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STUDY ON THE MANUFACTURING SECTOR OF SRI LANKA - ITS CURRENT POSITION AND PROSPECTS 1/

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C O N T E N T S

Introduction

This study on the manufacturing sector of Sri Lanka - its current position and prospects, has been prepared primarily to serve as a background study for the Industrial Sector Identification Mission to Sri Lanka, planned to be undertaken during the second half of 1976, in conjunction with the UNDP country programming exercise.

The study has been prepared on the basis of material available at the UNIDO headquarters.*/ Any conclusions or suggestions related to identification of areas where assistance efforts - technical or financial - may be concentrated, are to be considered as tentative, especially since work on the next five-year development plan, from 1978 onwards, has just been initiated; the current 1972-76 Plan having been modified and extended to cover also 1977.

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*/ The main sources of information, besides the current Sri Lanka Development Plan and various UN statistical publications, have been recent World Bank reports, a case study on Sri Lanka on transfer of technology prepared in 1975 by the Marga Institute of Sri Lanka, a study - "Techno-economic survey of industrial potential in Sri Lanka" - by Dr. Neil Dias Karunaratne of the Industrial Development Board of Sri Lanka, which was published 1973, the Dudley Seers ILO Mission study of 1971 "Matching employment opportunities and expectations - A programme of action for Ceylon", and last but not least various UNIDO technical assistance expert reports and papers prepared by Sri Lankan participants at UNIDO sponsored meetings and seminars.

Summary and conclusions

(a) The economy as a whole

The efforts of successive Sri Lankan Governments over the last decades to achieve a number of social welfare objectives have had a wideranging impact; those persons who were successful in finding employment benefitted from a policy of maintaining real wage rates, and most of the population also enjoyed subsidized basic wage goods and public services. Yet, since steadily declining terms-of-trade and a concomitant failure to generate the savings and investment required to restructure output and exports, prevented real income and employment opportunities from growing at a rate adequate to absorb a rapidly growing labour force, the improvement in living standards for much of the population was limited. Thus, although there have been impressive increases in domestic food production and industrial expansion during the last decades, these have not been sufficient to compensate for the unsatisfactory state of primary exports as well as social and redistributive requirements. The result has been a failure of the economy to achieve its growth potential.

Until 1973, the relative stagnation of the economy was not acute, although steadily falling terms of trade combined with largely unchanging volumes of the three major export commodities - tea, rubber and coconut produots - had for a number of years resulted in foreign exchange shortages which restricted output and capital formation. The sharp rise in 1973-74, in prices of petroleum and other primary imports led, however, to very large balance of payments deficits and clearly placed Sri Lanka among those developing countries, most seriously affected by the crisis in the world economy.

(b) The manufacturing sector

Initially, during the first decades after independence, the industrial development strategy was geared towards a rather indiscriminate import substitution with the result that the industries established tended to be capital intensive and were often heavily based on the use of imported raw materials or semi-manufactures and foreign technology. An outward looking strategy, requiring a re-orientation of the production structure towards consistency with factor endowments of the country, has, however, been attempted during the last several years - as manifested by the 1972-76 Development Plan. The pattern of output, inputs and technology used should take advantage of the abundant supply of educated labour in Sri Lanka. International competition could bring about improvements in the quality of products. In fact, among the most successful public sector industrial corporations are Ceylon Ceramics, Ceylon Mineral Sands, State Graphite and Ceylon Cement, all of which have been operating at full or near-full capacity using locally available raw materials, have access to export markets and tend to be labour-intensive. State industrial corporations - in the basic industries sector - also play an important role in providing backward linkages to the country's other industries.

However, most of the public sector corporations suffer from considerable degrees of excess capacity because of market limitation (often due to faulty investment planning), shortage of imported raw materials and/or low productivity. The effects of their price/wage policies and profits, productivity and unit cost is being analyzed and the Development Plan calls for a systematic evaluation to be undertaken on a continuing basis of their performance.

Although the public sector enjoys preferential treatment in terms of investment and foreign exchange allocations, policy changes recently introduced, e.g. with the proposal for a Foreign

Investment Guarantee Law, indicate an increased attention to the role of the private sector industries. The private sector industries have contributed to a large extent to the successful expansion of export industries which has occurred since 1972, stimulated by an effective set of incentives. Particular support is also given to the development of the small-industry sector; it being envisaged that the sector would be the main carrier of the required expansion of the production of essential commodities for mass consumption to meet an envisaged increase in demand from low incomes groups and also be the main vehicle to bring industrial activities to the rural areas, thereby providing employment as well as a demand for raw materials - agricultural and other - originating in the rural sector.

(c) Possible areas for UNIDO and other external inputs

Within the framework of Sri Lanka's own development efforts some areas in the industrial development field have been singled out where supplementary external inputs may have a particularly great impact. These areas, which are dealt with in Chapter VI, can be grouped in three categories: (i) planning, promotion and industrial services, (ii) assistance to existing and development of new resource-based industries and (iii) industrial training and management development.

Within the first category, selected assistance in the strengthening of the country's investment planning and promotion functions, might be considered: e.g. at the project identification and project analysis levels; on matters regarding the election and acquisition of technologies; in the context of small-scale and

rural industry development; and in support of export industries. Various supporting services for materials testing and research, for engineering design and product development, etc. may also require specific assistance.

Major emphasis is being given in the industrial development strategy, to the fullest possible utilization of local materials in the country's existing industries and to the development of further resource-based manufacturing. A number of areas for possible external assistance inputs in this context have been identified. These involve a number of agro-based and wood-based industries as well as industries utilizing mineral resources.

Consideration is suggested also to be given to the development of comprehensive long-term training programmes for management and technical personnel at the various individual public sector industrial corporations. Assistance might also be required for a programme in support of industrial entrepreneurship promotion and development, specifically in the rural areas of the country.

I. The role of manufacturing in the Sri Lankan economy - in broad perspective.

1. Sri Lanka's per capita income level is relatively low; its per capita GNP was in 1974 US$ 130 (prel. est.), in 1973 US$ 120 and in 1971-72 US$ 110 [1/], while the average annual growth of the per capita GNP in the period 1960-70 was only 1.5 %. The country's economy is predominantly agricultural. Rural activity accounts for about 40 % of the GDP. About 70 % of the country's 13 1/2 million population live in the island's south-western quarter, which includes 3/4th of the cultivated land and most of the country's industry. The manufacturing sector accounted for 12.8 % (est.) of the GDP in 1975, a share which, however, has been slightly higher a few years ago. Indeed, industrial activity has remained at a nearly constant level for the past few years. Value-added from manufacturing grew in real terms by 5 % in 1975 having been practically stagnant between 1971 and 1974, compared with a growth of 9 % annually in the latter half of the 1960's and 6.3 % annually during the whole period 1959-70.

Gross Domestic Product, sectoral composition 1960-75 [at constant (1959) factor prices]

	1960 %	1966 %	1970 %	1971 %	1972* %	1973* %	1974* %	1975 ** %
Agriculture (incl. forestry, hunting and fishing)	38.5	35.9	34.9	33.8	34.4	32.5	33.1	32.2
Mining	0.5	0.5	0.7	0.7	0.7	2.6	1.8	2.0
Manufacturing	11.5	12.8	13.6	14.1	13.9	13.6	12.6	12.8
Construction	4.4	3.7	5.9	5.6	5.0	4.9	5.1	5.2
Services	45.1	47.1	44.9	45.8	46.0	46.4	47.4	47.8

* Prov. est. ** Forecast
Source: Central Bank

1/ GNP at 1972-74 market prices calculated by the conversion techniques used in the World Bank Atlas 1975

2. About 55 % of all employed are active in the agricultural sector while manufacturing accounts for about 11 %. This relative situation has remained fairly constant during the last 20 years as is indicated in following table:

Employment by sector

	1953	1963	1970	1973	1974
Agriculture (% of total employed)	53.0	52.9	50.7	54.9	54.9
Manufacturing - " -	10.1	9.8	11.3	10.9	10.5
Others - " -	36.9	37.3	38.0	34.2	34.6

Source: Dept. of Census and Statistics

3. Before turning to a review of the role of the manufacturing sector in Sri Lanka's development and to the nature of possible further action in support of an accelerated development, account should be taken of the efforts of Sri Lankan governments over several decades to achieve the nation's social objectives. They have included, above all, the aim of shaping a society whose members have equality of opportunity to improve their economic well-being and in which the benefits of material progress are shared by all. The fulfilment of these objectives have been sought through increased public ownership and operation of a broad range of economic activity, and especially large scale enterprises, in all major sectors, through redistribution of income and provision of basic social services on an extensive scale, and through successful efforts aiming at a limited population growth. 2/

2/ Population estimates 1963-75:

	Population mid-year	Annual natural growth rate
1963	10,6 million	2,59 %
1968	12,0 million	2,41%
1969	12,3 million	2,21%
1970	12,5 million	2,19%
1971	12,7 million	2,24%
1972	13,0 million	2,17%
1973	13,2 million	2,01%
1974	13,4 million	1,84%
1975*	13,6 million	1,76%

* Prel. estimate

4. An appreciation of the current position of Sri Lanka's industrial development may be gained by recalling first some of the main economic developments of the past two decades, and the circumstances underlying recent years difficulties in the economy, especially as they have related to the balance of payments, as well as the Government's efforts to adjust to these circumstances and to foster agricultural and industrial production and exports.

5. During a considerable period after the independency in 1948, the Government pursued a policy of laissez-faire towards industrialization relying almost entirely on the agricultural and plantation sector. Indeed, the export earnings from the processing of three major commodities - tea, rubber and coconut - financed the country's entire imports. The industrialization programme was based on a policy designed to 'help the private sector to help itself'. 3/

6. In 1956, there was a sharp political reaction to the post-independence industrial policy and the new government emphasized the establishment of large-scale public sector enterprises in strategic and basic industries while private enterprises, local and foreign, were encouraged in consumer and intermediate goods industries. The demarcation of industries into basic and non-basic for state and private sector enterprises respectively, seemed, however, not to have been established so much on a strategic growth-promoting rationale as on a pragmatic ad hoc basis considering existing industries at that time in their respective sectors. The question of a rational and quantifiable basis for the demarcation of the state and private enterprises has yet to be resolved (as pointed out in Dr. Neil Dias Karunaratne's recent study on Sri Lanka's industrial potential). 4/ In the 1970 Throne Speech, it was stated that "the heavy and capital goods industries and other suitable basic industries will be state-owned. Other industries will be assigned to the co-operatives and to private enterprise". During the period 1956-65, the public sector expanded rapidly, supported through capital aid inputs. In 1956 the six existing state factories had a capital investment of Rs 92 million; by 1965 the then 19 State Corporations together accounted Rs 487 million . The private sector too grow at a rapid rate but primarily in the least essential industries due to the absence of rational

3/ Six-Year Programme of Investment. Planning Secretariat, Colombo, 1954
4/ Dr. Neil Dias Karunaratne, 'Techno Economic Survey of Industrial Potential in Sri Lanka', IDB, Colombo, 1973

guidelines for desired growth and of industrial policies in general.

7. However, beginning in early 1960's the macro-economic constraints, in particular foreign exchange scarcities 5/, became more critical. The import-substituting industrialization established behind fiscal incentives and tariff protection, and based often merely on finishing and assembly of imported semi-manufactures and components, showed its weakness. The industries were producing well below capacity, due to shortage of foreign exchange for raw materials, saturation of domestic market and inability to compete in the international market. When in 1965, a change of Government took place, emphasis was again given to the private enterprise and a new industrialization strategy, giving particular attention to promotion of medium and small-scale industries, was initiated. The industrial policies also specifically encouraged agro-processing industries, on basis of domestic raw materials, export prospects and indigenous technology. The Industrial Development Board (IDB) was established; it expanded soon to be the country's central institutional force for industrial development and promotion.

8. In 1971 - after another shift in Government - IDB was reconstituted and given a less ambitious role. Several other new institutional devices and policy measures were also pronounced, shifting the emphasis of industrial development once again from the private sector to the public sector. It was realized that, although the manufacturing sector grew fairly steadily in the 1960's, a number of shortcomings in the industrial development programme became more and more pronounced. Firstly, there was still the high import component - nearly 75 % of all material inputs in the organized industrial sector had to be purchased abroad. Imported materials in the early 1970's represented about 2/5 of the value of industrial output, and some 30 times, the foreign exchange receipts of the sector. Furthermore, the product mix did not fit emerging demand patterns, contributing to the low rate of capacity utilization. In addition, the continous high costs of production made it difficult for industries with potentially exportable products to break into the overseas markets.

