabwe in 1989. The steps for the introduction of the training programme comprise a needs assessment of the potential women entrepreneurs, an identification of training institutions interested to conduct the training programme, followed by an adaptation of the training materials, a training of trainers workshop and assistance in conducting a first course with women.

UNIDO is now in the process of introducing the training programme to a number of countries in Africa (the Gambia, Kenya, Tanzania), Central America, and to Malaysia. In the case of Gambia where 90 per cent of the women are illiterate, it will be necessary, as part of adapting the materials to the specific conditions of the country, to make the parts of the training materials which now require functional literacy and numeracy suitable for semi-literates. It is proposed to apply a similar approach to Cambodia.

B. Justification

1. What are the relevant Government priorities in this field?

This project proposal would fit into the UNDP programme approach to Cambodia under the categories "Humanitarian Assistance" and "Re-integration of War Affected Populations". Humanitarian assistance foresees projects related to small-scale rural credit schemes, micro-capital investment programmes, employment generation pilot programmes and vocational training schemes, which all include an industrial dimension in terms of cottage and small-scale industries.

UNDP's programme for the re-integration of war affected and uprooted populations contains industry-related elements particularly in the development of artisanal industry linked to agricultural production, machine maintenance capacity, agro-industry and cottage industries, as well as other income and employment generation activities.

The proposed training programme for women entrepreneurs in the food-processing industry meets both categories of UNDP's programme approach. It would also fit into Cambodia's endeavour to promote the integration of women in industrial development. Although the Government of Cambodia has not yet developed a national policy for the advancement of women, some piecemeal measures are being taken as to employment, education, and legal status of women. One of the first steps made has been the establishment of the Women's Association (described above). Recently, the Association initiated a few income-generating projects for women serving to increase women's technical competence and stimulate employment opportunities.

2. What is the linkage with UNIDO's mandated activities?

UNIDO has a strong mandate for the integration of women into industrial development and has been requested by its policy making organs to implement the Nairobi Forward Looking Strategies (NFLS) as they relate to industrialization in rural and urban areas. One of the priority areas for facilitating an increased participation of women in the industrial development process is human resource development, including training programmes for

entrepreneurship development and programmes of assistance to small -scale enterprises, particularly in rural areas.

3. What is the proposed modality of financing the project activities?

In order to secure the funding of the final project it is proposed to contact special purpose donors to the Industrial Development Fund (IDF) interested in the field of Women-in-Development. The preparatory assistance phase is suggested to be financed by the IPF.

4. Is a project formulation mission required?

In order to be able to assess the suitability of the programme through a needs assessment of the target group and to identify a suitable national institutional framework a preparatory mission is required that includes the formulation of a project document based on the findings of the mission. Experience has shown that this preparatory mission can only be done effectively by an entrepreneurship training expert and a food technologist. Accordingly, the mission team shall consist of an international entrepreneurship training expert, an international food technologist and a national food technologist. The national food technologist should be involved as much as possible in the activities of the preparatory mission. At this stage of the project proposal it is not known whether qualified national food technologists are available in Cambodia. Therefore, the need for the expertise of an international food technologist is justified. The mission shall have a duration of 1.5 months.

C. Special considerations

1. What environmental impacts can be expected?

On a general level, women are the ones who with proper assistance could promote an environmentally sound development. When designing a project one should keep in mind that efforts directed at providing women with information and knowledge will have an effect on the environment, i.e., consequently on the effects of the exploitation of natural resources. Giving women knowledge in national resources management could be especially effective, since they are the ones, more so than men, who will transfer this attitude to the coming generations.

2. Does the proposal consider the issue of Women-in-Development?

not applicable

3. Does the proposal have an effect on the employment situation in the country?

Rural industries have the advantage of being located in close vicinity of the population in need of employment, as well as being close to the raw materials. Local transformation of natural resources can provide the

rural population with processed goods and thus improve rural self-sufficiency.

Industrial manufacturing units in rural areas are important as a source of income and employment for specific groups often denied access to economic and social emancipation and self-respect for physical or social reasons. Women belong to such a group and for them involvement in small industrial activities, especially as self employed entrepreneurs in small scale industrial enterprises could become a means for making them more established and visible in the manufacturing sector.

