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EVALUATION REPORT ON INDUSTRIAL ESTATES NO. 10;
NEPAL ^{1/}

by

A. Neilson *

* Consultant

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Summary of Observations

The facilities provided by the industrial estates have attracted new enterprises. Very few of the client entrepreneurs carried on similar undertakings prior to occupying premises on an estate.

The cost to an entrepreneur of establishing his operation on an industrial estate is less than that of providing the same facilities elsewhere. Indeed it may be impossible to secure adequate and continuous supplies of water and electricity except on an industrial estate.

The industrial estate programme, therefore, has been instrumental in establishing new ventures which, but for its existence, would not have materialized, and, concomitantly, for increasing the level of industrial employment.

The existence of an industrial estate cannot be said, up to the present, to have given rise to ancillary industrial and service enterprises of the estate. There is evidence, however, that estate trained labour has left to set up small independent ventures elsewhere.

The volume of inter-firm trade on industrial estates is negligible.

There is no indication that enterprises on an industrial estate have higher productivity of labour than their counterparts outside. As far as can be ascertained, from somewhat inadequate data, the firms as a whole on the estate have a much less satisfactory capital/output ratio than the national average for the manufacturing industries.

There is, as yet, no industrial extension service. The need for such has been expressed by a few entrepreneurs. The diversity of operations carried on, however, is likely to make a comprehensive scheme very expensive.

One of the major causes of failure among manufacturing undertakings is the lack of raw materials. Again the diversity of activity would make the provision of buffer stocks too expensive to be carried out by the estate administrations.

All of the industrial estates fail to meet their "running costs" (including depreciation) from the rents they collect. However, the two major estates, Balaju and Metauda are still expanding, and it is inequitable to charge capital development costs to running expenses.

The revenue the Government obtains, by way of income and

sales taxes, from the enterprises on the estates more than covers any annual subvention it makes to their operating expenses.

The recent placing of all industrial estates under the control of one organization - the Industrial Services Centre - is likely to lead to more economic planning of development; to increased advisory services for client industries; and to re-appraisal of the policy on leasing.

Practices inaugurated by a joint venture on the Balaju Estate to improve the social aspects of employment not only have spread throughout the estate, but have been embodied in recent labour legislation; so affecting all industrial workers.

Only a few cases of underutilization of space were observed. There were several instances of underutilization of machine tools, but this is inevitable at the present level of industrialization; particularly in the absence of inter-firm trading.

There is no dearth of statistics in Nepal, but different sources seldom agree. The discrepancies sometimes are large. All of the figures quoted in this paper should be treated with reservation. They are indicative of orders rather than absolute amounts.

CHAPTER I

The National Background

I. Basic statistics

Area		145,391 sq. kms.
Population (1971 census)		11,556,000
Gross Domestic Product (1973/74 at 1964/65 prices)		US\$ 562,550,000
Gross Domestic Product per capita		US\$ 49
Growth of Gross Domestic Product (1970/74) ^{1/}		2.65% per annum
Estimated growth rate of population (1972/76)		2.16% per annum
Foreign aid receipts (est. 1975/76) ^{2/}		US\$ 24,013,000
Exports (1969/70) provisional ^{3/}		US\$ 29,000,000
Imports (1969/70) do.		US\$ 68,100,000
Exports (1973/74) overseas only		US\$ 10,220,000
Imports (1973/74) do.		US\$ 11,450,000
Composition of imports		
Consumption goods	47.6%	
Investment goods	25.0%	
Intermediate goods	27.4%	
Labour force		
Economically active population (1971 census)		4,852,524
Number in paid employment		453,257
of which manufacturing		51,902
Rate of exchange	US\$ 1 =	12.45 Rupees (buying) 12.55 Rupees (selling)

General information

Nepal is roughly rectangular in shape, the width varying from 140 kms to 240 kms. The country falls into three natural regions: (1) The Terai, which covers 35,840 sq. kms., consists of fertile plains that rise to the foothills of the Himalayas; gently at first to 600 m., then steeply to 1,200m. (2) The middle ranges which constitute a 64 to 80km broad complex of valleys. Kathmandu and Pokhara are the main valleys. (3) The trans-Himalayan region which rises to more than 4,550 m., and contains the highest mountain ranges in the world.

There are four climatic zones. (1) The sub-tropical monsoon, generally at locations below 1,200 m. (2) The temperate monsoon in areas lying between 1,200 and 2,130 m. (3) The cool temperate climate at levels between 2,130 and 3,700 m. (4) The Alpine climate throughout the Himalayan region.

^{1/} Central Bureau of Statistics

^{2/} Budget Speech

^{3/} Nepal Rasta Bank

Rice, jute, sugar cane and tobacco are the main crops grown in the Terai. In the valleys of the middle ranges rice, millet and mustard seed are major crops with wheat in western Nepal. Maize is grown mainly in the hills. Potatoes are cultivated from the Terai to the Tibetan plateau.

Road network.

The topography of the country has dictated the configuration of the road system. With the exception of the Mahendra Highway, the new national highway that runs in an east-west direction through the Terai, most of the roads run from a centre of population to the Indian border - Pokhara to Bhairahawa (184 km), Kathmandu to Birganj (191 km), Dandeldhura to Dhangadhi (140 km) and Danduta to Biratnagar. A road links Kathmandu with Kodari (114 km) on the Chinese border, and another with Pokhara (174 km). Until the opening of the Kathmandu - Pokhara and Kathmandu - Kodari roads the supplies to such population centres as Kathmandu, Pokhara, Dharan, Surkhet etc., were brought over the roads, or tracks, linking these places with India. There was virtually no east west traffic.

Population.

The population is homogeneous in the sense that all born in Nepal are Nepalese. However racially they are heterogeneous. There is a strong Chinese or Tibetan influence in the north and an equally strong Indian one in the south. These influences gradually weaken as the east-west axis of the country is approached. There is a large number of Indian labourers working in the Terai. The population is predominantly rural (89%). The urban population, based on towns of 20,000 or more inhabitants, in 1971, numbered just over 358,000. The urban centres are:-

Kathmandu (capital)	150,402
Lalitpur (Patan)	59,049
Biratnagar	45,100
Dhaktapur	40,100
Nepalgunj	23,523
Pokhara	20,611
Dharan	20,503

These figures refer to the districts centred on the particular towns rather than to the towns themselves. It is probable that present populations are 11 to 13% higher, Kathmandu possibly 15% higher, than that shown above.

The total number of children and young persons over six years of age, in 1971, was 9,453,846 of which 8,851,696 (93.7%) were not enrolled in any school. Approximately two-thirds of those undergoing education were in primary schools and only 10% in middle schools. 4/

Labour force

The economically active population is based on the lower age limit of 10 years. Under the labour code a child, here defined as a person under 14 years of age is debarrred from working in a factory. It is estimated that some 50,000 fall into the 10 to 14 years age group. Males constitute over 70% of the economically active. There is some diversity of opinion on the total strength of the labour force in the manufacturing industries. The Abstract of Statistics places it at 51,000 (1971) while the "Census of Manufacturing Establishments" gives 47,638 (1972). The difference appears to be too great to be explained by enterprises going out of business, and not great enough for cottage industries to have been included in the former total. Of the latter figure 12,510 were not of Nepalese origin.