5/ The effect of adverse terms of trade on the real value of Sri Lanka's export earnings has been calculated to have resulted in a loss of approximately Rs 6,700 million for the period 1960-72; the annual losses ranging from 4 to 10 % of the GNP. [Source: TD/B/C.6/6, Report by the Marga Institute of Sri Lanka entitled 'Major issues arising from the transfer of technology - A case study of Sri Lanka', 1975]

9. Attempting to deal with these problems, the Government outlined, in the Five-Year-Plan 1972-76, a strategy comprising to large extent a precision of earlier industrial policies. It embraced several broad objectives. Industries with good export prospects were to be favoured; encouragement was to be given to small-scale industries and to industrial development in rural areas; labour-intensive modes of production were to be promoted, etc. Special emphasis was to be put on the need to establish the basic industries capable of providing the inputs for other industries, thus, inter-alia, contribute to a reduction in the imports required for industrial production. Such backward linkages were to be especially exploited with the setting up of producer goods industries in the public sector.

10. There has, however, been little success overall in increasing industrial output in recent years. The share of manufacturing in GDP has, as noted earlier, declined marginally since 1970, although some increase in employment, in particular in the small-scale sector, has occurred. A reduction in employment in the food, beverages and tobacco industry has taken place - excluding this industry, manufacturing employment increased 16.5 % during 1971-75. Activity in the organized private sector - some 2.500 relatively large-scale units - is characterized at present by a large degree of excess capacity and low level of investment. In the public sector, many corporations have been beset with a variety of problems which have inhibited utilization of capacity. In addition to foreign exchange shortages, there has, for instance, been lack of flexibility in pricing policy, in adjusting product prices in line with increased input costs.

11. One of the most successful policy initiatives has been the effort to promote industrial exports. Exports of manufactures, only Rs 57 million in 1971 increased almost five-fold, between 1971 and 1974. The main increases took place in 1972, and 1973. In 1974, the expansion slowed down and, despite the intensified efforts of the Government, declined slightly in 1975. Undoubtedly, world recession has contributed to this weakening of the Sri Lanka manufactures export market. Sri Lankas industries have, no doubt, surplus capacity to meet an increase in demand when it materialises. However, although there is much idle capacity in the industry, the need for larger volumes of investment goods imports has been growing rapidly as the obsolescence of the existing equipment and the lack of spare parts have become additional bottlenecks to increasing capacity utilization. Also, attaining higher quality standards, which is of special importance for export industries, requires adjustments and adaptations in existing plants, which in turn depend

on the availability of certain imported capital goods.

12. In general it could be stated that the country's industrialization efforts have most significantly contributed to the progress that has, no doubt, been made in Sri Lanka during the last 15 - 20 years in providing social services and redistributing income; the fact that the society has not yet succeeded in securing its welfare objectives along with sustained economic development is perhaps as much evidence of the difficulty in achieving simultaneously both income distribution and 'growth' goals in Sri Lanka's special situation, as it may be the results of any shortcomings in economic policy management. Indeed, one outcome of the remarkable advances made on the social front has been that while they succeeded in eliminating the worst manifestations of mass poverty, they raised the aggregate demand without a corresponding increase in output or productivity. The rise in demand naturally exerted increasing pressure on the deteriorating balance of payments.

13. Furthermore, Sri Lanka is among those countries most hit by the recent adverse developments in the world economy. Major efforts are being made to deal with the overwhelming fiscal problem and to adjust to world commodity price inflation which in Sri Lanka's case has meant strongly deteriorating terms-of-trade. This fact is strikingly illustrated in following table, giving world price indices for major commodities in Sri Lanka's foreign trade:

World price indices 1970-1975 (1967/69 = 100), in current US $

	1970	1972	1973	1974	1975 quarters				1976
					I	II	III	IV	forecast
Export items									
Tea	100	96	97	128	140	127	121	117	135
Rubber	95	83	162	179	134	132	139	138	164
Copra	106	66	166	311	154	119	112	97	169
Import items									
Rice	73	76	177	274	202	191	174	167	202
Wheat	94	107	221	313	294	255	272	267	255
Sugar	76	155	179	514	678	378	349	281	289
Petroleum	100	146	208	751	805	805	805	805	910
Fertilizer (urea)	72	89	142	472	491	320	197	174	229

Source: IBRD, Economic Analysis & Projections Department

14. The Sri Lankan industry's contribution to the attainment of the country's paramount objectives - employment for the rapidly growing labour force and an improved standard of living - requires increased level of capital formation; it depends on increased availability of capital goods and raw materials. This in turn requires expanded exports and/or foreign assistance as well as progress in import substitution. There seems, however, to be much scope for progress in the efficient utilization of resources and in increasing of production.

II. Main characteristics of Sri Lanka's manufacturing sector, potentials and constraints

(a) The structure of the manufacturing sector

15. The early phase of the development of manufacturing industries in Sri Lanka culminating in early 1960's, was characterized by a, highly import dependent, light consumer goods type of industrial structure. The changes in Sri Lanka's industrial structure in the period from the mid-60's conformed to the traditional pattern of industrial development with increased emergence of metalworking, engineering and chemical industries.

16. The distribution of the industrial production in different industrial groups, since 1965, is illustrated in following table:

Industrial products - value added (at constant 1963 market prices)

(Rs million)

Industrial group:	1965	1970	1971	1972	1973
Food, beverages, tobacco	319	410	420	438	447
Textile, wearing apparel, leather industry	100	123	125	157	127
Wood, wood products, incl. furniture	3	10	11	13	12
Paper, paper products	14	18	18	20	26
Chemicals, petroleum, coal, rubber and plastic prod.	46	190	230	224	126
Non-metallic mineral prod. (except petroleum, coal)	23	61	74	70	83
Basic metal products	-	6	9	10	6
Fabricated metal prod., machinery, equipment	41	73	73	79	92
Manuf. prod. n.e.s.	1	4	5	6	9
TOTAL	546	894	965	1016	925

Source: Central Bank

17. The relative growth in different industrial sub-sectors during the last decade is shown in the following table:

Growth of industrial production in major sectors, 1960-72

ISIC	Index 1970=100							Average annual rate of growth (%) 1960-72
	1960	1965	1968	1969	1970	1971	1972	
311/2/3 Food products, beverages	66	73	82	91	100	98	u.a.	3.80 *)
314 Tobacco	69	70	93	97	100	105	113	4.03
321 Textiles	43	55	90	110	100	116	103	10.14
322+324 Wearing apparel, footwear	36	64	94	108	100	105	u.a.	9.55 *)
323 Leather and leather products	44	79	134	118	100	114	120	8.81
331 Wood products	89	77	106	82	100	97	122	0.72
332 Furniture, fixtures	50	77	106	82	100	97	122	7.76
341 Paper and paper products	36	60	111	104	100	104	119	11.23
351/2 Industrial chemicals and other chemical products	71	122	118	105	100	104	118	1.61
355 Rubber products	13	37	87	81	100	159	159	27.0
371/2 Iron & steel, non-ferrous metals	17	50	119	123	100	134	103	19.17
381 Metal products	25	93	152	148	100	115	95	14.60

*) 1960-71

Source: UN. Growth of World Industry, 1973, Vol.I.

18. Intersectoral linkage effects contributed markedly to the structural change in the industrial sector. Thus, due to a construction boom, the production of materials like cement and asbestos expanded rapidly. The expansion of other sub-groups was linked up with the vigorous agricultural development policies pursued during the past mid-sixties; the expansion of chemical industries, machinery and transport equipment manufacturing etc., arose to large extent from demands for various industrial inputs of the agricultural sector.

19. However, notwithstanding these efforts, it should be noted that Sri Lanka's industry still depends heavily on imported raw materials. Thus, during 1973, two-thirds by value of industrial raw materials were imported. It should be noted that, with few exceptions, industries - including for example some food processing industries - requiring larger portions of raw material imports have experienced slower growth during the last few years.

20. In 1974, the industrial sector employed some 408,000 persons, or about 11 % of the total employed labour force. Of this number, about 125,000 were employed in private sector factory processing industries such as tea, rubber and coconut processing which account for a major portion of the value-added in the sector. The private sector also includes small-scale factories or units such as textile weaving units, potteries, carpentries, and makers of coir products. Estimates of the number of such units vary from 25,000 to 100.000. The 26 public sector corporations - contributing 23 % of the value-added and 6 % of the employment in manufacturing - produce a broad range of commodities, such as sugar, cotton textiles, leather products, paper, plywood, ceramics, cement, fertilizers, mineral sands, steel and hardware products.

21. The geographical distribution of industries is very uneven; about 90 % of the manufacturing output is concentrated in the Colombo area, where the high market potential together with transportation and other urban infrastructural amenities naturally constituted a big gravitational pull for the establishment of small-scale and medium-scale industries.

As of 1972, nearly 70 % of all approved private industrial projects but only about 35 % of public sector industrial projects operate in the Colombo area. Thus, the regional dispersal of industry (apart from very small, or cottage-type of industrial units) occurred mainly through the public sector industrial corporations established in the last two decades. Due to absence of objective criteria for industrial location and planning and hampered by the lack of adequate information about raw material and mineral resource inventories during the early stages of public sector development, location decisions were often not optimal ones. Granting that Sri Lanka's public industrial corporations are an effective vehicle for regional dispersal, it is clear that in order to derive the full benefits of these projects, the stipulation of objective economic criteria for their development is essential.

(b) Capacity utilization

22. As noted earlier one of the major problems for Sri Lanka's industry is the low capacity utilization. This problem in some cases reflects inappropriate investments in the past; it is also the result of limited availability of foreign exchange needed for imports of raw materials and spare parts, although the raw materials situation in 1975 appears to have improved over the previous year. Since public sector enterprises generally have received preferential treatment in the allocation of foreign exchange, their low rate of capacity utilization seems to be due at least partly to bottlenecks in the supply of locally produced raw materials.

23. The average rate of return from the investment in the public sector corporations, at the time of the preparation of the 1972-76 Plan, was 6 %. In the Plan it was envisaged that this return would rise to at least 15 % by 1976, while at the same time noting that "this target by itself is a modest one and should by no means be interpreted as the optimum return that is eventually expected from the public sector". The Plan foresaw an increase in the output from the public sector by 100 % from 1970 to 1976; about 75 % thereof to be realized from utilization of plant and machinery already installed at the beginning of the period. Indeed, it was expected that all industries in the public sector in operation 1971 (except steel and hardware) would have to work at full attainable capacity if they were to meet the anticipated demand in 1976. (In the case of steel, a 70 % capacity utilization would satisfy the demand.) Thus, by 1976, demand would no longer be a constraint hindering the efficient operation of industries in the public sector. 6/ Also in respect of the private sector, it is envisaged in the 1972-76 Development Plan, that a substantial part of the additional output will be obtained through fuller utilization of existing capacity.

24. According to a World Bank report, issued early 1972, the following industries were among those operating at less than 50 % of their capacity in 1970: salt, rice milling, sugar refining, fish canning, cotton spinning, vehicle tyres and tubes, certain industrial

6/ A recent World Bank report noted that the most serious cases of under-utilized capacity seemed to be the consequence of faulty planning - misjudgements as to the size of the market or of the availability of raw materials. The outstanding cases were the steel and sugar corporations. In the case of the former the capacity utilization was around 25-30 % in 1970, envisaged to rise to 65-70 % by 1976, while the capacity utilization in the sugar mill was under 20 % in 1970, requiring a five-fold expansion in sugar cane if the full plant utilization by 1976, were to be realized as envisaged in the Plan.

chemicals, rolled steel and wire drawing. Many of these fall in the public sector. Indeed, of 37 items produced in plants in operation in the public sector in 1970/71 about which data were provided in the annual report of the Ministry of Industries on the corporations, 17 were operating at less than 50 % of capacity.

85. It may be assumed that the overall situation is not much changed during the last few years since the output of the manufacturing sector has remained largely static during these years. Indeed, a recent World Bank report indicates that both the private and public sector industries are characterized at present by a large degree of excess capacity. It has also been noted that although very many industries are working at very low capacity levels, the average rate of capacity utilization in the private sector increased to about 55 % in 1975, partly as a result of a policy of substituting locally produced for imported raw materials.