D. Skeleton budget

Personnel

BL 11-51 Entrepreneurship training expert 1.5 w/m	US\$ 23,500
BL 11-52 Food Technologist 1.5 w/m	US\$ 23,500
BL 16-00 UNIDO staff travel 0.2 w/m	US\$ 6,000
BL 17-01 Food Technologist 1.0 w/m	US\$ 5,000
BL 51-00 Miscellaneous	US\$ 2,000
<u>Total</u>	<u>US\$ 60,000</u>

PROJECT CONCEPT/OUTLINE

Project No. DP/KAM/92/xxx

Country: Cambodia

Project title: Improving consumer protection in food and agro-industrial products

Total UNIDO budget: US\$ 985,000
(excl. support costs)

Estimated starting date: 1992

Planned duration: 2 years

Project site: Phnom Penh

Responsible Government Agency: Ministry of Commerce (KAMCONTROL)

Other co-operating agencies: -

National contribution: in kind

Preparation date: February 1992

ANALYSIS OF SITUATION

1. TARGET BENEFICIARIES

The Cambodian food consumers who will be protected from hazards and fraud in the domestic and imported food supply.

2. PROBLEMS ADDRESSED

There are no food standards and food safety control in Cambodia. Therefore consumers are not protected against fabrication malpractice and/or food hazards like microbial spoilage, residues (mostly insecticides), improper packaging, toxins and other potential food hazards.

3. PURPOSE OF THE PROJECT

The objective of the project is to establish a food safety system in Cambodia for the protection of the food consumers. Such a system will, indirectly, promote exports through a better quality control.

The project will focus on the following activities:

1. Preparation of legislation matters. The Food Act to be promulgated should include general rules on food safety, control, inspection, certification and a Codex alimentarius adapted from existing sources;
2. Organizational aspects of an inspection and control system to examine imported, locally manufactured and retailed food, organizational aspects of inter-laboratory agreements and export certification;
3. Establishment of analytical, microbiological and physical laboratories, the latter including weight and measures, to carry out technical assessment of food safety, compliance with the Food Act and certification;
4. Advice to the existing manufacturers on rules and regulations as well as on ways and means of improving their manufacturing practices to comply with the Food Act;
5. Building up human resources to implement the food safety system.

In other terms, the project will assist in preparing the necessary legislation and in the control on its application but will also advise the existing food manufacturers on progressively adapting their production practices and facilities to comply with the new safety rules.

The expected outputs will be:

- The Food Act which will include all food compulsory legislation;
- An operational system to enforce the Food Act and to provide certification for exports;

- Operational laboratories. (Analytical, microbiological and weights and measures);
- Several KAMCONTROL staff trained on the above matters;
- Several manufacturers advised on good fabrication practices.

Project duration is estimated at two years.

4. SUSTAINABILITY

The project should be financially sustainable through the small fees charged for food analysis. However, technical staff should be trained in the region every 2-3 years in order to keep them in touch with the latest developments in the analytical techniques.

5. CRITICAL ASSUMPTIONS

A rapid promulgation of the Food Act.

6. UNIDO'S EXPERIENCE IN THIS FIELD

UNIDO has implemented several quality control and food safety projects in the past and is currently implementing the projects: DP/THA/87/017 (Development of Food Industry through Standardization), DP/BOL/83/012 (Unidad de Control de Alimentos de Bolivia), TF/HUN/90/905 (Quality of Frozen Foods), XA/MOR/90/630 (Laboratoire centrale de contrôle des productions industrielles des produits de la mer) and VIE/87/009 (Upgrading the Food Testing and Quality Control of DTQC).

B. JUSTIFICATION

1. GOVERNMENT PRIORITIES

Food safety is a Government priority.

2. PROPOSED MODALITY OF FINANCING

IPF. The Government should contribute with buildings and staff.

C. SPECIAL CONSIDERATIONS

The project will have a considerable impact on public health.

D. PROVISIONAL BUDGET

Personnel	
International	350,000
National	25,000
Training	210,000
Equipment	375,000
Miscellaneous	25,000
TOTAL	985,000

SUMMARY OF FACTORY VISITS

MACHINERY FACTORY N/ 2

Initially state-owned. Sold to a private businessman in 1991 for US\$ 365,000 including compound, buildings and equipment. The former director, still present, guided the visit. The new owner is not yet in.