Industrial Background

Nepal is still in the very early stages of industrialization. The percentage contribution of "Manufacturing" to the Gross Domestic Product in the fiscal year 1973/74 was only 3%. However, if "Cottage Industry" is included the figure rises to nearly 10%. As will be seen from Table I the average annual increase of contributions of "Manufacturing" and "Cottage Industry" were, respectively, 28.3% and 10.8% over the years 1970 to 1974. With the exceptions of "Mining" and "Transport and Communications", "Manufacturing" showed the greatest percentage annual increase. In absolute terms it was well ahead of "Mining" and almost equal to "Transport and Communications".

Prior to 1974, industry was classified according to the value of fixed assets:-

Cottage industry	Fixed assets less than R.50,000
Small-scale industry	Fixed assets R.50,000 - R.200,000
Medium industry	Fixed assets R.200,000 - R.1,000,000
Large-scale industry	Fixed assets over R.1,000,000

In 1974, with the introduction of the "New Economic Policy", the limits were altered.

Cottage industry	Fixed assets not exceeding R.200,000
Small-scale industry	Fixed assets between R.200,000 - 1,000,000
Medium industry	Fixed assets between R.1,000,000 - 5,000,000
Large-scale industry	Fixed assets over R.5,000,000

The latest "Census of Manufacturing Establishments" ante-dates this change. The raising of the upper limit for small-scale industry has created problems for those industrial estates that had been designed to cater for former small-scale establishments.

One of the effects of the change in the definitions of cottage and small-scale establishments would have been to make cheaper money available to those former small-scale enterprises that fall into the "Cottage and Village Industry" classification. Under the "New Economic Policy" it was intended that the rate of interest on loans to "Cottage and Village Industry" would be between

3 and 4% (previously 6%) and that "Small Industry" rates, depending on the type of product and the location of the enterprise, would vary between 6% and 9% (previously National Industrial Development Corporation loans to "old" small-scale establishments attracted interest at 12%). However, under the pressure of inflation the new interest rates had to be increased. "Cottage and Village Industry" now will have to pay 10% interest on its borrowings and other borrowers 12% to 15% (possibly higher if luxury goods are produced). Under the new system it appears that former small-scale enterprises will be eligible for loans for working capital. The change makes the Balaju Industrial Estate, which was intended for medium-scale enterprises, now almost equally divided between cottage and small-scale establishments, with only one or two medium-scale undertakings.

The number of manufacturing establishments in 1972/73 (latest available "Census of Manufacturing Establishments") was 2,434 providing a total employment of 47,638. The distribution of establishments by the number of persons employed is given below, but there is no published information that shows the employment in each size category.

Manufacturing Establishments ^①

Employment, size category						
I - 9	10 - 19	20 - 49	50 - 99	100 - 499	500 - 999	1000 up
1,939	223	123	84	51	7	7

An approximation of the number of workers in each establishment size category has been made by taking the average employment in each group as the mean of the group range, and as 1,100 for the 1,000 plus establishments. This method gives the total employment as 51,895, compared to 51,902 quoted in the "Abstract of Population Statistics". On the above basis the number of workers in each size group is shown below. See Table IV p.19/20

Employment by size group						
I - 9	10 - 19	20 - 49	50 - 99	100 - 499	500 - 999	1000 up
9,695	3,345	4,305	6,300	15,300	5,250	7,700

Of the 2,434 manufacturing establishments, 1,860 were rice milling and oil expressing undertakings which, together employed 18,909 persons. This industrial category alone accounts for

^① The number of establishments shown in the 1 to 9 workers group may include some cottage enterprises, but it cannot include all of them. The number of such undertakings is not accurately known. The Dept., of Cottage and Village Industry puts the number employed as between 2% and 11% of the economically active population.

49% of the value added by all manufacturing units. 5/ The total added value was R. 311,798,000. The contribution of certain industries to the total added value in the manufacturing sector is listed below.

Industry	No. workers	Added value R.	%age	Added value A.V./worker R.
Cereal processing & oil expressing	18,909	154,034,000	49.4	8,146
Brick and tile making	5,300	35,562,000	11.4	6,710
Miscellaneous industries	2,577	45,630,000	14.64	17,720
Wooden furniture	1,370	14,401,000	4.62	10,511
Biri making (native cigarettes)	4,462	11,910,000	3.82	2,669
Sugar refining	2,369	11,881,000	3.81	5,015
Printing	801	10,081,000	3.28	12,587
			<u>90.98</u>	
All manufacturing industries		311,798,000	100.00%	

There are a number of industries in Nepal that are represented by large-scale establishments. Among these are jute processing, sawmilling, the manufacture of agricultural implements, the making of bricks and tiles, the tanning of leather and the manufacture of footwear, rice milling, and the manufacture of cement, cigarettes and matches. A cotton textile mill is under construction, and there is a proposal for a plant to produce fertilizers. It is also proposed to take measures to increase and diversify the production of existing factories.

There is a high mortality rate among industrial establishments. Out of the 2,434 listed in 1972/73, 875 or 36% were temporarily or permanently closed down. The causes of the closures are given below.

Cause	Lack of working capital	Lack of foreign exchange	Lack of trained person'l	Loss of markets	Lack of raw materials	Other causes
Total	875	54	7	40	40	225
						509

The most common single cause is the lack of raw materials. This, in fact, means imported materials. The deficiencies in regular supply may be attributed to difficulties of transportation and treaty arrangements with India. These problems are faced by large and small-scale establishments alike. For that reason inventories carried tend to be high with consequent reduction in liquidity, and working capital difficulties. Among "Other Causes" disputes within a partnership are believed to be well represented.

5/ Rice milling alone accounted for 46% of the value added.
"Rice Marketing in Nepal" 1970

The structure of industry is principally one of individual private ownership. Almost 84% of industrial establishments are owned by an individual, partnerships account for 11% and public and private limited companies for approximately 0.7% and 4%, respectively. Nearly 86% of the individually owned enterprises are in the under ten workers category. The majority of partnerships (60%) also are in that range. Although public companies occur throughout the whole spectrum, the greatest percentage is in the 100 to 499 workers group.

Small urban workplaces.

The small manufacturing enterprise generally is accommodated on the ground floor of a residential building. The premises are damp, badly lit, have little headroom and no sanitation. The working conditions are very bad. The equipment is minimal and the housekeeping atrocious. As with most establishments, particularly those engaged in metal-working, in the Far East, the work spills out on to the roadway. In Nepal, this probably causes less inconvenience than in most other countries as many of the workplaces are situated in lanes impassable to motor vehicles. The only point in their favour is the low rent charged. There are, of course, some concerns, notably batters and handloom weavers that have obtained better premises. In the few examples, seen by the writer, of the metal-working trades accommodated in comparatively modern buildings the housekeeping was very poor. The impression was obtained that the premises were used mainly as a lockfast store and the work carried out in the open.