(c) Cost structure in manufacturing

26. The limited nature of the available statistics do not permit a proper analysis of the cost structure of the various manufacturing sub-sectors. However, a rough indication as to the productivity in various sub-sectors of the industry can be deducted from the following table:

Value added per person engaged in manufacturing, by selected industry sub-sectors (in current prices)

ISIC		Number of persons engaged		Value added (1000 rupees)		Value added (rupees) per person engaged	
		1963	1970	1968	1970	1963	1970
311/2	Food products	10,380	12,345	48,000	79,000	4,412	6,399
321/2	Textiles, wearing apparel	29,040	36,502	101,000	132,000	4,035	5,173
323/4	Leather & products, footwear	3,417	3,403	22,000	24,000	6,437	7,052
331/2	Wood products, furniture & fixtures	1,310	2,695	12,000	17,000	9,160	6,307
341/2	Paper & products, printing and publishing	4,357	4,499	28,000	31,000	6,426	6,890
351	Industrial chemicals	883	1,329	3,000	5,000	3,378	3,759
355	Rubber products	3,181	3,980	21,000	40,000	7,544	10,050
371/2	Iron and steel, non-ferrous metals	2,269	1,348	9,000	11,000	3,916	8,160
381	Metal products	6,107	6,943	37,000	46,000	6,058	6,625
382	Machinery n.e.s.	7,686	7,418	33,000	44,000	4,293	5,931
383	Electrical machinery	2,299	2,763	21,000	31,000	9,131	11,192
384	Transport equipment	3,253	2,365	12,000	22,000	3,688	9,302

Source: UN, Growth of the World Industry, 1973, Vol. I

27. The heavy import-dependence of the industrial structure [see para. 29 below] has, no doubt, been a major cause for the high costs of industrial production, arising out of under-utilized capacity to the extent it has been consequential to the rationing of foreign exchange for raw material and spare parts imports.

(d) Foreign exchange shortage

28. Foreign exchange shortages have seriously hampered production, investment and the development of exports for many years. A recent World Bank report notes that, with the exception of some improvement in foodstuff self-sufficiency, import substitution has made only modest headway. As a result dependence on imports for capital formation and industrial raw materials has remained large in recent years, continuing the pattern of the previous decade. In the last three years, this problem has been severely aggravated by very sharp rises in price of major import items such as basic foodstuffs, fuel and fertilizers. With little growth in volume, the limited price increases that have taken place in Sri Lanka's traditional export crops have failed to compensate for the increase since 1972 in import prices.1/

1/ In a recently published economic survey for 1975, it was noted that an increase in food imports produced a trade deficit in the first half of 1975, little short of that for the whole of 1974, itself almost 10 times that for 1973. These large payments deficits have led to greatly increased net external debt and concern at the potential burden of debt servicing, despite a growing tendency for consortium countries to provide grant aid. [Far Eastern Economic Review, May 1975 (extract of Hong Kong and Shanghai Banking Corp.'s International Survey 1975)]

29. The economy's heavy dependence on imports for production and capital formation is only partly reflected by the fact that the import content of gross capital formation and supply of intermediate goods is 20 % and 35 % respectively. The significance of imports to investments and production in certain industries, which supply others in turn, and which have much higher import ratios than the average, is particularly great. Bottlenecks in imported inputs for these industries would have repercussions in other industries with less direct dependence on imports.

8/ Figures for the period 1965-70 in respect of raw materials indicate that significant development took place by way of reduction of the import content in several industrial branches:

Trends in import content of raw materials for selected industries, 1965-70

	1965		1970	
	local	foreign	local	foreign
Food products - preserved and canned fruit, vegetables, meat, fish	77 %	23 %	76 %	24 %
Spinning, weaving, finishing of textiles	5 %	95 %	13 %	87 %
Knitted fabrics, made up garments etc.	26 %	74 %	36 %	64 %
Footwear & leather products	36 %	64 %	54 %	46 %
Wood & wood products	85 %	15 %	82 %	18 %
Paper and paper products	30 %	70 %	44 %	56 %
Rubber products	26 %	74 %	32 %	63 %
Ceramics	14 %	86 %	24 %	76 %
Cement, cement prod., incl. asbestos products	17 %	83 %	59 %	41 %
Fabricated metal products other than machinery and equipment	7 % (1967)	93 % (1967)	13 %	87 %
Machinery (except electrical) and transport equipment	37 %	63 %	19 %	81 %
Electrical machinery, apparatus, appliances	21 %	79 %	20 %	80 %

Source: Dr. N.D. Karunaratne, 'Techno Economic Survey of Industrial Potential in Sri Lanka', 1973

(e) Natural resources and material supplies to industry

30. It has been noted earlier that shortages of imported materials, stemming from balance of payments difficulties, have been considered a major cause of low capacity utilization and high costs in several industries. The long-term growth of the country's industry would seem likely to be severely constrained unless local materials can to large extent than hithertoo be substituted for imports. Furthermore, the Government is committed to strengthening the linkages between the primary and secondary sectors, not only as a measure to stimulate economic growth but also to diffuse the benefits more widely in the rural areas.

31. It has also been pointed out elsewhere in this paper that the import content of the raw materials used in Sri Lanka's manufacturing sector is very considerable. The 1972-76 Development Plan concludes, that the severe foreign exchange difficulties make it imperative that priority be given to reducing the foreign content of industrial raw materials.

32. In the brief analysis of individual product groups we have mainly drawn upon Dr. Karunaratne's study and recent World Bank reports. They show that ample scope for increasing the domestic content of Sri Lankan industrial inputs exists in several fields.

33. There is, however, one strategic issue which may first be raised in this connexion. This is the question of how much diversification of Sri Lanka's primary production to meet the wide-ranging needs of industry is desireable, taking account of limited capital and skill resources. The development of Sri Lanka's agriculture may have been unduly dominated by the three export products - tea, rubber and coconut - in the past. It can be expected that a move towards such a much more diversified

agricultural production will be made forcefully although gradually, aiming at self-sufficiency in basic food production and as far as possible in agricultural inputs for the local industry [bearing in mind that Sri Lanka may have the soil characteristics, land area and climatic conditions capable of producing most of the industrial crops needed by Sri Lankan manufacturers]. Such diversification attempted too quickly, might however result in a diffusion of scarce complementary resources so that the end result would be higher cost, inferior quality inputs and greater instability of supplies, than occasioned by the present reliance on imports.

(i) Coconut products

34. This sector comprises ancillary coconut-based industrial activity and is providing employment to a widely dispersed rural populace in the coconut growing regions. The traditional export-orientation of the sector is, in so far as coir fibre and yarn products are concerned, facing declining prospects due to emergence of competitive natural and synthetic fibres. Although the sector has ample scope for modernization, such as using new techniques in retting, the less encouraging export trends seem to have precluded their adoption. Dr. Karunaratne's study indicates the need for exploration of:

- possible production of bristle fibre (mattress fibre) for export markets;
- up-grading and diversification of coir yarn products for both domestic and export markets;

- establishment of factories for coir carpets, mats, cordage, bags and rope, for coir dust briquettes and for coir pith board; and
- utilization of cocoonut shell charcoal as filler for plastic products and possible substitute for manganese oxide in dry cell batteries.

35. The 1972-76 Development Plan stated that the expansion of industries based on cocconut fibre would be a part of the programme for the small-scale sector. The Divisional Development Councils were to be called upon to play a leading role in developing the potential in the cocoonut-based industries.

36. The Karunaratne study further notes that there exists on the other hand, a substantial export demand for dessicated cocconut for confectionery and copra for animal feed, and suggests that the sector needs modernization and improved techniques for the preparation of dessicated cocconut and distillation of oil for export [see also para. 47 below re. cocconut oil]. In addition to expanding the traditional exports in this sector, the study points at prospects for new manufacturing such as

- production of glycerine and fatty acids 2/ for exports;
- production of cocconut cream for local and export markets;
- granulated cocoonut manufacture for export; and
- manufacture of cocconut-based provender and cattle feed.

37. In the 1972-76 Plan research and development programmes are envisaged, inter-alia, in respect of industrial carbon and chemical from cocoonut shell.

2/ Research on this is carried out by CISIR in collaboration with the Cocconut Processing Board

(ii) Sugar production

38. Between 1966 and 1973, annual per capita consumption of refined sugar was about 20 kg, equivalent to a total of 270,000 tons/yr. During this period domestic production of refined sugar was negligible (not exceeding 10,000 tons/yr.), and imports ranged from 200,000 to 300,000 tons, accounting for around 10 % of the total import bill. Following severe shortage of foreign exchange and high prices in 1974, imports were drastically reduced to about 42,000 tons.

39. The Sri Lanka Sugar Corporation (SLSC) is constituting a centralized planning and execution unit for all aspects of the country's sugar production and processing. Organized sugar development commenced in the late 1950's with the establishment of two sugar factories (and associated plantations) - at Hingurana and Kantalai - with a combined capacity of 38,000 tons of sugar. However, due to various problems ranging from low cane yields and low sugar content to factory breakdowns, the combined output did not in any of the years 1960-72 exceed 10,000 tons, or about 25 % of capacity. The SLSC undertook an extensive programme for improvement of cane cultivation and factory management resulting in an increase in the combined production from both plants from 12,000 tons in 1973, to 19,000 tons in 1974 or to about 50 % of capacity.

40. The problem of spare parts has been particularly difficult and both factories have found it necessary to establish rather large workshops to manufacture many of the required replacement parts. However, in the case of Kantalai, even though the workshop has been in operation for several years, some essential pieces of equipment are still lacking [according to a recent World Bank Report]. With limited additions it would be possible to improve timely availability of spare parts and thus keep the factory in operation. At present, harvesting continues during periods of factory breakdowns, necessitating prolonged stocking of cane with consequent reductions in sugar content.

41. The Asian Development Bank is currently assisting in improvements at the Hingurana project, while an I.D.A. credit has been obtained in December 1975, for the Kantalai scheme.

42. While for the immediate future emphasis is being given to better utilization of partially developed cane land and of existing factory capacity, the long-term potential for further expansion into new areas for sugar production in the dry zone (in the north and east of the island) with irrigation, may be subject to further investigations.

43. Dr. Karunaratne in his study indicated that there are also good prospects for the establishment of cooonut and kitul jaggery manufacturing units.

(iii) Other processed food products

44. A number of possibilities for expanded industrial activity in respect of various processed food products were indicated in the Karunaratne study such as the establishment of units for canned and preserved fruits (pineapples, passion fruit and mango) and vegetables mainly for exports. The 1972-76 Plan foresaw the establishment of canning plants on a regional basis under the Divisional Development Council Programme. Such a development may necessitate a strengthening of the facilities for quality testing as well as the initiation of specific applied research projects.

45. The 1972-76 Plan foresaw a doubling of the 1971 level of production of cashew requiring expansion of existing as well as establishment of new processing centres.

(iv) Vegetable oils and fats

46. Coconut oil, being the dominant produot in this sector, is produced by two large-scale public sector corporations and by about 40 smaller private oil mills. The oil production in the large-scale factories is carried out by the modern solvent process, while the other producers use the less efficient mechanical expulsion process. According to the Karunaratne study there are many opportunities for the adoption of suitable technologies and the upgrading of production.

47. Also, according to Dr. Karunaratne, there exist several other oil bearing indigenous raw materials that could be commercially exploited for domestic and export markets such as rice bran oil, gingelly oil, groundnut oil.

48. The 1972-76 Development Plan indicated planned research on a new process for oil and protein extraction from the coconut kernel. CISIR is active on this as part of a research programme to find

uses for vegetable oils currently in use and application for oils not hitherto used.

(v) Natural silk production

49. In noting that there is a firm export market for natural silk, the 1972-76 Development Plan indicated a major expansion both for production and multiplication of mulberry and silk worm, and for research and extension work in sericulture.

(vi) Cotton production

50. The 1972-76 Development Plan noted that in a situation where cotton has to be imported the foreign exchange benefits of the textile industry were negligible. The production of cotton constituted accordingly an important part of the import-substitution programme. Major cotton schemes totalling 24,000 acres were foreseen in the 1972-76 Development Plan with a production by 1976, of 18,000 tons of cotton. [10/] The Plan also noted that the important by-products cotton seed and linters would be put to further industrial use. The excess capacity in coconut oil mills would be used to extract cotton seed oil.

10/ This would correspond to about 28 % of the anticipated demand by that year.

(vii) Leather and leather products

51. Sri Lanka has, according to the Karunaratne study, adequate resources to meet the entire local demand for raw hides if better flaying and recovery techniques are organised. The sector could expand the capacity to import substitute in crome leather and back-tanned leather (in Ceylon Leather Products Corp.) Dr. Karunaratne further identified the following possibilities:

- The footwear industry could be expanded to meet growing internal demand as well as good export prospects;
- Leather products manufacturing units could be established on a regional basis to meet local demand for products like purses, belts, handbags, straps etc.;
- Leather cloth and fashion wear production for export (perhaps as joint venture with foreign collaboration);
- Production of sport goods for exports.