The factory was producing mainly big iron containers, various spare-parts and construction materials. It has been running since 1979 with a staff of more than 100 workers in one shift. During the K.R regime, the factory also produced some weapon components. Since the sale, the factory is on stand-by;

Equipment : From China, 45 presses, 65 lathes out of which only 9 are still in running condition, many other machine-tools are in very bad condition.

Infrastructure : Almost 3,000 sq/m of workshops in very good condition. The location is good, nearby the river and not far from the city.

Products : More than 30 finished containers lying outside the workshops. These items representing million of riels are stocked pending a delivery on which no details are available.

Comments : Undoubtedly, this location is a valuable one. It is astonishing that there is apparently no industrial project in the pipeline. It is advisable to attempt to keep the existing and sold factory in operation or convert it to other industrial products rather than using the premises for other purposes.

Recommendations :

To assess the condition of the equipment in order to choose the machines worthy of repair or reconditioning and those just good for scrap.

Some of the machine-tools like lathes or grinding machines could be dispatched to small towns (with small generators) in order to create a few vocational training centres which could also make repairs and produce spare-parts.

Scraps, approximately 100 tons, should be sold.

Finished tanks: should be sold as soon as possible, at a discount, if necessary.

MACHINERY FACTORY N/ 8 :

This iron rolling-mill factory is still state-owned. In 1991 the Ministry of Industry decided to give this factory full autonomy.

The factory has to pay the Government a percentage of the profits made and a percentage of refunding related to the investment previously made. The factory does not pay any rent.

Despite the so-called autonomy, the factory has to submit its production plan to the Ministry of Industry for approval.

Before the autonomy, the staff consisted of 120 people, now only 78 remain employed. Some unsatisfactory workers with unsatisfactory performance have been dismissed, the others have received a financial compensation ranging from 30,000 to 50,000 riels.

Infrastructure : Old but good enough. Good maintenance. Production capacity of production is limited by the equipment and the area of the compound itself. No extension planned.

Equipment : Extremely old, but functioning fairly well.

Products : According to the Plan:

30,000 pairs/year bars for oxen cart (actual 8,000)

300 tons/year of construction material

5,000 axes for oxen cart (actual 2,000)

1 million bars/year for processing work.

Financial results : Planned 140 million riels (actual 130) Profits planned 21 million riels (actual 30 million).

Raw material: for the time being, coming from other closed factories, or scraps, bought at a lower price (-25%). As long as it is possible to procure them in that way, the financial result will be positive.

This factory is well managed. It is questionable whether there is a need for the Ministry of Industry to continue such close monitoring of this small but successful factory.

Comments : There is a problem with the shortage of electricity during six months a year. The consumption being 600 Kw/h, it would be advisable to buy a generator with the profit made as the production would increase by at least 50%.

To recalculate the cost/prices taking into consideration the possible end of cheap raw material procurement.

More generally speaking, a sectoral survey should be made concerning the best use of scraps throughout the country and the need for a cast iron unit and new rolling-mills.

SHOE FACTORY :

The factory, not yet definitively rented, is still functioning, but at a very limited level. Only 66 workers remain out of 160 previously.

The product is of extremely poor quality. For the time being an order of 70,000 plastic sandals is to be completed for the Ministry of the Interior. No other commercial perspectives. It is clear that the factory is on its rapid decline. There is an offer from an investor to buy the compound, land and building for US\$ 140,000.

Location : Excellent place in town, the compound could be utilized to build a hotel, as there is apparently no industrial plan to continue the production.

Infrastructure : Poor. The workshops are made of sheet-metal.

Equipment : The machinery is now just good for scraps. The only plastic injection press is still producing since most of its parts have been taken from other machines definitively out of service.

Products : Mainly plastic sandals which cannot compete with any imported ones.

Comments : It is obvious that the technology as well as the machinery are completely obsolete. This factory has not received any fresh inputs for decades. There is no scope for rehabilitation.