TABLE I

Gross Domestic Product by Industrial Origin					
At current market prices					Rs in millions
Sector	1970/71	1971/72	1972/73	1974/75	Average annual % change
Agriculture	6,040	7,095	7,704	9,068	16.7
Mining	1	2	3	3	66.7
Manufacturing	215	285	312	397	28.3
Construction	213	149	153	219	3.7
Transport and communications	234	285	347	422	26.7
Cottage industry	604	710	770	907	16.7
Financial Insts.	130	145	163	183	10.8
Ownership of dwellings	745	762	779	796	2.3
Public administration & defense	215	230	228	250	5.4
Electricity	20	23	29	28	13.3
Wholesale and retail trades	372	381	390	399	2.4
Services	219	232	382	456	21.1
Total	9,077	10,390	11,260	13,128	14.8

Source Central Bureau of Statistics Kathmandu.

CHAPTER II

Industrial Estates

In Nepal an industrial complex on prepared and serviced land may be known as an "Industrial District" or an "Industrial Estate". They are one and the same, and are industrial estates in the accepted meaning of the term. At the moment, there are seven industrial estates - Balaju, Patan, Hetauda, Pokhara, Nepalgunj, Dharan and Butwal. The last is not yet operational; only the site preparation has been completed. An estate for Surkhet is in the planning stage. Table II gives some details of the existing estates.

The Balaju and Hetauda estates were developed with assistance from U.S.AID. The Indian Co-operation Mission assisted in the construction of all the other estates. The Patan estate was designed to promote cottage and small-scale industries. It is situated in the old capital of Nepal, about 5 km., from Kathmandu; an area rich in skilled wood carvers and metalworkers. The Balaju estate was intended for small and medium-scale establishments, while that at Hetauda was to cater for medium and large-scale units. Despite this policy some cottage scale industry is to be found on the Balaju estate; small-scale at Hetauda; and medium-scale at Patan.

Until recently the Balaju and Hetauda estates were controlled by the NIDC, while Patan was under the aegis of the Ministry of Industry and Commerce. However, the new policy is for all industrial estates to come under the Industrial Services Centre (ISC).

Government objectives 6/

The proclaimed objectives of the "New Economic Policy" are to: (a) bring about both quantitative and qualitative improvements in industrial production and productivity; (b) create more industrial employment opportunities for absorbing the excess labour force engaged in agriculture; (c) mobilise local capital, skills and resources to the maximum; (d) be self-reliant in essential goods of daily consumption and construction materials within the shortest possible time; (e) minimize regional imbalances; and (f) improve the balance of payments position by resorting to increased exports and imports substitution. The tools to be used to attain these goals are industrial estates, loans and financial incentives.

Cottage and small-scale industries

To attract new investment in cottage and small-scale industries the Government offers a graduated scale of income tax remission, reduction of import duty on machinery and materials, &

6/ "New Economic Policy" 1974

TABLE II

Industrial Estates

Estate	Balaju	Patan	Hetauda	Pokhara
Year of establishment	1960	1963	1963	1974
Gross area (hectares)	37.56	5.13	129.0	14.81
Leasable area "	22.54	NA	77.4	2.63
Leased area "	16.85	NA	40.74	0.24
Worksheds owned by estate	38	22	13	6
Planned number of establishments	50	78	70	36
Existing industrial establishments	44	74	21	6
Investment in estate to 1973/74	R. 11,718,776	4,822,000	10,115,675	

Estate	Bupal	Nepalgunj	Dharan
Year of establishment	1976	1973	1972
Gross area (hectares)	15.24	7.05	9.71
Leasable area "	9.21	4.58	6.31
Worksheds owned by estate	-	17	16
Planned number of establishments	24	17	16
Existing industrial establishments	-	5	4
Investment in estate to 1975/76			R. 3,327,400

period of exemption from excise duty (where applicable) on manufactures, and a system of differential interest on borrowed money. The duration of the tax holiday and the interest rate applicable are dependent on the type of goods manufactured, their local material content and the location of the establishment.

The NIDC is now authorized to grant loans to industrialists established on industrial estates to between 80% and 95% of their fixed assets, depending on the region in which the estate is situated.

The Industrial Services Centre is able to offer management consultancy services and feasibility studies on new products. This, of course, is not confined to the small-scale sector. On the handicraft side, encouragement is to be given to improvement in both quality and quantity, to the promotion of new designs, and to the dissemination of market information. It is proposed to make annual awards to outstanding craftsmen.

Facilities on industrial estates.

In addition to prepared and serviced plots the estate administration provides watch and ward (estates are enclosed by fencing or a wall and guards are provided), a common workshop facility (Patan only; the workshops at Balaju and Hetauda have become commercial enterprises), clinic, a library (Balaju), a canteen, a bank, a sub-post office and an exhibition hall (Balaju only). All estates have an administration building and a number of warehouses.

The lessee of a plot is permitted to build his own premises subject to approval of the design by the estate administration. The administration is prepared, funds being available, to erect and lease a workplace for and to the lessee. All of the older estates have both estate and privately constructed factories. The new estates, for the moment, at least, contain only workshops built by the administration.

Growth of Industrial Estate Programme

The elapse of time between the decision to create an estate and the acquisition of the land has been, in one instance, as much as two years. It is not possible to give an estimate of the time taken to complete the infrastructure as, in all estates except Patan, the process is continuing. Usually an estate is ready to accept tenants within one year of obtaining possession of the land.

The growth of the programme has been slow. The initial effort at Balaju was closely followed in time by Patan and Hetauda. Between the latter and Dharan there is a hiatus of nearly a decade. The reason, probably, may be the slow rate of occupation of both Balaju and Hetauda. Hetauda, after an existence of thirteen years is only one-third occupied. In 1966, there were only 13 firms operating at Balaju. Dharan, after four years, has only

25% of the worksheds filled. In 1970, the rate of occupation at Balaju started to rise at an increasing pace. There are now 45 concerns to whom land has been allocated. Patan is full, and the executive authority is endeavouring to acquire additional land.

Utilization of industrial Estates.

Out of 50 industrial enterprises established in the vicinity of Patan since its inception 39 are located on the estate. Similar information is not available for the Kathmandu area, but is stated there is a long waiting list for worksheds at Balaju. There is a demand for industrial sheds on the Hetauda estate, but some have been occupied for other than manufacturing purposes. 7/

Employment created on industrial estates.

The employment on the three main estates is shown below.

Estate Year	Balaju	Hetauda	Patan
1969	1,026	N.A.	580
1970	1,089	95	651
1971	1,132	167	708
1972	1,102	191	737
1973	1,312	241	783
1974	1,423	515	845
1975	1,422	581	845

From an inspection of the above table and the areas of the estates given in Table II, it will be observed that the worker density on the Patan estate is almost double that at Balaju, and about 13 times that at Hetauda. This is explained by the fact that the plot areas in Balaju are large, in the writer's opinion too large, and at Patan they are very small with little room for expansion in a number of instances. The very low density at Hetauda may be explained by firstly, the number of factories that have closed down, and secondly, by the larger scale operations generally conducted on the estate. The employment provided at Pokhara Nepalgunj and Dharan is not known to the writer, but an estimate, based on the size of the worksheds and the number occupied, is that collectively it does not exceed 300.