(viii) Rubber products

52. Exports of natural rubber account for a large portion of Sri Lanka's total export trade. The local industries consume only about 2 % of the value of total rubber production in the country. Intensified investigations, mainly in the form of market research and product development and design, migth foster an expansion of the local rubber goods producing industry. The Karunaratne study identified following potential rubber goods industries:

- Manufacturing of rubber footwear for the domestic market
- Rubberised coir production for upholstery and matresses for domestic and export market
- Rubber toys
- Rubber components for the automobile industry

53. Dr. Karunaratne also noted that attempts at export of rubber tyres, by the public sector Ceylon Tyre Corporation, had met with good response and that there might be scope for establishing another project exclusively for export.

(ix) Wood products

54. Nearly 40 % of Sri Lanka's land surface is covered by forest, from which about 10 million cubic feet of timber are extracted annually. A further 2 million cubic feet of timber is imported. Dr. Karunaratne in his study notes [11] that, although Sri Lanka's wood resources are capable of yielding the entire requirements of demand, due to inefficient and wasteful processing, many wood-based industries operate well below capacities as they are getting inadequate supplies of timber. Provided the methods of timber extraction are modernized and made more effective, in order to eliminate in particular present considerable waste, there seem to be good prospects for secondary wood processing industries, such as

- expansion of tea-chest manufacture (import substitution) in the public sector Ceylon Plywoods Corp. [in the Gintota factory - from 1.04 million tea chests in 1970 to 1,2 million in 1976 - and in the new Avissawella factory - 3,25 million by 1976 according to the 1972-76 Plan];
- chip board and particle board manufacture for domestic market mainly (small furniture makers etc.);
- veneer manufacture for export (as well as domestic use);
- manufacture of railway and bus-bodies (domestic);
- manufacture of knock-down furniture for export (incl. carved furniture);
- manufacture of wooden textile accessories (shuttles, bobbins etc.) for domestic use;
- production of wooden packaging materials (other than tea chests);
- manufacture of matchsticks to meet expanding local demand;
- manufacture of forest products like tannin (of wattle) for the

[11] Reference is made to the Hunting Survey Corp. (Canada) areal survey 1956, according to which Sri Lanka has 4,533 million cubic feet of merchantable timber; sufficient for an annual yield of 30 million cubic feet.

leather industry, eucalyptus oil, oil resins, gums etc. 12/

(x) Paper pulp

55. The 1972-76 Development Plan envisaged a programme for the development of kenaf, its fibre being a good substitute for jute in the manufacture of gunny bags. The potential use of kenaf for long fibre paper pulp [as substitute for conifers and bamboo] would also be explored. Development efforts would also be made in respect of the possible use of sunhemp for high quality paper pulp. Other potential materials include rubber wood 13/ and bagasse. Specific applied research programmes were to be initiated for the development of these fibres for paper making.

56. At present the manufacture of several grades of paper using rice (paddy) straw is carried out by the Eastern Paper Mills Corporation. The Corporation has been intensifying its experimental activities to break into new indigenous fibrous raw materials and has been successful in respect of several wood varieties. New species of trees for pulp and paper are successfully being cultivated on a large scale. Two pulp and paper mills are operating, producing about 20,000 tons [representing about 30 % of the country's total demand] and a third is planned in the North-Central Province with a capacity of 91,000 tons/year. It may also be mentioned that Dr. Karunaratne in his study noted that a newprint mill based on eucalyptus with a rated capacity of 30,000 tons/yr had been identified as a feasible potential project.

12/ Research on this is carried out by CISIR

13/ Research on this is going on at CISIR. Furthermore, it may be noted that a large potential export market would seem to exist for rubber wood chips as raw material for paper pulp.

(xi) Mineral resources and products

57. Sri Lanka possesses iron ore deposits which so far have been exploited only to limited extent. Development is now under way (through bilateral aid) on basis of backward integration to raw materials processing.

58. Important deposits of titaniferous heavy mineral beach sands are being exploited; ilmenite concentrate is produced and exported while the Government is seeking ways and means to increase the added value and export potential of titanium products, to be produced from this raw material. Since 1970 UNIDO has been assisting the Government in the elaboration of technological alternatives for the utilization of ilmenitic concentrates; industrial scale electrosmelting tests at a plant in USSR are presently being undertaken.

59. Of greatest significance are the graphite deposits found over a wide area in the south-western part of the island. Already in 1968, it was noted in the Government publication 'Ceylon Investment Guide', that the country was the world's leading graphite producer, with practically the entire output of around 10,000 tons being exported as crude graphite (plumbago) "while little so far had been done to exploit this valuable natural asset for local manufacture." 14/

60. Salt is produced by solar evaporation and further large-scale development programmes are being co-ordinated with the development of salt-based chemical industries.

61. CISIR has been carrying out development work on the preparation of triple super phosphate from rock phosphate.

62 CISIR is also conducting a programme on the analysis and evaluation of local raw materials (such as mica) for use in the indigenous electronics and allied industries.

14/ Dr. Karunaratne notes that the possibilities for developing local industries, using graphite, like crucibles, carbon rods etc., should be investigated.

63. Other raw materials of importance as local industry inputs are various clays, kaolin, quartz, felspar and silica sands. Thus, the Karunaratne study indicates import substitution prospects with respect to the manufacture of sheet glass and notes further that the Sri Lankan ceramics industry has reached a standard that permits prospecting for export markets for ceramic ware specializing in oriental motifs and design. Other potential products include sanitar· ware, wall tiles, decorative glass, salt glased sewer pipes and ceramic insulators.

64. The structural clay products sector covers, in addition to the public sector National Small Industries Corporation's five modern brick and tile factories, over 2000 small-scale brick and tile kilns in the rural areas which are providing important supplementary incomes in the agricultural off season. The Karunaratne study indicates potential new products involving:

- the devising of new techniques of manufacturing products like clay roofing and re-inforced clay tiles [15/] in order to compete with asbestos (which is based on imported materials);
- manufacturing of refractories and fire clay bricks for use in industrial kilns.

65. The Karunaratne study also indicates some further new possibilities among cement products:

- cement and concrete pipes to replace cast iron sewer and drainage pipes;
- telephone and telegraphic poles [might also be made of wood] and re-inforced railway sleepers;
- prefabricated building blocks.

15/ Research is being carried out by the State Engineering Corporation

III. The institutional infrastructure for industry

66. Sri Lanka has a rather well developed industrial institutional machinery providing a wide range of services in support of the country's industrialization efforts. It has proved to be relatively flexible in adjusting itself to the changes in industrial strategy and policy emphasis which have occurred during the last two decades.

67. The planning and policy making functions rest primarily with the Ministry of Planning and Economic Affairs and the Ministry of Industries and Scientific Affairs.[16/] Inter-ministerial committees have been set up for the consideration of new investments; industrial projects involving no foreign participation are thus scrutinized by the Local Investment Advisory Committee (LIAC) [mainly on the basis of their foreign exchange earning potential, contribution to the rural sector, degree of dependence on imported raw materials and use of locally manufactured machinery and inputs] while projects with foreign capital participation are examined by the Foreign Investment Advisory Committee. Before being considered by the respective inter-ministerial committees [industrial] project proposals are screened by the Ministry of Industries and Scientific Affairs. As noted later in the paper - in para. 97 - the intention has recently been announced by the Government to set up a Central Foreign Investment Authority.

68. The 1972-76 Development Plan noted that "the absence of detailed programmes for the main industrial sub-sectors consistent with the needs and resources of the economy has been a major drawback in the field of industrial development," resulting for instance in surplus capacity in certain areas while in others under-investment was prevailing, or in capital intensive investments where conditions were ideal for small-scale development. One of the main objectives of the Plan being to remedy these shortcomings, it was proposed that sectoral Boards should be established for the more important groups of industries. These Boards would, on the basis of detailed demand and resource studies, determine broadly the investment programme.

16/ A separate Ministry of Plan Implementation was established in 1973. Since 1969, a number of Programming and Planning Divisions have been set up in the principal development Ministries (incl. the Ministry of Industries and Scientific Affairs)

69. The institutional set-up in the context of industrial financing is dealt with later - in Chapter V (g). The industrial financing institutions fulfil an important promotional services function. One specific example thereof is the close collaboration between the Ministry of Industries and the Development Finance Corporation of Ceylon (DFCC), when in the context of preliminary discussions on project proposals (requiring DFCC finance), DFCC technical staff is being invited to contribute with their expertise and experience in project appraisal.

70. The Industrial Development Board, established in 1966, as a statutory body under the Ministry of Industries, is playing a vital role in particular in the support and promotion of small industries development [see further Chapter V (d) below]. Specifically, it undertakes feasibility studies for small industrial projects and provides technical services to such projects. The IDB is also responsible for the development of industrial estates; in fact it commenced its operations in 1966, by taking over the Industrial Estate at Ekala which had been set up in 1960 to provide custom-built factories, infrastructure and service facilities to support small-scale industrial enterprise.

71. As part of an export development programme aimed at the promotion of Sri Lanka's industrial manufactures and the diversification of its export markets, the Ministry of Industries & Scientific Affairs has established an Export Promotion and Development Division under its jurisdiction. The main functions of this Division are export promotion and export development of industrial manufactures. Overall co-ordination of the country's export efforts is maintained by the Export Promotion Secretariat of Sri Lanka, under the Ministry of Planning and Economic Affairs.

72. The Management Development and Productivity Centre was to be further strengthened [in the 1972-76 Plan period] so as to provide the necessary consultancy services and undertake an intensive programme of training management cadres in public sector corporations. In addition (the Plan stated) the sytematic evaluation of the performance of public sector corporations was to be undertaken on a continuing basis and the institutional framework was to be established for that purpose.

73. Plans were also on hand for the establishment of Regional Productivity Centres [17] with the objective of enhancing the dispersal of industrial activities outside of the Colombo area.

74. The National Science Council, established in 1968, co-ordinates and promotes research activities in Sri Lanka.

75. The multi-disciplinary Ceylon Institute of Scientific and Industrial Research (CISIR) was established in 1955 to further the country's industrialization efforts through applied research and technology development and adaptation. Its attention has been concentrated on research into indigenous materials utilization although considerable work on, for instance, the development of appropriate technologies has also taken place.

76. The 1972-76 Development Plan called for the establishment of an Institution for Engineering Research and Development [see para. 91 below] to examine the types of machines which can be made locally and to design prototypes for their manufacture, continuing the research work already done [i.a. by CISIR] on the development of various machines such as pumps, presses and kilns.

77. Note should also be made of the various agricultural research bodies, whose work in developing suitable raw materials is of greatest importance for the agro-based processing industries. These bodies include the Central Agricultural Research Institute, the Rubber Research Institute, the Tea Research Institute and the Coconut Research Institute.

78. The Sri Lanka Bureau of Standards prepares standards for manufactured products. According to the Country Programme 1972-76 Background Paper, the facilities for testing of products and inspection of quality are not adequate.

17/ Country Programme 1972-76 Background Paper

79. A detailed analysis of Sri Lanka's inductrial institutional machinery is planned to be made in the context of the UNIDO study project RCS-4, "Development of an institutional infrastructure for industry", its primary aim being to enquire as to the progress which countries have made in developing and strengthening institutional strucutres and operations which are adequate to assist in implementing the targets and goals of the Lima Declaration on Industrial Development and Co-operation.

IV. Industrial development policy objectives and strategy

80. The choice of a strategy in the present context of the Sri Lanka economy is [according to the 1972-76 Development Plan] governed by two basic considerations. Firstly, there is the need to take into account the long-term trends in population growth (presently growing at close to 2 % annually) and the requirements called for to secure an improved standard of living. Secondly, the immediate and pressing problems of the economy such as unemployment at various levels, and the balance of payments, demand urgent attention.

81. In the past, as noted earlier, the industrial development strategy was for a long period geared towards import substitution, in some cases without much attention to economic efficiency and comparative advantage. These industries tended to be capital intensive and were based on the use of imported raw materials and foreign technology. The outward looking development strategy now called for will require some re-orientation of the production structure towards fuller consistency with factor endowments of the country. The pattern of output, inputs and technology used should take full advantage of the abundant supply of educated labour, and of the various raw material resource of the country. International competition could, no doubt, bring about improvements in the quality of products, as may be required.