Recommendations : It is regrettable that apparently nobody is ready to invest in the shoe-making business since there is a good potential domestic market which can be estimated to consist of 4/5 millions pairs of plastic shoes and sandals/year and 1 million pairs of leather shoes/year. This potential market represents a minimum of 500 jobs. Concerning the leather shoes, there is a problem of finished leather availability, but a new tannery project is just coming into existence, and it is possible to import some cheap leather from other countries in the region, pending start of local production. Presently, the needs for shoes are satisfied by smuggled import (from Thailand and Vietnam).

A sub-sectoral strategy should be developed for tanneries, shoe-making and leather-goods. The fact that the local raw material is not of good quality should not be an excuse, since in the near future, the quality of hides will improve. There is scope to set up 2 tanneries and 4-5 shoe factories. Such an industry is intensively very labour-intensive.

CAR-TYRE PROCESSING FACTORY :

This factory was built in 1962 and became operational in 1966. Most of the equipment is imported from Czechoslovakia, where part of the staff has been trained.

Infrastructure : Good. The buildings are well kept, there is enough space for workshops and storage.

Equipment : Thirty years old, but maintained in good running condition. The output of 30,000 truck tyres a year represents 50% of the production capacity.

Products : A rather small quantity of air chambers and motorcycle tyres is produced (30,000/year) but the main item are truck tyres (800 tons/year) which, are out of date in terms of size and shape (very narrow). 70 % of the production is sold to the government

Staff : 300 in three shifts, 200 in production, 100 for the maintenance of the machinery, 50 are skilled workers. The management as well as the supervisors have been relatively well trained, locally or abroad (4 managers) as well as the supervisors.

Financial results : A profit of 15% has been made and for the first time, the factory will retain it instead of transferring it to the government (15 million riels). Despite these results, it is said that the factory will close down soon. It is clear that there would be a huge need to invest into new equipment and to adapt the products to the present market requirements.

Comments : Under state control, this factory has not been strengthened when necessary and now it is too late. New technology is badly needed and it is difficult to imagine that any national investor could begin without the required technical assistance. A good joint-venture could very likely be found.

Considering the existing human resources, workers, middle management and management, it is recommended to keep the factory running until a joint-venture is established. It is important to keep most of the staff who have been trained and who have got long and broad experience.

PADDY-OIL FACTORY :

Recently rented to a national businessman (August 1991). The factory is not yet functioning although the equipment is in perfectly good condition, a minimum of 300 tons of raw material being necessary to start the process.

Infrastructure and equipment : Well maintained, in very good condition, ready to process. The daily capacity is 75 tons.

Raw material availability : This will be the main difficulty due to the shortage of means of transportation (railway and trucks). To set up a collecting network will take a certain time. The factory is equipped with a private railway junction. In case of railway shortcomings a fleet of private trucks can be used.

Staff : When the factory is functioning, 150 workers will be employed in two shifts and 20 clerks.

Perspectives : There is no other factory in this field and the demand for such oil is considerable. There is apparently no problem to sell the 30 tons per year at a lucrative price. Considering that there is no problem with the machinery, the availability of workers, and the demand, this project is promising.

NATIONAL FACTORY OF CIGARETTES :

Recently rented (May 1991) this company is an agglomerate of Rondos cigarettes and 7 Janvier cigarettes. Initially in 1954, it used to belong to the BAT, British American Tobacco.

Infrastructure : Good but with limited area.

Equipment : Of British origin, more than forty years old, not any major change since the 1950s. Still in good condition, the yield is nevertheless extremely limited compared with modern technologies. The output, 150 millions packs/year for the three factories represents 70% of the production capacity.

Staff : 1091 workers in two shifts. 3 well trained managers.

Products : The tobacco processed is said to be of inferior quality compared to the huge quantities of imported cigarettes (4 millions packs out of which 25% are smuggled).

Perspectives : It is obvious that the present conditions of import, legal or not, as well as the low level of profit margin will not permit any significant investment. The only possibility for strong development is the establishment of a joint-venture with a foreign company. This point has been taken into consideration by the management who have already paved the way by having discussions with several foreign investors.

Recommendations : Once again, there is an obvious interest in adding value to natural resources. Presently, only one third of the national production of tobacco is processed.

The concerned ministries should reconsider the case carefully, keeping in mind that such an industrial sub-sector could employ several thousands of additional workers.