Performance of enterprises on industrial estates

An analysis of the industrial activities listed in the Census of Manufacturing Establishments and the performance of representatives engaged in these activities on the industrial estates of Balaju and Patan shows that in six of the common operations the unit size, in terms of the number of workers, is greater than the national average, and in seven of the activities the productivity (output per worker) is lower on the estates. Generally the productivity is higher than the national average when the estate unit is the larger, but not invariably so. The results are tabulated in Table III. The existence of a very large unit

7/ "Report on Organization and Management of Industrial Districts in Nepal" Industrial Services Centre, 1975.

TABLE III
Patents and Patent Estates only

	National average size of workers	Average size on estates	National average output per establishment, \$	Average output per establishment on estates, \$	National average output per worker	Average output per worker on estates
Cereal processing and oil pressing	10.2	9.5	708,500	258,594	69,690	27,200
Bakeries and biscuits	20.7	68.5	718,280	3,798,214	34,670	55,314
Yarn and textiles	26.6	56.5	223,000	400,598	8,375	7,090
Wooden furniture	18.3	91.0	281,964	1,057,462	15,435	11,371
Metal furniture	29.2	39.0	745,733	419,039	25,538	10,765
Printing presses	10.1	125.0	743,875	1,413,512	34,345	11,308
Metal household utensils	27.4	11.3	674,637	340,381	24,503	30,123
Repair workshops	8.2	10.0	47,000	204,164	5,730	20,416
Jewellery and curios	29.4	18.0	391,226	253,240	13,296	14,069
Footwear	62.0	32.5	654,800	220,387	14,106	6,781
Carpets	69.0	31.0	3,677	2,315	3,677	2,315

Source: National figures "Census of Manufacturing Establishments"
 Estate figures "Estate Profiles"

in one of the groups can distort the picture. For example, in the "Bakery and Biscuits" classification there is a large factory on the Balaju Estate which boosts the estates productivity, and, per contra, the small factories on the estates have lower productivity than the largest unit which is located outside the estates. While the results are inconclusive there is nothing to suggest units on the estates have better performance than those outside. Indeed the suspicion is aroused that the estates may be sheltering enterprises that could not survive outside. The establishments on the Hetauda estate were not included in Table III as generally they are of a different type to those on Balaju and Patan Estates.

The capital - output ratios of the estate undertakings of 10 and more and under 10 employees are low, being, respectively, I : 1.97 and I : 0.7. The latter is distorted by the large fixed capital of the Kathmandu Cold Storage at the Balaju Estate. If that is deleted the ratio becomes I : 1.75. The national average, all manufacturing establishments, is I : 6.9, but this ratio is unrepresentatively high on account of the very great number of small rice milling enterprises. All data was taken for the same year 1972/73. Some of the estate enterprises may not have reached full production. In cases where there was only one establishment in a particular activity group on the estates it may not have been truly representative. While the sample may be too small for a fair comparison, there is nothing to indicate that estate enterprises are as efficient as their counterparts outside.

The few enterprises that had moved from another location to an industrial estate reported increased employment

Advantages of premises on an industrial estate.

By far the majority of enterprises on the industrial estates are new ventures. Potential entrepreneurs, particularly those proposing to operate on a small or medium scale, would experience great difficulty in finding a site where it is possible to obtain the essential services. It is not a question of cost, although that would be a factor, but the lack of suitably serviced sites. For the small-scale industrialist it would be unthinkable to consider a location other than an industrial estate unless his requirements of water and electricity were minimal, and he was dependent on passing trade. Apart from the saving of capital by leasing accommodation on an estate, an entrepreneur would find it easier to obtain a loan from the NIDC if he were so located, and his fixed assets would qualify for a larger loan than the same security outside an estate.

Problems of enterprises on estates

In response to a questionnaire circulated by the Industrial Services Centre, entrepreneurs on industrial estates indicated that their problems, in the main, were related to raw materials, finance, skilled manpower and marketing. The distribution of these is shown below.

Subjects of complaint from entrepreneurs

Estate	Raw Materials	Finance	Skilled Manpower	Marketing	Delays	Other
Balaju	26/30	27/30	22/30	22/30	13/30	2/30
Hetauda	3/6	4/6	1/6	2/6	2/6	-
Patan	21/34	21/34	9/34	5/34	5/34	7/34

The denominator in each case being the number of factories in operation on the estate.

Source. "Report on the Organization and Management of Industrial Districts in Nepal". ISC 1975.

The delays refer to dealing with Government Departments. This was proportionally least at Patan which was directly under the control of the Ministry of Industry and Commerce. The other estates had to deal through the NIDC. The problems relating to raw materials, finance and marketing were most acute at Balaju. This is explained by the lower percentage of establishments using exclusively local materials, and the higher ratio of enterprises depending on the domestic market. 8/ All of these problems are experienced to an equal degree, at least, by firms outside industrial estates.

Failure of enterprises on industrial estates.

The percentages of factories that have closed down on each of the three main estates are:- Balaju 14.1% (5 factories), Patan 12.8% (5 factories) and Hetauda 50% (6 factories). 9/ The failures in Balaju and Patan are attributable to either bad management, breaking up of partnerships and, in one case at Patan, inability to obtain raw materials. The incidences of failure at Balaju and Patan are less than the national average. The closures at Hetauda were the result of a change in the Trade and Transit Agreement with India whereby that country imposed prohibitive duties on manufactures with little Nepalese content. The classes of goods affected were warm-knitted synthetic fabrics and stainless steel hollow-wares.

New products developed on industrial estates.

The Balaju Yantra Shala, a joint venture of the NIDC and the Swiss Association for Technical Assistance (SATA) which was established originally to provide training and to serve as a common workshop facility, has developed products quite new to Nepal. These are:- (i) a cross-flow hydraulic turbine to drive small mills; later it is hoped to use it to generate electricity; (ii) solar heaters to supply domestic hot water, about 150 have been sold and installed; (iii) a gas generator using cow dung as fuel; and (iv) an appliance to filter and sterilize drinking water. All of these are aimed at reducing the dependence of Nepal on imported fuels. The last of these, the filter sterilizer, is likely to find a ready market wherever there is electricity. It is essential to boil and filter the piped water supply in many areas of

8/ "Report on the Organization and Management of Industrial

9/ Districts in Nepal" ISC 1975.

Nepal.

Services to client enterprises.

The Industrial Services Centre is available to supply management consultancy and feasibility studies on new lines of manufacture. It is not yet in a position to provide an industrial extension service.

The training of youths to become skilled fitters, turners, platers and welders was given by the Balaju Yantra Shala (BYS) until about two years ago, when this function was transferred to the Tribuvan University. The course took two years and the average intake was 36 trainees. It is understood the University now wishes to disassociate itself with this type of activity. It is unlikely that the BYS will be able to re-accept it. The BYS has changed from a common facility workshop to a engineering enterprise in its own right. Although it still undertakes work for firms on the Balaju Estate, and, indeed, gives it priority, it makes no concession in its charges. On Patan Estate there is a hand-craft Centre that prepares designs for products aimed at the tourist market.

The estate administrations sponsor applications from client enterprises to obtain imported materials. In this respect the Patan Administration was better placed on account of its direct link with the Ministry of Industry and Commerce.