82. A necessary condition for long-term growth is a significant investment programme for infrastructural development, such as in the electrification and transport sectors, for major irrigation and other agricultural production development projects, as well as for certain types of basic industries, such as iron and steel, machine tools, chemicals, cement etc. But emphasis only on the long-term aspects of growth can, as pointed out in the 1972-76 Plan, lead to imbalances and dislocations. A possible point of conflict between long-term and short-term policies arises with regard to the problems of employment.[18/] A balance has to be struck between the demands of long-term growth and the demands consequent to the present serious employment problem. A resource allocation, as the one attempted in the 1972-76 Plan, aimed at achieving such a balance, would give high priority to raising the

18/ In particular, the provision of 'employment opportunities' in the immediate future may conflict with the long-term need to develop "basic and heavy" industries. These industries do not provide much employment directly; instead, they generate productive capacity which leads, in the long run, to a faster rate of growth of both output and employment in the economy as a whole.

social and economic conditions of the vast mass of the population by the creation of employment opportunities geared to increased production. In doing this it is surely recognized that the location of industries requires careful planning and consideration regardless of persuasive social and political factors which may be present.

83. With regard to the balance of payments, the over-all strategy would be the establishement of an increasingly self-reliant base for future growth. Indeed, if full employment and equilibrium in the balance of payments are to be achieved on a sustained basis, industry will have to play a leading role in the strategy as the most active growth agent introducing new technologies and skills into the economy as a whole, thereby increasing the country's potential for independent development.

84. The 1972-76 Development Plan as far as the industrial sector is concerned has been designed on basis of the following considerations:

- the need to create employment opportunities;
- the need to expand the production of essential commodities for mass consumption to meet the increase in demand consequent to the planned rise in incomes of the low income groups;
- the need to establish the basic industries capable of providing the inputs for other industries. This will establish the inter-industrial links and the linkage between industry and other sectors of the economy which is necessary for sustained industrial growth;
- the need to bring industry to the rural areas and thereby to supplement rural incomes by giving employment and providing a demand for raw materials originating in the rural sector;
- the need to minimize the foreign exchange commitment for investment and raw materials;
- the need to gear industrial growth to the export market.

V. Policy measures and programming of implementation

85. In recent years the increasing complexity of the industrialization process has made new demands on policy. The import substitution potential in consumer goods has been largely exploited and there is a serious fragmentation of production, contributing, inter-alia, to the current situation of underutilized capacities (see para. 25 above). The incentives structure has, however, been adjusted so as to effectively contribute to an alleviation of the severe foreign exchange shortage, by giving encouragement to export-oriented manufacturing and by promoting increasing use of domestic raw materials and other local inputs to industry. Indeed, the principal criteria employed in granting new approvals of industrial projects are ability to export, the use of locally available raw materials and employment generating.

86. The wide variety of fiscal inducements which have been offered to industry include:

(i) tax holidays for projects accorded 'pioneering status' by the Ministry of Industries;
(ii) a 5-8 year tax holiday on export profits;
(iii) lump-sum depreciation allowance (50 - 80 % for machinery) for export enterprises;
(iv) a 40 % development rebate on imported plant and machinery for approved projects;
(v) investment relief for approved projects;
(vi) priority given to exporters of manufactured goods in the allocation of foreign exchange for raw material imports; they would be entitled to a FEEC premium [see para.117 below] of 65 %, and they can retain 5 % of export sales proceeds in foreign exchange.

87. To complement these efforts, the Government has since mid-1972 encouraged joint ventures with private foreign enterprise in which local partners (whether public or private) hold majority ownership

retain effective control. In exchange, the Government gives assurances that full compensation for the investment will be made in the event of nationalization, and that remittances of profits and repatriation of capital will be allowed.

88. Recently, new tax proposals have been made aimed at eliminating some of the earlier somewhat too generous treatment, in addition to introducing some new aspects. The proposals include a partial abolition of the development rebate, reduction of new tax holiday and investment relief concessions, taxation of profits distributed by tax holiday companies and abolition of lump-sum depreciation allowances. Against this, additional tax relief has been proposed for labour intensive production. A recent World Bank report notes in this connexion that despite recent revisions the fiscal incentive structure remains highly complex and could benefit from a systematic appraisal of benefits and costs.

(a) Resource allocation by industry sub-sectors

89. Emphasis is given to investment in such basic industries which can provide inputs for other industries, for expanded agricultural production and for infrastructural development (e.g. transport, energy etc.)

90. The severe foreign exchange difficulties make it imperative that priority be given to reducing the import content of required industrial raw materials. However, with regard to several of these items, the investment needed for local production of them is large and of a size where the capacity of one production unit could adequately meet the country's requirements for the next 5-10 years. According to the 1972-76 Plan, these basic industries will be in the public sector; the programme includes investments in chemical and fertilizer industries, petroleum-based industries and basic metal industries.

91. Particular attention is also given to the development of the country's engineering industry sector, as no sizeable programme of industrialization can get under way as long as all machines, spares and accessories continue to be imported [as noted in the 1972-76 Plan].

While the scope for import-substitution of the heavy machinery needed for the large-scale sector would be limited, the fabrication of machines required for the small-scale units, a wide range of spares and accessories and simple types of machinery can be expected to offer possibilities for further expansion of the emerging Sri Lanka capital goods industries. The 1972-76 Plan calls for the establishment of an Institution for Engineering Research and Development with the tasks of examining the types of machines which can be made locally and of designing prototypes for their manufacture. Furthermore, the new institution was to examine the technical details of new projects in the industrial sector with a view primarily to determining the possibilities of local manufacture of component items in such projects.

92. Construction materials constitute major production inputs or requirements in developing economies; 1/2 to 2/3 of the capital investment required in such economies is generally spent on cement, steel, aluminium parts, lumber and other materials required in the construction sector. Although in the case of Sri Lanka the building materials are to a large extent of local origin, some further import-substitution might be possible, in particular through use of alternative materials. A well co-ordinated programme for applied technological research - and subsequent investment - aiming at fullest possible utilization of locally available materials, is of greatest importance in this field.

93. Also, one of the main drawbacks of the country's industrial programmes, before the current 1972-76 Plan, was their negligible impact on the rural sector, with regard to both employment and the utilization of raw materials originating in that sector. Accordingly, the regeneration of the rural sector through a programme of agro-based and other small-scale industries constitutes a major element in the Plan strategy [see under sub-par. (d) below].

94. Consumer necessities constitute another major category of goods in respect of which an increased production might be foreseen to meet the growing demand following a wider income distribution. As there would be practically no question of import substitution as such (only increased demand), specific attention must be given to possible negative effects in the balance of payments due to imports of raw materials and equipment necessary for the increased production. On the other hand, the production of these consumer necessities is in most cases highly labour intensive and would thus constitute

a major factor for the country's employment programme, in particular as the production units often can be located in smaller regional industrial centres. Such consumer necessities would include clothes, blankets, footwear, processed foods, matches, cooking utensils, bicycles and fuels. These products, which should be produced at low prices, would be aimed at low income groups throughout the country side as well as in urban areas. Less attention might be given to increased production of other consumer products, in respect of which the import content is significant, for instance production and/or assembly of radios, TV-sets, refrigerators, air conditioners etc.

(b) Industrial dispersal within the context of a regional development programme

95. The concentration of industry in the Colombo area with consequential urban congestion and pollution, is perhaps not as problem-filled as in many other Asian capitals. However, the growing regional inequality even in a relatively small country as Sri Lanka, with a high degree of literacy and increased awareness of all the peple, brings demands towards a redress of regional imbalances. It is clear that the problem of regional development is a very important socio-political and economic problem, that needs to be tackled on many fronts. Hitherto, the major vehicle of industrial dispersal has been the state corporations; while private ventures were largely left to localise in the Colombo area as fiscal, tariff and other inducements for industrial ventures were not effectively exploited to direct industrial location in desired regions or areas.

96. The country's regional industrial development policy has to take cognisance of socio-political and welfare demands such as fullest possible employment, and at the same time ensure that optimal use is made of the allocation of scarce resources. Particularly, in the field of industrial development the decision to locate a new project is as important as the decision to invest in it. If industrial development is to be spread more evenly throughout the country, it might be essential, that poles of

industrial growth are planned to initiate the process of creating external economies, setting off a chain of growth throughout each region. Such a growth pole may be created around a major industrial project whose location may be determinated by proximity to an important raw material source or it may be established through the building up of an industrial estate attracting a variety of small-scale industries. Main factors determinating the later type of growth pole are of course the availability of a labour force and an adequate market comprising, often, an agriculturally well developed surrounding area.

(c) Programming and policy measures for the private sector industry

97. Earlier in this paper it has been noted that due to the country's diminishing prospects of primary exports, there was, in the 1950's, a deliberate attempt to foster, as a new engine of growth, import-substitution based industrialization. The first phase thereof, which was mainly in the private sector, occured behind tariff barriers with virtually no international competition. These industries were often based primarily on finishing consumer imports for a captive domestic market. In the mid-sixties, there was a change in the industrial structure and a move towards manufacture of capital goods. In order to enable a sustainment of this second phase of industrialization, in the face of a deteriorating balance of payments situation, a supplementary strategy of promotion of export-oriented industries was subsequently developed. Hitherto, the private sector had been treated largely, as a residual sector in economic and industrial planning; private entrepreneurs has been given broad indicative guidelines and left to their own devices. To achieve the targets relating to investment and export earnings set out in the 1972-76 Five-Year-Plan, however, a number of policy measures were adopted. These were amplified in the White Paper on private foreign investment issued in June 1972. Moreover, in the Budget Speech in November 1975, the Hon. Minister of Finance indicated the intention to enact a law guaranteeing foreign investment as a legally binding measure supplementary to the "statement of intent" the White Paper. Once the foreign investment law is enacted all the incentives and other measures provided will be legally guaranteed. At

the same time it was announced that a Central Foreign Investment Authority was to be set up where all applications entailing foreign capital participation and technical participation would be evaluated.[19]

98. The availability of basic data will be a vital factor in the project evaluation and the setting up of an information (or data) bank for this purpose is planned. However, just as important are the establishment of quantifiable and empirically testable planning goals. The statistical base that is available for industrial programming although narrow and deficient, could, it is believed, be used at sector level to evolve quantifiable guidelines for rational allocation of scarce capital and foreign exchange resources and for the identification of those sectors that offer the largest scope for private enterprise.[20]

(d) Promotion of small-scale industry development

99. As noted earlier, the industrial sector progress in the period 1960-70 was such that the resulting pattern of industry was not conducive to an optimal development of the economy as a whole. The manufacture of commodities, with high import content, of a non-essential nature entailed a continuing commitment on foreign exchange. Furthermore, adequate account of the resource situation of the country was often not taken and emphasis was placed on the expansion of capital-intensive industries, to the relative neglect of the small-scale sector. The services needed for the development of small-scale industry such as credit facilities, extension services in marketing and technical know how and the general institutional support necessary for the growth of a viable small-scale sector were not provided.

100. In the 1972-76 Development Plan it is recognized that, by virtue of its high employment potential and relatively low requirements of foreign exchange for machinery, the small-scale industry sector is basic to the development programme. [An illustration of this

19/ Country paper on Sri Lanka prepared by the Sri Lanka participant for the 5th Regional Seminar on UNIDO Operations, held in New Delhi, 19-30 Jan. 1976 (UNIDO/ISID. 136 of 31.12.1975)

20/ Dr. Neil Dias Karunaratne has developed proposals in this context in his 'Techno-Economic Survey of Industrial Potential in Sri Lanka', IDB, Colombo, 1973

The small-industry sector would be the main carrier of the required expansion of the production of essential commodities for mass consumption to meet the increase in demand consequent to the planned rise in incomes of the low income groups; it would also be the main vehicle to bring industrial activities to the rural areas and thereby supplement rural incomes by giving employment and by providing a demand for raw materials - agricultural and others - originating in the rural sector. At the same time it may be noted that while small-scale industry is often particularly suited to rural locations, it has an equally important role to play in the urban areas, for it has a greater employment generation potential than large scale industry for a given amount of investment and serves as a training ground for entrepreneurship.

101. The increased attention on the development of the small-scale industries sector has no doubt contributed to the fact that the share of small scale industries in total value-added of manufacturing industry has considerably risen in recent years - from 6.4 % to 14.2 % between 1970 and 1975.

102. The heavy reliance on the small-scale sector during the 1972-76 Plan period was to be matched by a corresponding effort to create the supporting framework of institutions to provide where necessary supervised credit, managerial skills and technical services. It was anticipated that most of the small-scale industrial units would be established under the Divisional Development Council Programme; a scheme having been formulated for the Industrial Development Board, the People's Bank and the Department of Co-operatives to assist in these small-scale ventures. The Industrial Development Board, since 1970 the main institution to develop the small-scale industry in Sri Lanka, is thus presently developing a comprehensive programme for (primarily agro-based) industrial development in rural areas, which will provide large-scale employment.