The taxation system should provide incentives to local production and tariffs on import should be implemented.

SOFT DRINK FACTORY N/ 1 AND N/ 2

Two factories in two different locations. One is particularly old and in bad condition; a very small production of orange juice (a few hundreds bottles/day) is made only when an order is secured.

The two factories have been rented by a Thai company (two partners). A new building is under construction, for the soft drinks and also for an ice factory.

The amount of the investment is not clearly known but the capacity will be of 250 bottles/minute. In the past, during the hot season, 158,000 bottles were produced daily. The future capacity will be three times higher using three shifts.

Staff : 311 workers will be kept ; 127 from the old factory, and 183 from the more recent one, out of which only 72 are still paid and 111 are on stand-by without any salary, pending the arrival of equipment and the restarting of operations (September 1992).

Comments : Due to the American embargo, it was difficult to make a good choice of items to be produced, but now it has become clear that fruit juices should be considered as an additional option.

Recommendations : There are some difficulties for the collecting of fruits which are locally produced on a family basis. It is now time to study how to develop the plantations of fruit trees, and how to collect them in good condition, how to store and to transport them to the fruit-juice factory. The agro-food industry could be a promising sub-sector given an appropriate policy framework.

CERAMIC FACTORY IN TAKMAO

This rather small unit is the only one to be a state-private joint-venture. Set up in 1965, it used to be a "Société nationale de Construction" under government control.

Infrastructure : Good but relatively limited.

Equipment : From Japan, almost thirty years old. Many parts are used and the instrumentation (optical pyrometer) is not functioning properly, causing many difficulties to master the heating and affecting quality (many scraps). Nevertheless, the factory is well maintained and organized.

The leadership appears relatively competent, the motivation high.

Staff : Only 24 workers in one shift. The restarting (Nov. 1990) period is not yet over, however, the present quality of the ground-ceramics can already compete with Chinese imports. The workers have proven to be quite careful.

Perspectives : In terms of quality, this should be a successful project. In terms of profit margin, there are doubts as the government demands that 22% of the production value must be given as rent. As usually the profit in this kind of production does not reach more than 25%, there would be no money left for investment. A minimum of 40 million riels is needed to rehabilitate the equipment. The government will not participate. On the other hand, if, for instance, the turnover could be increased tenfold, the government would receive ten times more contribution in rent, which is a fairly unusual arrangement.

Recommendations : It is recommended to review the terms of contract on an exceptional basis. As soon as the industrialist can pay the fixed rent in cash, he should be authorized to do so. Ceramics being entirely imported, this above case deserves to be paid special attention.

SAW-MILL AND BRICK FACTORY AT KM 10 :

This state-owned factory has been recently rented for US\$ 1500/month. The equipment for brick-making as well as for saw-milling is more than 10 years old. Nevertheless the four clay fire-places are in very good condition.

BRICKS : 40 workers are employed but it is a seasonal job, as the bricks are sun dried before put into the fire. The production is 250,000 bricks/month only and there is no problem of sale as quality is quite good and there is substantial excess demand. There are many small brick-makers around Phnom Penh, but their products are of lower quality.

It is said that investing in costly modern equipment of US\$ 150,000 for the smallest unit producing 500,000 bricks/month would not be profitable since it consumes diesel instead of firewood. The diesel fuel costs twice as much as the traditional firewood.

Comments and recommendation : It is true that procuring firewood is already difficult and the consumption, 100 steres for 50,000 bricks, is extremely high. However, considering expected the construction boom in Phnom Penh, one can foresee a soaring demand during the next five years. Modern equipment would bring several advantages: the use of new types of bricks (8/12 holes) using less clay and less fire, much better quality and a production 5 to 10 times higher. For the coming years the Phnom Penh market could absorb easily 20 million bricks/year.

SAW-MILL : The saw-mill is presently producing 155 refugee housing facilities for 9,000 people. The raw material is procured by the government, but only for official orders like this one. Due to shortage of timber, it is difficult to work normally. It said that it is very difficult to get timber in Phnom Penh due to government restrictions. The future for this factory is unpredictable, both activities being limited to raw-material availability and very low profit margin. There is a project to set up immediately next to the factory a slaughter-house, as there are none in Phnom Penh. The ground is already under preparation.