Clients' views on services provided. IO/

The entrepreneurs at Balaju complained:-

- (a) The drinking water supplied was of sub-standard quality.
- (b) The electrical supply was not continuous and subject to fluctuations in voltage.
- (c) No steps had been taken to supply low-cost housing for workers.
- (d) Medical facilities were unsatisfactory.
- (e) Warehousing facilities were inadequate.
- (f) The sponsoring of clients' applications was unsatisfactory and lacked adequate follow-up.
- (g) There were no transport facilities provided for the workers.
- (h) The only training available was the in-training provided by the clients themselves.
- (i) Lack of canteen facilities.

At the Patan Estate the complaints related to inadequate water supply and medical facilities. A few clients expressed the need for technical advisory services and training.

The complaints relating to electricity may be outside the control of the Balaje Administration. There is a stand-by generator, but it cannot take the full load. It is not the policy to provide transport or workers' housing; there are not the funds to do so. A bus service to Kathmandu operates sporadically.

IO/ "Report on Organization & Management of Industrial Districts in Nepal"

Several of the warehouses on the Balaju Estate have been used to accommodate enterprises or the expansion of enterprises. The canteen failed because the contractor permitted too much credit to his customers; it is now used as factory premises. Although there is a visiting doctor and a resident dresser (paid by monthly contributions based on the number of employees, from both the entrepreneurs and the Estate administration) the Estate Administration admits that only a first-aid service is provided. The two most serious complaints are those relating to the electrical and water supplies. The latter is receiving attention.

Training

SATA, on Balaju Estate conducts training courses for plumbers. Although this may be of little direct benefit to entrepreneurs on the estate, there have been fairly wide repercussions in the Kathmandu area. The courses are essentially in-training supplemented by class-room study every Friday morning. They last for four years, and there are about 28 trainees in each semester. The Plumbing Division of YBS undertakes work on contract. The entire plumbing system of a new hotel in Kathmandu was installed by SATA trainees. The Swiss Instructor reports that there is a high turnover of labour within the Plumbing Division; trainees leave to start their own businesses. There, certainly, is ample scope for plumbers and sanitary engineers in Nepal.

The Technical Training Institute, Kathmandu, was established in 1964 under the German Aid Programme. It provides three-year courses in general and automobile mechanics and electricity. In 1972 Tribhuvan University took over the control of the Institute, and to date 284 students have been trained.

The Department of Cottage and Village Industries has a technical training programme that provides instruction in textile weaving, carpentry, blacksmithing, sewing, hosiery, carpet weaving, ceramics and pottery. The training centres are in Kathmandu, Pokhara, Surkhet, Dhankuta and ten other places.

The Centre for Economic Development and Administration conducts training courses for personnel involved in administration and management in both Government and private organizations.

Safety, health and welfare.

(a) Safety.

The guarding of machine tools left much to be desired. It was not that guards were not available, but they were not used. The machine shop of a large furniture making establishment at Patan was a particularly bad example. The only direct comparisons, the writer was able to make, were between welding shops on and off an estate. In both cases the welder was provided with protective goggles, but in neither was any attempt made to screen near-by workers from the harmful effects of the electric arc.

The writer did not observe gloves or protective footwear in use.

The fire fighting arrangements on Balaju and Patan Estates appear to be inadequate. Only on the Hetauda Estate are there fire hydrants. The other estates have portable fire extinguishers.

(b) Health.

The workshops provided on the estates are infinitely superior to those occupied by most small-scale enterprises outside. They are more spacious, better lit and ventilated and provided with concrete floors that are much easier to keep clean than the packed earth or brick floors of most Nepalese workplaces. They are provided with adequate sanitation, an amenity that many Nepalese homes do not possess.

The medical care provided at the Patan and Balaju Estates has been criticised by their clients. Shortage of funds is the reason why better service is not available. At Patan a "Welfare and Security Committee" has been formed to run the clinic and supervise security arrangements (the guards being paid by the Estate Administration). Contributions, ranging from R.10 to R.200 per month, depending on their volume of business, are paid by client enterprises. The Hetauda Estate has a dresser on the pay-roll, so no charge is made for treatment.

(c) Welfare.

The Labour and Factories Act, 1959 (revised 1973) lays down conditions of employment in factories. A simplified definition of a factory is any place in which 10 or more labourers are employed where some manufacturing process is carried on, and includes every factory on an industrial estate regardless of the size of the labour force. The Regulations under the Act cover wages, working hours, employment of children, leave, pensions, gratuity, provident fund, compensation, first aid, provision of rest room for women employees, crèche etc.

The writer was given to understand that part of the current welfare legislation stems from the Balaju Yantra Shala factory. It was the first to introduce a provident fund and bonus system. The workers contributed 8 $\frac{1}{2}$ % of their earnings to the provident fund and the firm a like amount. The company, under its constitution distributed 25% of its pre-tax profits to its employees; 10% as bonus, 10% in lieu of accommodation and 5% for welfare (covering the expenses incurred by births, marriages and deaths in the workers' families). These principles are now embodied in the law. Prior to the legislation coming into force several of the larger firms on the Balaju Estate were compelled to follow the lead of Balaju Yantra Shala.

Labour relations.

There is no trade union movement in Nepal, nor, as far as is known, any association of workers organized on trade lines. Under the Constitution, a National Labour Organization is recognized. It consists of five separate groups:- Youth, Women's, Ex-Service Men's, Peasant's and Labourer's sections. As far as the last is concerned, there are three separate levels:- Plant, District and Central. The employees in a factory may select one of their members to represent them. The chosen representatives elect the District Committee, and from these Committee members one or two are elected to the Central Labour Advisory Committee. The Central Committee has no executive powers, nor does it have any representation in the National Panchayat (Parliament). Its purpose is to advise Government.

The Government, through the Department of Labour, has power to intervene in any dispute between employees and their employer. If voluntary conciliation fails, the Department has legal power to stipulate the method of settlement. A decision of the Department is enforceable in the Courts. The Government has also the power to declare any strike or slow-down unlawful in the interest of national security.

The few disputes that have occurred have been settled by the Department of Labour conciliation tactics.

Enabling instruments operated by the Department of Labour include the Labour and Factories Act, the Bonus Act and the Minimum Wage Laws. Under the Bonus Act, 10% of the pre-tax profits of a company must be distributed as a bonus to the employees up to a maximum of three-months wages. Should the 10% exceed that limit, the balance must be used for the workers' welfare. In the large plants a Labour Management Committee decides how the excess is to be spent. Small units seek the advice of the Department, whose recommendations usually are followed. A common means of disposal is the payment of a housing allowance. There is believed to be some evasion of the obligations imposed by the Bonus Act, particularly by small firms employing casual labour.

The minimum wages laid down at present are:-

Unskilled labourer (male or female)	R.150 per month
Semi-skilled labourer	R.173 " "
Skilled tradesman	R.228 " "
Highly skilled tradesman	R.320 " "

In most firms the skilled and highly skilled tradesmen are able to command considerably higher rates.

Apprentices

Formal apprenticeship is rare. The Department of Labour is investigating the possibility of introducing a National Apprenticeship Training Scheme.

Educational standards.