103. A UNIDO-adviser is, since October 1975, attached to IDB to assist in the preparation of such a programme. His

specific tasks include assistance in carrying out a detailed resources study and the preparation of an inventory; in identifying and planning small-scale industry projects based on the resources study; in designing promotional measures for the rapid development of small-scale industries within the framework of the IDB, including measures to be adopted for developing the technology suited to rural areas, with a view to generating employment.

104. It should be noted that the Development Finance Corporation of Ceylon, in response to the emphasis given by the Government of the need to develop small-scale industry, has indicated (in late 1974) its intention to move gradually in that direction. At that moment DFCC did not have the staff or the expertise to handle small-scale projects which normally require intensive supervision and technical assistance; however, in the next two years it would attempt to acquire the necessary staff and start an association with a number of small-scale units.

(e) Export industries development

105. As noted above, one of the major ingredients in the Government's 1972-76 Development Plan strategy, involving a shift away from its early industrial policies, was the strong encouragement of such export-oriented industries which were to large extent using local raw materials. During the late sixties, exporting had been unattractive because of an overvalued exchange rate and difficulties in obtaining tax rebates and other concessions from the Government. In 1972 and 1973, the package of incentives was enlarged by providing exporters with a customs rebate, a convertible rupee account 21/, tax holidays and investment relief [see

21/ Maximum entitlement of the Convertible Rupee Account was raised in early 1976 (to 15 %)

para. 86 above]. These measures were accompanied by a liberal licensing scheme allowing exporters to import the raw material inputs which they required. Furthermore, funds for investment relief for export-oriented investment projects have been earmarked in the 1976 budget, and an Export Credit Guarantee Scheme is to be introduced shortly.

106. After a very promising beginning in 1972, the expansion of export industries has, however, slowed down. Exports of manufactures, only Rs 57 million in 1971, grew substantially during 1972 and 1973; in 1974 they earned Rs 253 million and during the first half of 1975, Rs 126 million. Between 1972 and 1973 some sectors grew very rapidly; the highest rate being achieved by textiles and garments. Lower but still respectable increases were registered by several others, including wood and paper. In late 1974, the expansion diminished. Excluding non-metallic mineral products, the growth was modest. Allowing for the rapid increase in prices, the real growth was rather small. Undoubtedly, world recession has contributed to the recent weakening of Sri Lanka's manufacturers export market. Sri Lanka's industries have ample surplus capacity to meet an increase in demand when it materialized, but there is the danger that the low level of investment in the last few years [22/] has not permitted some industries to maintain and adjust their capital equipment to enable their product mix and quality standards to conform with international demand requirements.

22/ A recent [June 75] World Bank report noted: "Industrial investment in general has been inactive; while official statistics indicate that investment in plant and machinery at current prices increased by 32 % between 1971 and 1973, there was probably no growth in real terms because of price increases."

VALUE OF INDUSTRIAL EXPORTS 1971-74 (Rs million)

	1971	1972	1973	1974	1975 Jan. - June
Food, beverages, tobacco	16	20	32	34	22
Textiles, wearing apparel, garments	5	7	23	33	14
Graphite	21	35	11	17	6
Itmenite, rutile	-	-	7	10	6
Cement	-	-	-	13	5
Naptha	-	-	-	81	44
Chemicals and chemical products	6	9	12	19	9
Wood and paper products, leather and rubber products	6	7	15	18	9
Ceramics	-	-	2	8	5
Metal products	-	9	4	2	-
Base metal industries, machinery	-	2	6	7	3
El. machinery, appliances	-	-	-	3	1
Optical instruments, plastic goods etc.	-	-	2	3	1
Total	54	89	114	248	125

Source: Ministry of Industries and Scientific Affairs

107. Sri Lanka is concentrating its export efforts mainly on four groups of industries:

(i) food and beverages (mainly fruit processing, seafood and tea bags);

(ii) textiles and garments;

(iii) chemicals and chemical products (including soap, fatty acids and glycerine and edible fats); and

(iv) rubber products.

108. These products have been selected for a variety of reasons. They generate high net foreign exchange earnings; with the exception of chemicals their production is labour intensive; also, many of the inputs are produced domestically; finally, much of the preliminary market exploration and penetration has already taken place so that sales prospects abroad are reasonably secure.

Potential new industrial export products as identified in the 1972-76 Development Plan	
Textiles, wearing apparel	- Garments Batik Leather Cloth
Chemical products	- Glycerine and fatty acids - Vegetable oils and fats - Paints and polishes - Soaps and detergents
Leather, rubber, wood and paper products	- Footwear - Tanned hides and skins - Tyres and tubes - Other rubber products (gloves, rubber mattresses, flooring, toys, hose) - Plywood and sawn timber - Parquet flooring and other wood products
Non-metallic mineral products	- Ceramic ware and sanitary ware - Graphite products - Cement
Metal products	- Implements and tools - Country products
Machinery	- Tea and rubber machinery - Rice millers, treshers, grinders - Water pumps - Boats
Electrical goods	- Dry cell batteries, transistor batteries - Electrical cables

109. Unfortunately, these industries are being held back by a number of factors, of which several can be traced to inadequate foreign exchange resources. There are raw material scarcities to be overcome; some plants lack essential equipment which prevents them from reaching standards of quality required by importers. In some cases the equipment and materials for the packaging of products are unavailable. A recent World Bank report notes that even though exporters are assured that their exchange needs will be met once they have received an order, present procedures give rise to delays in the allocation of foreign exchange which discourage many manufacturers from pursuing foreign sales possibilities with much vigour.

110. The 1972-76 Development Plan noted that the establishment of export processing zones, such as the one envisaged in Trincomalee, would constitute an important element in the new export drive. In response to a request from the Sri Lanka Government a consulting firm - under UNDP/UNIDO assistance - undertook in 1974 a preliminary study on the locations and costs of export processing industrial estates in respect of five possible sites, namely Pallekelle, Boosa, Katunayake, Ekala and Trincomalee. 23/ The study came to the conclusion, after reviewing these locations, that Katunayake and Boosa would have the best immediate potentials, while a Trincomalee project was recommended to be planned in a comprehensive way - with perhaps major initial emphasis on tourism and fishery development - which would include an industrial export processing zone whose development would start in a few years' time. The report also contained an indicative listing of industries with export potential (and which are in general labour intensive) as follows:

Electronic components
Scientific equipment
Watches and clocks
Electrical products
Photographic equipment
Musical instruments
Toys
Sports and athletic equipment
Textiles
Shoes, boots
Gloves
Ceramics
Automobile components and accessories
Jewellery
Office machinery
Domestic appliances
Pumps and valves
Pharmaceuticals
Machine tools
Ball and roller bearings

23/ "Export Processing Industrial Estates, Sri Lanka: Location and Costs", Shannon Free Airport Development Co. Ltd., June 1974

(f) Selection and acquisition of technologies

111. One of the aspects specifically stressed by the Dudley Seers' Employment Mission to Sri Lanka in 1971 [24], was that technology was biased towards capital intensity due to a variety of reasons such as an overvalued exchange rate for capital goods; a tax treatment too generous to investment; very low interest rates; and perhaps above all, lack of controls on the introduction of foreign technologies that involve heavy foreign exchange costs. Two areas of technological development in industry could be broadly distinguished during the period of industrial expansion in the 1960's, namely the import substitution in private sector where the transfer of technology was nominal, and the enterprises in the public sector where the growth of technology was of a substantial character. Industrial plants in the public sector undertook the processing of local material and therefore attempted to acquire the entire technological process in a given branch of industry - cement, plywood, paper, tyres and tubes, caustic soda and so on.

112. Also the broad conclusions from a more recent study, undertaken in 1975 by the Marga Institute of Sri Lanka and sponsored by UNCTAD, point in general to the inappropriateness of the technology

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24/ 'Matching Employment Opportunities and Expectations - A Programme of Action for Ceylon', ILO, 1971

transferred to Sri Lanka and to the excessive cost in relation to the overall benefits accrued from such transfer.[25] The absence initially of machinery to effect a proper choice of technology on the one hand and the non-development of an institutional set-up for the regulation, proper adaption and continous development of technology transferred on the other, have been aspects responsible for the general shortcomings associated with technological development in the country. Also, fullest possible advantage of the indigenously available resources may not have been taken in the absence of broad policies, at both the national and sectoral levels.

113. The Dudley Seers' report noted also that the portion of expenditure going into industrial research was negligible with the result that there was little possibility of developing a technology tailored to Sri Lanka's needs. The limited research efforts carried out were furthermore hampered by the difficulties to obtain required special machinery locally because of the almost complete absence of mechanical engineering. As noted above in para. 91, plans are now under way for the establishment of an Institution for Engineering Research and Development.

25/ 'Major Issues arising from the Transfer of Technology - A Case Study of Sri Lanka', document TD/B/C.6l6 of 7 Oct.1975, by the Marga Institute of Sri Lanka. The report further notes that "with the main desire to retain the business turnover already enjoyed in the import trade, investors undertook the minimum processing needed to qualify for approval as an industry and escape the restrictions placed on the import trade. In some instances it was confined to the simple assembly of finished components or the compoinding and packaging of material imported in bulk. This approach on the part of investors had two consequences for the structure of industry that developed. First, most of the industries that were set up had a large import content, and the foreign exchange cost of keeping the new industrial sector in production was very heavy. Import substitution in industry therefore did not bring the relief to the balance of payments that was expected. Second, in terms of technology the impact of the import substitution programme in the early 1960s was marginal. What was transferred in most cases were the end processes of manufacture. There was no systematic effort to increase progressively the local component in manufacture and find local substitutes for imported intermediaries."

114. Choosing appropriate techniques is thus a key policy issue in a country like Sri Lanka where major problems are posed by unemployment and shortage of foreign exchange. Another area in which technology is important is the linkage between the industrial and agricultural sectors. An effective technology policy first requires an adequate institutional structure. The organization of this structure might be centered around the country's central institution directing science and technology policy - the National Science Council of Sri Lanka. Areas of concern to an agency administering technology policy would include: participation in and following up of decisions regarding the selection of technologies and their methods and conditions of transfer; maintaining an inventory of industrial and technological research potential; analysing the information collected and processing it; examining, refining and proposing measures designed to rationalize utilization of existing industrial and technological research potential; formulating, together with the agencies concerned, recommendations for industrial and technological research programmes; evaluating the results of research carried out abroad with a view to their applicability to Sri Lanka, etc.

(g) Industrial financing

115. Until now Sri Lanka has emphasized present consumption at the expense of capital formation, which would make possible higher levels of employment and consumption later. The issue is central to achieving the objective of a higher living standard and enlarging employment opportunities, and the pursuance of these objectives would require an expansion of the supply of savings. While foreign savings are to provide part of the finance to support higher level of capital formation, this source has its practical limits in terms both of availability and of the implications for the country's debt service capacity. There is no escape from the need to increase domestic savings substantially and this in the Sri Lankan context, places a special burden on the need for a significant level of public savings. A case in point in this context is the fact that one of the basic issues confronting the operation of the public sector corporations is that of providing more savings than what they now generate themselves, directly or indirectly; today there is excessive reliance on the transfer of resources from the Central Government and inadequate internal generation of savings. 26/ A major effort appears to be needed in order to accomplish this objective

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26/ Public corporations are required to remit all their operating surpluses to the Government Consolidated Fund, after making allowance for their capital expenditures in the following year. Such contributions, while having increased from Rs 54 million in 1971 to Rs 129 million in 1975, [from public corporations in all sectors not only manufacturing], remain low. On the other hand, the Finance Act requires that operating deficits of the public corporations arising from government curbs on the pricing of output be financed by current transfers from the budget and such transfers have amounted to about Rs 150 million a year since 1973. Public corporations have also received large capital transfers from the budget, amounting to about Rs 38 million in 1974 and Rs 775 million in 1975.

and to improve efficiency in some public sector corporations [see para. 72 above).

116. Through the years there has been a strong inclination among private entrepreneurs for self-financing while financing institutions have played a relatively minor role. In 1967, only 9 % of private investment in the manufacturing sector (including inventories) was financed by institutions, whereas 53 % came from firms' own funds and 38 % from trade credits and other non-institutional sources. While statistics for more recent years are not available there are no indications that this financing pattern has changed significantly.