Comment and recommendation : Considering the expected construction boom, it would be necessary to undertake a sub-sectoral study on construction materials production like bricks, but also for possible wooden prefabs, or house-kits, utilising new components such as ply-wood or chipboards. For the time being there is no other utilization of chips and sawdust but for fire. The only former ply-wood factory (with destroyed equipment) should be rehabilitated.

UNIDO could also offer a pilot unit to produce wooden bridges. The traditional habitat could also be studied in order to offer better comfort and sanitation, but also saving raw-material by using adapted designs and new assembly methods. The batch production of wooden modules would upgrade quality and reduce costs. There is an urgent need for about 100,000 modular wooden houses.

TEXTILE FACTORY N/2 :

State-owned factory rented seven months ago by a 100% Thai company (Fulda).

Equipment : 626 looms. Most of them are imported from Japan. The factory was set up in 1952 and had 100 looms, then 150 in 1957 and 500 in 1966. It can be considered that almost 50% of them are still good but need to be fit correctly. There is a Thai textile engineer capable of rearranging the workshops and training the operators.

During the period 1979-1991, the factory has been running but facing more and more difficulties due to raw material shortages (the thread was imported from the former USSR).

Staff : It has been agreed by contract that 510 workers out of 660, will be re-employed. Training will be required in productivity enhancement and modern motivational tools will be introduced.

Raw materials : Will be imported from Thailand, China, Japan and Europe.

Products : Clothes in various colours (printed), and various materials: cotton, polyester and cotton, rayon and cotton. The capacity will be 50 million meters/year. The majority of the products will be sold locally, the rest will be exported.

Perspectives : Excellent. The only serious difficulty is how to tackle the communication problem due to the fact that most of the managers will be Thai, not speaking Khmer. It is planned to send some operators and supervisors to Thailand for practical training.

Comment and recommendation : It is regrattable that no Cambodian entrepreneur has been ready for such a challenge. It should be noted that at present this Thai enterprise is in a monopolistic position since the Textile factory N/1, not yet rented, does not appear to be viable.

TEXTILE FACTORY N/1 :

Still under the Ministry of Industry, no investor interested in renting it so far. The products were mainly cotton clothes for sarongs, khaki and mosquito nets. Built in 1964, the location is good, at six kilometers from the airport, on the main road. Area of 3,45 ha, buildings and workshops are in good condition. In 1969, the capacity with 420 looms was 8 million meters/year. During the K.R regime, the machinery was almost entirely destroyed. In 1979, the factory was producing again with 330 looms repaired and one set of dyeing. Due to the lack of raw material and spare-parts imported from USSR and Vietnam (cotton thread), the factory stopped in April 1991. The 560 workers (141 men, 319 women), lost their jobs except 40 of them who are supposed to maintain the compound in good condition and to guard it. The Chinese looms (forty years old) are not worthy to be reconditioned and there are no spare-parts.

Perspectives : None. Most of the equipment should be scrapped to save a certain number of looms to be utilized for vocational training. A critical point is the lack of water, the water-pipe, under the Phnom Penh municipality, need to be mended along a portion of 3 kilometers. Part of the pipes is regularly stolen and it seems that the problem of water supply cannot be solved (100 cubic meters/day are needed). After several visits by potential investors, nobody has made a proposal, so far. The rent is unrealistically high (120,000 US \$/year) considering the poor equipment and the severe lack of water.

Recommendations : To clean the equipment and the workshops. To obtain the repair of the water pipe from the Municipality, as all attempts to dig wells have proven not feasible.

LEATHER FACTORY :

This tannery is the only one in Phnom Penh, rented for US\$ 15,000/year in May 1990, by a Taiwanese/Cambodian team. The tannery is not yet producing finished leather but only wet blue hides for export. The equipment will be completely renewed since the present one is 30 years old. The building itself will be also rehabilitated. The investor expects an output of 100 tons/month. If necessary, they could buy 400 tons/month, right now. There are some basins for decantation but nevertheless the effluents, mainly chemicals, will pour to the river untreated.

Staff : Expected 50/60 workers.

Perspectives : Excellent as there are more than 200 tanneries in Thailand but not much raw material.