The educational standards vary considerably from trade to trade. In the metal working industries, except perhaps the casting of figurines, the workers generally have some or complete primary education. Those accepted for training courses have completed Middle School. Supervisors usually have one or two years of High School. Many of the workers in other trades are illiterate. The proprietor of a weaving shed at Patan does not require an employee to have attended school. He believes most of his workers have had no schooling. Employers and managers, except some of the older ones, have completed High School, and not a few have technical qualifications.

Inter-firm trading on Estates.

The volume of inter-firm trading on industrial estates is negligible. The DYS carries out repairs to the machinery of other entrepreneurs on the estate and the Balaju Auto Works maintains vehicles owned by tenants of the estate, but these are only occasional operations. Although there are tile finishing facilities at both Balaju and Patan Estates they are not used by weavers on either estate.

CHAPTER III

Economic Considerations

An entrepreneur desiring to start a manufacturing operation must submit his proposal to the Department of Industry. If the Department approves a licence is issued. Should the licensee wish to establish his business on an industrial estate a permit to do so is granted subject to the availability of a plot.

A plot is leased for a period of 20 years at a fixed rent which cannot be altered (Balaju and Hetauda). The lessee may erect only buildings to be used for the industry he intends to pursue. If a building is leased by the Estate Administration it is for a period of one year, and the lease is renewable yearly. The lease agreement requires that minor repairs and insurance are to the lessee's account, and that the Estate Administration shall be the sole supplier of electricity and water. Provision is made for changes in the charges made for these services. The terms at Patan are much the same, except that there are arrangements to terminate the lease if the lessee takes too long to commence operations; closes down for more than six months; and by mutual consent at three months notice. The land rent at Patan may be increased in the discretion of the Estate Administration.

The land rent at Balaju is R.300 per ropani (about one-twentieth of a hectare) per annum for the first three years, and R.400 thereafter. At Hetauda and Patan the rent is constant for the period of the lease, and is, respectively, R.175 and R.150 per ropani per annum. The rent of buildings, at Balaju and Hetauda, is 10% of the total construction cost per annum. At Patan the rent charged for a building varies with the floor area, from R.105 for 1,500 sq.ft., to R.225 for 3,500 sq.ft.

Both Patan and Hetauda supply electricity at the same rate as they receive it; subject to a minimum charge of R.7.00 per installed kilowatt in the case of the latter estate. At Balaju the charge is R.7.50 per installed KVA and R.0.12 per kilowatthour plus a surcharge of 5%.

The arrears of rent at Balaju are considerable.

Development costs

The development cost of an industrial estate increases year by year as more land is made ready to receive factories. The investments in the three major estates at the end of each of the fiscal years 1971/72, 72/73 and 73/74, together with the clients' investment are shown in Table V. The increasing ratio of Estate Administration to clients' investment at Balaju and in the last two years at Hetauda is indicative of over and unproductive investment by the Estate Administrations. Similar data is not available

TABLE V

Estate Administration and Clients' Investments

Year	Balaju Estate			Motauda Estate		
	Estate Investment	Clients' Investment	Age	Estate Investment	Clients' Investment	Age
1971/72	9,518,776	14,861,750	77	7,265,673	10,000,000	72.5
1972/73	10,518,776	15,038,750	60.9	9,265,673	16,940,000	54.6
1973/74	11,718,776	14,853,750	78.8	11,115,675	16,940,000	50.7

Year	Datan Estate		
	Estate Investment	Clients' Investment	Age
1971/72	NA	NA	NA
1972/73	NA	NA	NA
1973/74	4,822,000	5,189,593	93

TABLE IV

1972/73

Estab'nent size (workers)	No. of		Employment	Fixed capital (000)	Pro-duction (000)	Capital Output
	ON I.E.	Other				
10 and over	ON I.E.	61	2,677	16,557	32,734	I : 1.97
	Other	134	39,523	NA.	NA	NA
9 and under	ON I.E.	14	85	2,966	606	I : 0.23
	Other	1,925	9,610	NA	NA	NA
Total		2,434	51,895	257,378	1,757,281	I : 6.9

for Patan.

A breakdown of the total investment in development is given, percentage-wise, for the Balaju and Hetauda Estates. II/

Item	Balaju	Hetauda
Land (clearing and levelling)	0.4%	3.2%
Buildings	29.3%	27.0%
Roads, drainage, earthworks	22.5%	24.2%
Electricity supply	10.9%	10.1%
Water supply	12.4%	28.6%
Equipment	5.5%	6.9%

The principal differences are in the cost of land and water supply. Land is more expensive in Kathmandu than in Hetauda. At Hetauda water had to be pumped from the Kerra river.

Profitability of industrial estates.

The revenues and expenditures of the three main estates are shown below.

Year	Balaju			Hetauda		
	Revenue	Expenditure	Balance	Revenue	Expenditure	Balance
1971/72	626,571	514,192	112,379	NA	NA	NA
1972/73	694,443	606,109	88,334	467,471	684,899	(217,428)
1973/74	790,200	719,505	70,695	407,493	595,430	(187,937)

Year	Patan			Source. Report on Organization and Management of Industrial Districts in Nepal
	Revenue	Expenditure	Balance	
1971/72	80,260	159,865	(79,605)	
1972/73	83,019	198,633	(115,614)	
1973/74	82,898	216,452	(133,554)	

If depreciation is included all estates, in the years under review, failed to meet their "operating" costs, and had to rely on subventions from their parent organizations. It is noteworthy that the balance at Balaju is decreasing, and that at Patan the deficit is increasing each year.

The total deficit for the three estates, including depreciation, for the above three years has been estimated at R.1,523,000. Against this the Government receives various taxes from the companies on the estates. The total received is not known to the writer. However, the firms on Balaju Estate alone contributed R.2,443,505 to the General Revenue in 1974. I2/ The Government, therefore, appears to be making a profit, as it is improbable that most of the enterprises that contributed would have been established but for the existence of the industrial estate.

Cost per job (1973/74)

The cost per unit of employment is the sum of the investment II/ Ibid. I2/ Balaju Estate Profile, 1974

in the estate and the fixed capital of the client establishments divided by the number of workers. Using the investment figures quoted in the Organisation and Management Report the cost per job in each of the three main estates is given below.

Balaju

Estate Administration and clients' investment	R. 26,572,526
Jobs created	1,320
Cost per job (US\$ 1,610)	R. 20,131

Hetauda

Estate Administration and clients' investment	R. 27,055,672
Jobs created	309
Cost per job (US\$ 7,000)	R. 87,558

Patan

Estate Administration and Clients' investment	R. 10,002,597
Jobs created	732
Cost per job (US\$ 1,108)	R. 13,854

By western standards these costs are low. The considerable difference between the Hetauda Estate and the others is due in part to the closure of a number of establishments that no longer are permitted to export their products to India, and partly to the more sophisticated, capital intensive industries on that estate. The difference between Balaju and Patan Estates is what one would expect in view of the generally smaller scale of operations on the latter estate.

Financing of industry

The rates at which funds may be borrowed are given in Chapter I. Most of the "old" small-scale establishments will be able to borrow through the Department of Cottage and Village Industries (provided they have no outstanding obligations with other lending agencies). In practice the Department of Cottage and Village Industries does not make loans from its own funds; it merely endorses (or otherwise) applications for loans to the National Rastra Bank. The endorsements, it is stated, are accepted without question. For working capital most enterprises use the commercial banks. These banks are required to invest 5% (now believed to have been increased to 7½%) of their total deposits in the small-scale sector.