117. The bulk of the instituional financing is provided by commercial banks (in 1975: 4 domestic and 7 foreign); their aggregate outstanding lending to the industrial sector - public and private - was Rs 517 million at the end of 1973, of which more than 3/4 were lent by two Government-owned banks, Bank of Ceylon and People's Bank. The commercial banks, however, have no access to foreign exchange resources; these are handled directly by the Central Bank. 27/

27/ In order to promote export diversification, to restrict imports and to encourage import substitution the Government has been relying on a complex system of incentives and physical controls. One particular measure in this system with direct impact on the financing is the practice of a dual exchange rate system through the sale and purchase of Foreign Exchange Entitlement Certificates (FEECs). One of the main objectives of the FEEC system is to make exports of industrial goods more attractive than the traditional exports of tea, rubber and coconuts, by issuing FEECs only to the producers of the former category. Further objective is to increase the local currency prices of non-essential imports by making it obligatory for the importers of such items to purchase FEECs.

118. The commercial banks' lending (predominantly short-term) is, by nature, generally conservative; based primarily on the adequacy of the security. The Development Finance Corporation of Ceylon (DFCC), which is for all practical purposes the only long-term credit institution whose lending criteria are primarily concerned with project viability [and which has sufficient expertise to perform project appraisals].

119. The envisaged establishment of the National Development Bank (NDB), to provide long-term capital enterprises (mainly industrial), in the public sector, would relieve the Government of its budgeting support to these enterprises. Thus NDB would provide capital development financing for the public sector, while DFCC would continue financing private sector companies.

(h) Manpower for industry

120. The rapid growth of Sri Lanka's labour force (all activities) has not been accompanied by an equally rapid increase in productive employment. The total labour force grew during the period 1965-74 by 2.33 % averagely per annum, while the number of unemployed (= persons actively seeking jobs) grew by 11.68 % per annum, resulting in an unemployment rate in 1974 of 10.9 % (5.0 % in 1965).

121. There are large reservoirs of unutilized manpower resources in all categories or occupational groups: professional and technical personnel, skilled and semi-skilled workers as well as unskilled workers. The increase in unemployment has, however, during the last two years in respect of which statistical information is available, largely been limited to the unskilled workers category, as shown in following table:

Sri Lanka manpower resources and unemployment

YEAR	Population (mid-year) (Thousands)	Labour force (Thousands)	Unemployment by occupational groups: Professional, technical and clerical workers	Skilled workers	Semi-skilled workers	Unskilled workers	TOTAL	Unemployed as % of total labour force (percentage)
1963	11,160	3,633	48,056	18,556	43,193	71,029	181,128	5.0
1966	11,440	3,714	62,362	20,906	55,709	85,760	224,737	6.1
1967	11,700	3,798	70,523	22,456	64,673	91,815	249,467	6.6
1968	11,990	3,883	73,703	24,055	69,353	98,516	265,627	6.8
1969	12,250	3,970	80,159	27,852	78,237	119,702	303,930	7.7
1970	12.510	4,059	93,228	34,636	94,509	158,589	380,962	9.4
1971	12,760	4,149	96,196	39,764	96,730	187,029	419,679	10.1
1972	13,030	4,242	91,429	43,087	100,576	205,250	440,342	10.4
1973	13,250	4,337	86,425	43,402	105,183	222,657	457,671	10.6
1974	13,680	4,435	89,087	44,818	112,574	242,869	489,348	10.9

Sources: UN, Monthly Bulletin of statistics
ILO, Yearbook of Labour Statistics, 1975

122. As noted earlier, in paras 2 and 10 above, employment in manufacturing, accounting for about 11 % of total employment, has expanded [although to a limited degree] during the last few years in particular in the small-scale sector. Measures designed to promote fuller utilization of capactiy should lend to some increase in employment also in the larger plants along with production. Subsidiary specialization and sub-contracting should be further encouraged with a view to creating a larger number of small entreprenours. Intensified support of technical research, quality control and market research in industry will provide further opportunities for absorbtion of the large cadres of unemployed professional and technical manpower. 28/

28/ Since the Free Education Scheme was introduced in 1945, there has been a rapid expansion of educational facilities at all levels. While pointing out that on the part of the Government the chief concern was to satisfy the unprecedented demand for schooling by quantitative expansion of facilities at every stage, the 1972-76 Development Plan noted that this unplanned expansion had lead to the present problem of the educated unemployed, due to the failure of the economy to provide a meaningful and productive role for the output of the educational system. It has become evident, the Plan notes, that an educated population becomes a national asset only to the extent it is able to fit into the productive occupations that the economy is capable of providing. The training, the skills, the attitudes and aspirations that are the product of the educational system must be related to the socio-economic environment, and conform in broad outline to the country's occupational profile. To that end a strengthening of the country's manpower planning and forecasting might be called for.

123. It might be desirable that an autonomous Government body be created to undertake industrial manpower planning and co-ordinate all present and future domestic activities in pre-employment, on-the-job, upgrading and continuing training of all levels of personnel employed in industry. It could also take initiatives for retraining for industry of qualified people who are at present unemployed. In order to function effectively, the occupational training body should be governed by a board with a very broad representation of employers, workers, related government agencies, training institutions and development services. [It could also co-ordinate all assistance provided by UNIDO, ILO and UNESCO in the field of education and training for industry.]

124. Furthermore, it could be considered whether employers (both public and private) could not participate more directly in the financing of training by paying a levy on the pay roll. UNIDO's current study RCS-8 'Human resources for industrial development' will provide in-depth evaluation of existing levy financed domestic non-formal training systems in one developing and two industrialized countries.

VI. Possible areas for UNIDO and other external inputs

125. Within the framework of Sri Lanka's own development efforts - and recognizing that generally in developing countries more than 80 % of the resources that are devoted to the development of these countries has come from their own revenues and savings - some areas in the industrial development field may be singled out where supplementary external inputs might have a particularly great impact. The term "external inputs" is used in a broad sense in the realization that, while it is analytically possible to divide aid into technical aid and resource aid, in practice it is seldom that any project requires no more than technical advice or that any project requires nothing but an addition to available resources. Most projects involve, or should involve, both. It is also fully recognized that the purpose of technical co-operation is to contribute to the country's own development efforts in the promotion of increasing self-reliance in regard to the managerial, technical, administrative and research capabilities required to formulate and implement development plans and policies, including the management and development of appropriate institutions and enterprises.

126. From the analysis in previous chapters it has been possible to identify a number of specific areas, where assistance efforts might contribute most effectively to the country's development. These areas have been briefly dealt with below in three categories, namely (i) planning, promotion and industrial services, (ii) resource-based industries, and (iii) industrial training and management development.

(i) Planning, promotion and industrial services

127. In the context of the envisaged strengthening of the country's investment planning and promotion functions (see in particular para. 97 above) possibel technical co-operation might be considered, for instance, at the branch-of-industry project identification level. It might take the form of development of programmes for fuller utilization of existing productive capacities in various branches combined with project identification surveys and/or comprehensive fellowships training programmes for industrial sector planners and project analysts. The National Development Bank, to be established (see para. 119 above) might, for instance, require specific assistance in the field of project analysis and evaluation. Assistance might also be needed in connexion with the envisaged establishment of an information, or data, bank (referred to earlier in para. 98). Specific note should, in this connexion, be made of the request, under SIS, for a UNIDO exploratory assistance mission to review the industrial information and documentation needs and facilities of Sri Lanka and, in particular, of the Industrial Development Board. Such facilities at the IDB also serve other institutions involved in industrial development in the country.

128. It can be expected that on basis of the small-scale industries development plan and promotional activities being prepared within IDB with the assistance of UNIDO (see para.103 above) further detailed areas of possible assistance - both technical aid and resource aid - will be specified. 29/ The programme thus being prepared is understood as aiming at a doubling the number of small units in the country in the next decade and might include suggestions for specific growth areas as well as policies and institutional framework required. It is also expected to include recommendations, for

29/ It should be noted in this connexion that UNIDO has, since 1972, provided, assistance in organizing the handloom weaving sector [comprising about 90.000 looms with an annual production of 47 million yards] and improving its efficiency. The assignment of the adviser will be completed in August 1976, and the Government has, while expressing full satisfaction with the assistance rendered, indicated that further assistance is not required.

instance, regarding specific incentive schemes to stimulate the development of entrepreneurship in the rural areas.

129. One aspect, to which particular attention might also be given, is a systematic approach to the possibilities of utilizing the productive capacities of small-scale establishments, or work shops, for subcontracting work for the manufacture of finished products, components or half-finished parts, e.g. accessories, motors and regulators and nuts and bolts, to the country's large-scale industries.

130. In addition to the ICIS study project RCS-4 'Development of an institutional infrastructure for industry' (referred to earlier in para. 79), the results of two other currently undertaken UNIDO study projects would be of particular interest in connexion with Sri Lanka's small-scale industry and rural development, namely, project RCS-5 'Concept and project design for industrial estates' and project RCS-6 'Study on strategy and guidelines for self-reliant rural development' the latter study being undertaken in collaboration with the Asian Development Institute in Bangkok.

131. Particular attention should be given to possible assistance activities in support of the country's export drive. A follow up of the recommendations of the UNIDO report on export processing zones establishment (see para. 110) might be envisaged. Furthermore, advisory assistance might be required for development, design and up-grading, quality-wise, of specific products, as indeed has already been the case in respect of ready-made garments, rubber products, leather goods and furniture, ceramics, etc.

132. The small-scale industry adviser at IDB (see para. 128) has undertaken a study on the development potential of an export-oriented electronics industry. Feasibility reports on the establishment of an Electronics Industry Estate and an Electronics Development Centre are now being prepared. The Centre might provide facilities for testing, calibration, prototype development, common services and training.

133. Assistance requirements for the Bureau of Standards in the strengthening of its capacity to provide pre-export inspection and quality control services have been identified. 30/

134. The findings of the ESCAP/UNIDO/ADB sponsored Asian Industrial Survey for Regional Co-operation, completed in 1973, covering 10 Asian countries including Sri Lanka, would provide valuable material for the identification of large-scale industries with export potential in the context of regional co-operation.

135. As indicated in paras. 111-114 above, a strengthening in respect of the capacity to provide guidance on and effectuate a proper choice of technology, including the required institutional framework, is being envisaged. Major factors being taken into account are the availability of manpower, including skilled personnel at various levels, the development of capital saving techniques and processes, the development and use of indigenous machinery and tools and the fullest utilization of domestic raw material resources. Of specific interest is the planned establishment of an Institution of Engineering Research and Development mentioned in para. 91 above. Consideration might be given to the possibility that the development unit of the State Hardware Corporation (see para. 136) may become the nucleus for a central engineering design and development facility which would give advice and assistance to the medium and small-scale industry in engineering design, product development, and process planning and provide industrial engineering services such as

30/ The assistance proposals were result of the 3rd UNIDO Consultation Meeting on Product Adaptation and Development for Export Industries, Tokyo, November 1974.

design of jigs fixtures and dies and tooling as well as heat treatment facilities. This activity should have close co-operation for instance with the Agricultural Machinery Station at Maha Illuppallama (see following paragraph) with a view to provide support services in the field of agricultural implements and machinery.

136. In recognition of the priority accorded to local manufacture of industrial inputs for agriculture and industrial development in non-metropolitan or rural areas, all possible support might be given to the promotion and development of local engineering design and production capabilities, in particular in connexion with manufacture and assembly of agricultural machinery and implements, including power tillers, pumps, diesel engines (with about 40 % of local content), tractors (with 15 - 20% local content) etc. Proposals have been worked out to assist the State Hardware Corporation, which is presently producing a variety of agricultural tools and implements, in product diversification, production expansion and training in production technology and industrial engineering services. External inputs may also be needed for the Sri Lanka Tractor Corporation which is planning to expand its manufacture of tractor spare parts. Consideration might also be given to the possible establishment of pilot demonstration manufacturing units 11/ with industrial advisory services and common facilities in support of rural development, employment and training.

11/ For example, the Agricultural Machinery Station at Maha Illuppallama is engaged on a limited scale in agricultural machinery development.

(ii) Resource-based industries

137. In the field of agro-based industries a number of specific areas have already been identified or indicated in Chapter II (e) above, as requiring external assistance at the product research and development level as well as at the production and marketing levels. Only a few projects will therefore be mentioned here, such as:

- The undertaking of an overall development action in respect of the oils and fats industries sector[32] including coconut processing;
- The establishment of a cottonseed processing complex (for which SIS assistance has been requested to prepare an engineering feasibility report);
- The development of oil palm industry (for which SIS assistance has been requested);
- The improvement of the country's desiocated cocconut industry[33];
- The possible establishment of an agricultural complex using soya bean, maize, cassava and other agricultural inputs to provide fodder for animals and produce a variety of items such as dairy products, meat, leather and bone meat for fertilizers;

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[32] UNIDO has during some years provided expert assistance to the Ceylon Oils and Fats Corporation with very satisfactory results.