Comments and recommendations : The present quality of local hides is rather low (poor feeding of the cattle, not enough care in taking off the hides). However, this situation will improve, therefore there is a very good opportunity for Cambodia to develop the tannery industry immediately, in order to add substantive value to natural resources, in producing finished leather goods instead of the wet blue, and launching a shoe-making industry.

It can be estimated that the potential domestic market represents 1 million pairs of leather shoes/year; subsequently it could result in the possible creation of 400/500 jobs in the near future. Handicrafts could also be developed in the field of leather products such as bags, suitcases, belts, etc., mainly to be sold to an increasing number of tourists.

There is place in Cambodia for several modern tanneries. The only present one will be too small. The problem of effluent treatment should not be neglected. UNIDO could provide the investors with the required technology.

A sub-sectoral strategy is needed urgently in the field of tanneries and leather industries.

PLASTICS FACTORY :

Recently rented (Dec 1991). Set up in 1979.

Equipment : Mostly from Japan and Hong Kong, some small machinery has been locally built (sealing of plastic bags). There is a plan to purchase 6 or 7 new injection presses, since the very old machinery is not good enough to produce high quality items.

Products : Washing tanks, water containers, packages for carrying food, bidons, rice buckets, small bags in polythene. Production of polythene films for raincoats is under study.

Staff : Out of a previous staff of 160, only 54 are still employed in three shifts.

Perspectives : Excellent. The Thai investor has already good experience in plastic product technology (2 plastic factories in Thailand and Singapore) and a good commercial network in Import-Export. Also, domestic market prospects are excellent.

PAPER PROCESSING FACTORY :

State-owned factory not yet rented. The initial rent of US\$ 115,000/year has been reduced to a more attractive level of US\$ 45,000, yet no contract has been signed so far. Processing dried paper pulp, this factory was set up in 1972.

Infrastructure : Excellent. The workshops are large and clean. The buildings are in excellent condition. There is no problem of water supply and there is a water pumping and cleaning station.

Equipment : Still in very good condition; maintenance has apparently been satisfactory (equipment imported from Taiwan).

Staff : In 1971, 130 workers. Only 50 today the factory being run only in case of secured order. Recently, the Tobacco company gave an order for 50 tons of paper. Two seconded civil servants from the Ministry of Planning are in charge of maintaining a minimum of activity.

Problems : Financial autonomy has been granted. This, however, has virtually no practical meaning since there is no working capital available.

The paper scraps are collected and smuggled to Vietnam from where the finished paper (of very poor quality) is imported (also smuggled). It is difficult to compete with Vietnam where electricity is five times less expensive than in Cambodia.

Perspectives : Excellent if there is a paper sub-sector policy. For the time-being, there is a problem of procurement of raw material (dried pulp), but this cannot be considered unsurmountable.

The domestic market is huge. Millions of textbooks and notebooks are needed for the educational system, not to speak of the packaging needs. The running of such a factory is in the national interest.

Comment and recommendation :

1. To design a strategy for the paper sub-sector. There is a very good opportunity to add high value to domestic natural resources (wood as well as bamboo).

2. Considering the national interest, electricity could be subsidized for some time.

3. A short and medium term planning for getting the orders should be established, mainly to satisfy the educational needs for assistance.

GLASS FACTORY :

This factory was built with Chinese assistance in 1966-1967. Rented recently by an Australian investor who has also rented the brewery, for an extremely low rent of US\$ 42,000/year.

Infrastructure : Excellent buildings, in perfect state. Several thousands of sq/m covered, on a land of several hectares.

Equipment : In 1981 the equipment was ruined. Everything is to be considered as scrap. Modern equipment will be installed. The rehabilitation and the adaptation of the buildings will cost 35 million riels.

Products : Expected output is as follows:

1 ton of thin glasses,
6 tons of thick glasses plus plates,
15 tons of bottles of 20 cl and of 1 litre.

Bottles will be utilized by the brewery. The present equipment will just satisfy the needs for beer bottles. The potential market for glass is excellent (45 tons/day).

Raw materials: Previously imported from China, 3,000 tons of sands, calcaire and dolomite are available domestically, 1,300 tons of other materials will still be imported from China.

Staff: The factory will employ 177 workers as soon it is running with the new equipment.

Perspectives: Excellent.