Staffing of Estate Administrations

The staffing of the administrations appears to be too high. The present strengths at Balaju, Hetauda and Patan are, respectively, 69, 90 and 37, a total of 196. The salaries and wages are a burden on the estates, which, in the opinion of the writer, it should be possible to reduce by making certain senior staff members responsible for specific functions on more than one estate.

CHAPTER IV

Characteristics of estates visited

Balaju Industrial Estate

One of the most conspicuous features of the estate is the amount of land that is unoccupied. The ratio of leasable land to the gross area is only 60%. Furthermore, on about 30% of the allocated plots the ratio of covered to plot area is low.

As of now, there are 45 concerns to which land has been allocated; 34 of these are operational, 6 currently are constructing premises, 2 are not manufacturing units, and one, a flour mill has closed down. The establishments vary in size from 4 employees (wire nails) to 200 workers (structural and general engineering). The range is shown below.

1-2 employees Wire nails, patent and other medicines, oil mill, duplicating machines, cold storage, and plastics.

10-12 employees Automobile repairs, hand-made paper, aluminium utensils and hatchery.

20-49 employees Carpets, footwear, cane and bamboo furniture, flour milling, hand-loom weaving, filling of hydro-carbon gas bottles, animal feeds, hatchery, electrical servicing, and metal furniture.

50-99 employees Animal feeds, wooden building fixtures and furniture, bakery and hand-loom weaving.

100-400 employees Structural and general engineering, joinery and furniture, biscuits, printing and block-making, and textile (power looms) weaving and finishing.

Of five firms visited none had operated elsewhere before coming to the estate. Three reported increasing business and employment. In two enterprises the volume of business and employment had declined. One (hand-loom weaving of silk) attributed the cause to the poor domestic market and the inability to compete successfully with India in the export field. Preferential duties in Commonwealth countries were blamed. The other (manufacturing duplicating machines designed by the Department of Cottage and Village Industries) was unable to find a large enough market. Sales could be made only to Government Departments and schools. There were 50 unsold machines in stock; none had been produced for over a year.

The manager of a large furniture factory considered that while there were advantages (power, water, satisfactory premises) in being located on the industrial estate, there were also disadvantages. On the estate the labour regulations were observed; in particular

he referred to the payment of an annual bonus and a gratuity after ten years service. Outside the estate these obligations often were evaded by employing contract and casual labour. He was concerned mainly about the operation of the gratuity scheme. Unlike in some countries, the gratuity was paid in cash if the worker resigned after having completed the qualifying period. Many he said resigned merely to collect the money. He considered it should be held in a fund until the retiring age was reached. The current scheme, he contended, increased the turnover of skilled labour, and his overheads. It reduced his competitive position with firms outside.

The premises visited were clean and reasonably well maintained. In all but one (duplicating machine factory) the covered area was adequately utilized. The guarding of moving parts could be described as only fair. Machine tools were provided with protective devices, but frequently the drive from the motor to the machine constituted a hazard.

Patan Industrial Estate.

The Patan estate is very compact, having a gross area of only 5.13 hectares; all of which has been developed. It contains 38 workshops besides buildings used for non-commercial purposes (e.g. administration block, social centre, communal workshop, handicraft centre etc.) The social centre is run by a "Labour Welfare and Security Committee" composed of client entrepreneurs under the Chairmanship of the General Manager of the estate. Its main functions appear to be the operation of the clinic, the cleaning of the estate, and supervising security. Twenty-two of the workshops were built by the Estate Administration, and have been leased to entrepreneurs.

There are 35 active enterprises. Three establishments have closed down. The reasons given for the closures are (a) difficulty in obtaining raw materials; (b) bad management; and (c) a dispute within the partnership.

The enterprises vary in size from 2 (wire nails) to 90 employees (wooden furniture). The range is given below.

<u>1 - 9 employees</u>	Writing chalk and inks, cane and bamboo furniture, oil mill, flour mill, wire nails, barbed wire and wire netting.
<u>10 - 19 employees</u>	Aluminium utensils, type casting, bread and biscuits, wooden fixtures for buildings, hosiery, polythene tubes, steel furniture, steel structures, carpets, bronze castings, distemper, cotton fabrics, brass and copper utensils.
<u>20 - 49 employees</u>	Wood carvings, steel furniture, cotton textiles, cast brass curios, footwear and leather goods.

50 - 99 employees Cotton textiles, wooden furniture, steel furniture and structures, electrical servicing and wood carving.

Four firms were visited. Only one had been in business before settling on the estate. This undertaking originally had 8 weavers producing fabrics on hand-looms. Since coming to the estate it has installed power looms, and now employs 40 workers. The output has risen from about 1,500 yds per month to 8,000 yds per month. It is proposed to introduce double-shift working in the very near future. This firm operates on rather unusual lines. A seven-day week is worked; each employee being allowed four days paid leave per month. Most of the weavers have had no formal education. The Supervisor completed Middle School. The manager is a university graduate.

An establishment producing wooden furniture has increased its sales to R.700,000 per annum. Seventy-five workers currently are employed. The writer's informant did not know the strength of the original labour force, but he was certain that it had grown considerably.

The third enterprise produces cast brass statuettes mainly for the tourist market. In the ten years it has been on the estate the employment has risen from 10 to 60 workers, and the turnover to R.40,000 per month. About 40% of the production is exported. Another firm in the same line started on the estate in 1971 with 35 workers. It was stated that the level of employment had varied with the volume of business. At the time of the writer's visit there were 35 employees. The owner complained of a high rate of turnover in staff; many of them leaving to start their own business.

Hetauda Industrial Estate.

The estate is situated some 135 km. from Kathmandu, and about 55 km. from Birgunj on the Indian border. The site was chosen on logistic grounds, and the availability of electric power and water. The largest sawmill in the country was already established in the neighbourhood. From the start the estate was intended to provide accommodation to medium and large-scale undertakings.

There are (Oct. 1976) 13 enterprises in operation on the estate, 2 under construction, 4 closed down (1 temporarily) and land has been allocated for 2 more establishments. The information on the employment provided is conflicting. The writer's estimate is 618, but the official figure is somewhat lower. A breakdown into size groups is given here-in-under.

I - 9 employees Animal feeds.

10 - 19 employees Seed processing, engineering workshop,

- 10 - 19 employees Food testing laboratory.
cont.
20 - 49 employees Rice mill, parquetry and "Huno"-lines.
30 - 28 employees Cigarettes, soap, dairy products, and flour mill.
100 - 408 employees Brewery, glass manufacture (temporarily closed)

The three establishments permanently closed down are two synthetic textile plants and an oil mill. The reason for the closure of the textile (harn-mitting) factories was a change in the Trade and Transit Agreement with India, and, for the oil mill, a partnership dispute. The temporary shutdown of the glassworks is believed to be for technical reasons.

Five enterprises were visited, only one of which had been operative prior to moving to the estate.