[33] Sri Lanka is a traditional exporter of desiocated-coconut to the world market. In recent years, however, exports have decreased despite of an increasing world demand for this material. The problem with which producers in Sri Lanka are faced is inability to produce large quantities of desiccated-coconut of good, uniform quality. A UNIDO expert has studied about 25 existing desiccated-coconut production plants and has concluded that the greater part of the industry is still using methods and equipment that are out-dated and have been improved upon in other countries. A further serious handicap is the existence of many small and medium-sized factories that produce, independently from each other, products of different qualities; the re-organization and concentration of the existing industry is therefore necessary. The establishment of a model plant using up-to-date equipment has been recommended. This equipment can be produced locally or imported if necessary, and plans have been elaborated for a step-wise reorganization of the existing production units, including development of quality control and sales promotion.

- Pre-feasibility study for the establishment of a cassava processing industry; the objective of the study being to assess the country's cassava potential and to outline the type of cassava processing industry which would be most suitable (flour, food and feed grade chips and pellets, starch, etc.) as well as to define the new industry's basic techno-economic data;
- Expansions and development of the country's cashew nut industry;
- The development of new industrial uses for indigenous fibre raw materials such as kenaf, pineapple, banana, hemp, etc., with particular attention to export market potential for fibre products on basis of recommendations by SIS advisory mission in early 1976;
- Further assistance to the leather industry (follow up of recommendations by UNIDO leather goods manufacturing expert who carried a short-term advisory mission to the Ceylon Leather Products Corporation) aiming at process and quality improvements, including use of natural rubber as substitute for imported sole leather in the manufacture of leather boots and shoes.

138. Over the past few years UNIDO has been involved, through ad-hoc expert services and individual fellowships, in assisting the country's wood processing industry. It is suggested that, for the future, a long range plan for assisting the wood processing industries be developed in, among others, the following fields:[34]

- Primary wood industry - to furnish additional saw doctoring training and expert assistance as well as equipment for a tool room to be used for demonstration and training purposes;
- Secondary wood processing industry - to ensure fuller utilization of the raw materials and increase the profitability of the saw-milling industry through the integration of furniture plants and joinery operations, to assist in design and product development (incl. knock-down furniture), production (in particular surface

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[34] Reference is made to the paper 'The Furniture and Joinery Industry in Sri Lanka', prepared by Mr. H.M. Jayasekera, Plant Manager of Sri Lanka Plywoods Corp., for the UNIDO Seminar on the Furniture and Joinery Industries, Lahti, August 1975, and the 'Report on the Wood Processing Industry of Sri Lanka', prepared by Mr. J.C. Wijeratne, Manager, Amparai Plant, Sri Lanka Plywoods Corp., for the UNIDO Technical Training Course on Criteria for the Selection of Woodworking Machines, Milan, May 1976.

finishing), process and quality control in furniture and joinery operations (bearing in mind in particular export market requirements) [35];

- Specifically, applied research work for textile shuttle production;
- Introduction of low-cost pre-fabricated institutional building designs, e.g. schools, dispensaries, etc. suitable for local conditions using local materials, mainly wood;
- Development of a modular wooden low-cost bridge system, involving adaptation of available design [36] to Sri Lanka's local loading characteristics and locally available species of timber for the erection of a prototype in the country.

139. As noted earlier in the paper (in para. 92) construction materials constitute major production inputs in the economy and a formulation of a comprehensive programme (incl. assistance requirements) for research and development of new products for the building industry aiming at fullest possible utilization of locally available materials, including industrial wastes, might be considered. One specific area in this context for which assistance is being considered is the manufacture of particle boards from leather scrapings and other agricultural waste products, such as rice husks, saw dust and coconut coir dust as well as coconut trunks. Rubber latex could be used as binder. Another potential project is the industrial manufacture of glue from tannery wastes.

140. Advanced preparations (including a SIS preparatory mission in December 1975) have been undertaken for the establishment of a Ceramics Quality Control and Research Laboratory within the Ceylon Ceramics Corporation.

35/ A case in point is the recent request for expert assistance to the Department of Small Industries, Ministry of Industries and Scientific Affairs, in cane and rattan processing with a view to improving the quality of manufactured products (such as furniture) leading to eventual exports.

36/ A project now being implemented in Kenya is described in the UNIDO Newsletter of February 1976.

141. In the field of pulp and paper, the Eastern Paper Mill Corporation (as noted in para. 56 above) has during the last years been intensifying its experimental activities to break into new indigenous fibrous raw materials. In view of the need to develop rapidly growing sources of pulp, consideration may be given to an assistance project to carry out production tests of kenaf, being a long-fibre pulp substitute which can be grown in 120 days under local conditions.

142. Consideration should be given to follow-up of the conclusions and recommendations of the study recently completed by a UNIDO expert on the utilization of wood and other materials available in Sri Lanka for the manufacture of charcoal for, in particular, metallurgical purposes. 37/ The study covered the aspects of charcoal production from the raw material resource point of view - wood, including rubber wood, coconut-shell and coir-dust - as well as its potential end uses - export of charcoal, use for production of activated carbon, use of the by-product chemicals, use of the charcoal as a fuel.

143. The packaging industry in Sri Lanka is particularly important in relation to agricultural products for the domestic market and for exports. Some materials for packaging such as wood, paper and fibres can be developed from resources on hand. These materials are however at present not manufactured in sufficient quantity and in the varieties needed for the packaging industry. Indeed only 25 % for instance of the paper needs for packaging are met from domestic sources. Other materials such as aluminium or other metals are not available locally. Consideration may be given to the undertaking of a techno-economic analysis on the country's future packaging needs in the context of fullest possible utilization of local resources. 38/

37/ 'Charcoal production in Sri Lanka from wood and coconut shell with possible recovery of chemical by-products resulting from wood destillation' by Mr. A.C. Harris

38/ For more detailed information see the paper 'Packaging Situation in Sri Lanka' prepared by Mr. Stanley Wickremeratne, President, Sri Lanka Institute of Packaging, for the Second UNIDO Inter-regional Seminar for Co-operation in Packaging among Developing Countries held in Seoul in November 1975.

144. With the emphasis laid on the export of products like pineapple and passion fruit juices, canned fruits, etc. there is a great demand for tin containers. The development in the tin industry has, however, not kept pace with the demand and for instance cans for food products, meeting export standard requirements, have to be imported.

145. A number of specific areas of potential assistance in the context of utilization of mineral resources and products, have been indicated earlier in the paper, including the utilization of ilmenitic concentrates (on-going UNIDO assistance project) and ways and means to increase the added-value and export potential of titanium products, the development of phosphate rock grinding and beneficiation (paras. 57-65 above).

146. Plans of the establishment of a large-scale ammonia-urea fertilizer plant have been considered since several years. The project is envisaged to be financed by-laterally by contributions from several sources, including ADB, India and some OPEC countries. Possible complementary UNIDO assistance might include training of management and staff, supply of training equipment, ad-hoc consulting services of individual experts, etc.

147. A project of UNIDO assistance to the Paranthan Chemical Corporation has been carried out during the past years with very positive results. The company is now planning to build a second caustic soda/chlorine plant. It is suggested that the expansion plans would encompass the establishment of a chemical complex around Parathan Chemicals to produce PVC, titanium dioxide and other related products. Preparatory work has been carried out concerning possible assistance for the establishment of a sterile water pilot plant and the preparation of a comprehensive programme for the development of Sri Lanka's pharmaceutical industry.

(iii) Industrial training and management development

148. Consideration might be given to the development of comprehensive long-term training programmes 39/ for management and technical personnel at the various public sector industrial corporations. Such programmes should be developed as complement to the intensive training course programmes for the management cadres undertaken by the Management Development and Productivity Centre (see para. 72 above).

149. One example is the Ceylon Petroleum Corporation. UNIDO is currently implementing six industrial fellowships projects for the Corporation in various aspects of petrolum processing technology. From the report of these fellowships holders it appears that not only do more engineers and managerial staff require training but also that refinery middle level personnel (process operators and technicians) would greatly benefit from an in-plant training programme. It is proposed that instead of the rather fragmented approach hithertoo followed, an integrated programme of assistance be formulated for the Corporation in the training and up-grading of its technical and managerial manpower.

150. Assistance, (e.g. by way of training in corporate management techniques and performance monitoring) might be required in connexion with the development of an institutional framework for the systematic evaluation of the performance of public sector corporations referred to in the 1972-76 Development Plan.

151. Assistance might also be required for the programme, aiming at the promotion and support of entrepreneurship specifically in the rural areas of the country, now being developed under the auspices of IDB (see para. 128 above).

39/ UNIDO's study RCS-8 'Human resources for industrial development' will provide detailed information on existing non-formal training programmes for industrial key personnel in nine developing countries. This information will be useful in developing the above programmes. As far as the co-ordination of non-formal training for industry is concerned, reference is made to paragraph 123

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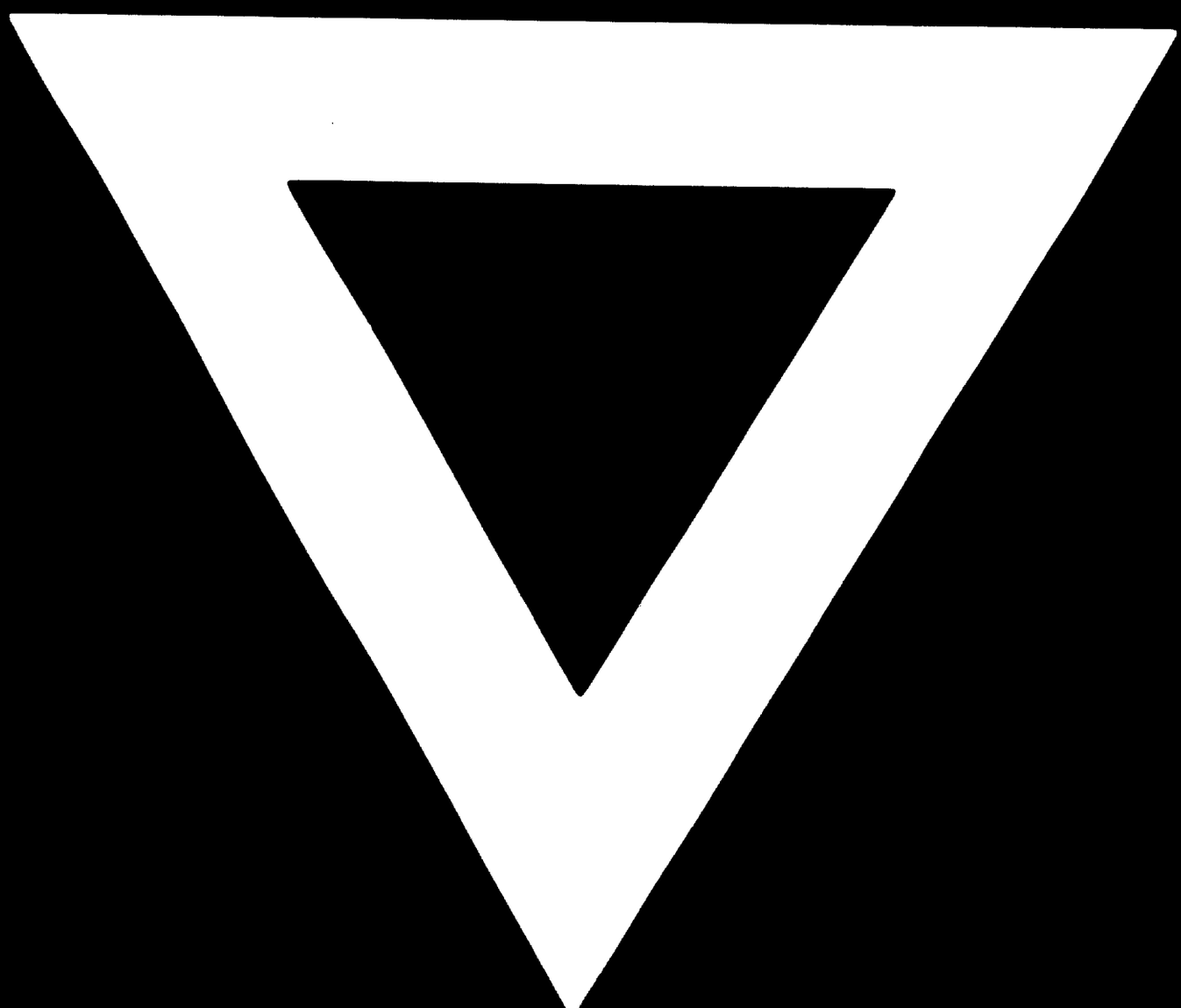

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