Nepal Tobacco Co. This concern prior to 1969 had produced cigarettes in Kathmandu with a labour force of about 150. The reason for moving to Hetauda was increasing competition from a new cigarette factory in the public sector. The scale of operation has declined during its period of tenancy on the estate. Employment has fallen from 80 to 62. The manager attributed the decline to excessive excise duty, other imposts and lack of foreign exchange to purchase, other than Indian, tobacco. The present value of production is R. 736,745.

Nepal Hume Pipe Manufacturing. The manager was not available, but the supervisor stated that 35 persons were employed, and, as far as he knew, the factory had started operation, in 1972, with 4 workers. All of the process is carried out in the open or under a temporary open sided shed. The permanent building houses only the office, cement store and the motor driving the plant. The standard of protection of moving parts is very low.

Hemo-Parquetry. The manager also was absent. The unit was started in 1968. The writer recalls that when he visited this plant in 1970 (Industrial Advisory Mission to Nepal) it was operating on a part-time basis. It now works full-time and employs 45 persons.

Lahashakti Soap and Chemical Industries. The company started production early this year with 44 employees. It is still running well under capacity. Difficulty is being experienced in breaking into the market. There has been no change in the level of employment. The plant produces laundry and toilet soaps by the "full boiled" method. It is the only one of its kind in the country.

Nepal Brewery Co. The brewery was started in 1970 and went into production in 1972 with a labour force of 65. The present employment is 105. As the firm produces soft drinks in addition to beer

there are seasonal fluctuations in the number of workers. There has been an annual growth of 10% in the turnover. Although the concern, as the only brewery in Nepal, enjoys a high level of protection on its product, it is experiencing great competition from imported beers. The reason is likely to be found in the size of the venture. By brewery standards it is a small plant, and its unit production cost consequently is higher than normal. The firm has to import the bottles it needs from India. The glassworks on the estate does not produce the type required. It is understood, however, that the requisite kind may be made in the near future, and that the brewery management would welcome such a supply.

The former common service workshop of the estate has been sold to a private firm. It now operates as a general engineering shop.

A much higher percentage of indigenous materials is used by establishments on the Hetauda Estate than at Balaju or Patan Estates.

Recreational facilities on industrial estates.

There is no facility at Patan. At Hetauda there are provisions for lawn and table tennis, and an area has been designated as a sports ground. The writer obtained the impression that the facilities were intended for the Estate Administration staff, rather than the factory workers. A hall for recreational purposes was built at Balaju Estate; it currently is used as a warehouse.

The writer believes that the provision of recreational facilities within the confines of an industrial estate is difficult to justify. If the workers reside some distance from the estate they are unlikely to want to return after work. Furthermore, as far as spectator sports are concerned, the holding of an event can create serious security problems.

If an industrial estate is associated with a low-cost housing scheme, then any such facility considered desirable should be located in the residential development.

CHAPTER V

General Observations

It is present thinking to regard Hetauda, Balaju and Patan as industrial estates to accord status, respectively, large, medium and small-scale establishments. This policy, in the writer's opinion should not be applied too strictly. In point of fact there are in Balaju enterprises almost as small as any in Patan, and the latter estate has establishments larger than the average size in Balaju. There is a case for locating large undertakings at Hetauda on logistic grounds, but even there, there are few enterprises that can only be classed as small-scale units. It is evident, therefore, in the past, when the estates were not controlled by a single body, some deviations were permitted.

In an estate where almost every establishment manufactures a different product there is little scope of inter-firm trading between enterprises of approximately the same size. The little that does occur is of the nature of servicing. There is a greater likelihood of sub-contracting where large and small units in the same trade exist side by side. It does not pay a large concern to undertake short production runs. Usually it is happy to contract out such work to a small firm. Not infrequently this provides a channel for the transfer of technology.

One of the major causes of failure among Nepalese manufacturers is the lack of regular supplies of imported materials. This cannot always be attributed to poor inventory control. The transportation problems imposed by the terrain, delays at Indian ports and border customs posts, and in obtaining foreign exchange are important factors.

The diversity of operations in an estate like Balaju, for example, would make it impossible for the Estate Administration to physically hold buffer stocks. The Administration, in the writer's view, can best serve its clients, in this connection, by establishing procedures whereby it can expedite the processing of applications for foreign exchange through the ministries concerned.

Reference has been made to the low ratio of leasable land to gross area at Balaju. The same applies to Patan and Hetauda. As the income of an estate is dependent on the area of land it can lease: consideration should be given, in new estates, to reducing the number of separate buildings used for services. The economics of accommodating, as far as possible, all essential services in one building, multi-storied if necessary, should be investigated.

Factory plots are leased for a period of only twenty years. There appears to be a general understanding that a lease

will be renewed when it runs out. The writer has not seen a lease agreement, but there appears to be uncertainty in the mind of some officials as to what will happen on the expiry, or termination, of a lease. If there be, indeed, some doubts on the legal consequences it would be advisable to resolve them now.

The fixed land rent at Balaju and Potauda Estates does not allow their administrations to adjust their charges in accordance with the rising cost of maintenance. Nor, apparently, does the variable rent at Patan, where the annual deficit has reached alarming proportions.

The level of staffing in the estate administrations is too high. In the past, when the estates were not under the unified control of the Industrial Services Centre, there was a high turnover of staff, particularly senior staff, dictated by the needs of the parent organizations. This has militated against a consistent development policy.

The industrial estates in Nepal, undoubtedly, have assisted the development of the manufacturing industries by providing them with suitable workplaces, or sites on which to construct them, electric power and water at a lower cost than the entrepreneur could obtain the same privately.

As very few of the undertakings occupying premises on the estates are relocated establishments, it is reasonable to assume that most of the others would not have arisen but for the estates. While, based on the 1972/73 total of establishments, only 3.5% of the manufacturing enterprises are accommodated on industrial estates, if from the total the number of rice and oil mills, which mainly are rural units based near to their source of supply, is deducted the percentage rises to 14.8. This suggests that much, if not the bulk, of the increase in employment in the manufacturing sector is attributable to the existence of the estates.

There is no evidence that undertakings located on an industrial estate have higher productivity per worker than those outside. On the data available, the capital - output ratio for establishments on industrial estates is less satisfactory than that of the **national average** for the manufacturing industries. However the latter is distorted by the large number of small rice mills which on account of their low investment in plant and buildings have a high capital output ratio.

One of the most important and beneficial results of the industrial estate programme has been the improvement in workers' condition of employment. The current labour legislation has made mandatory the practices, in respect of bonus and gratuity payments, initiated on the Balaju Estate.

Appendix I

ORGANIZATIONS VISITED AND PERSONS CONTACTED

Industrial Services Centre.

Mr. Arjit Thapa
Mr. T.K. Sharma
Mr. D.S. Pearson

Executive Chairman
Chief Co-ordinator Industrial Estates
Chief Advisor and UNIDO Project Manager

Balaju Industrial District

Mrs Shiba Dhunwana
Mr. T.B. Karki

Manageress
Procurement Officer

Hetauda Industrial District

Mr. B.B. Joshi

Asst. Manager

Patan Industrial Estate

Mr. R.P. Sharma

General Manager and Executive Chairman

Department of Labour

Mr. B.D. Sharma

Director

Department of Cottage and Village Industries

Mr. B.D. Shrestha

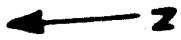
Deputy Director

United Nations Development Programme

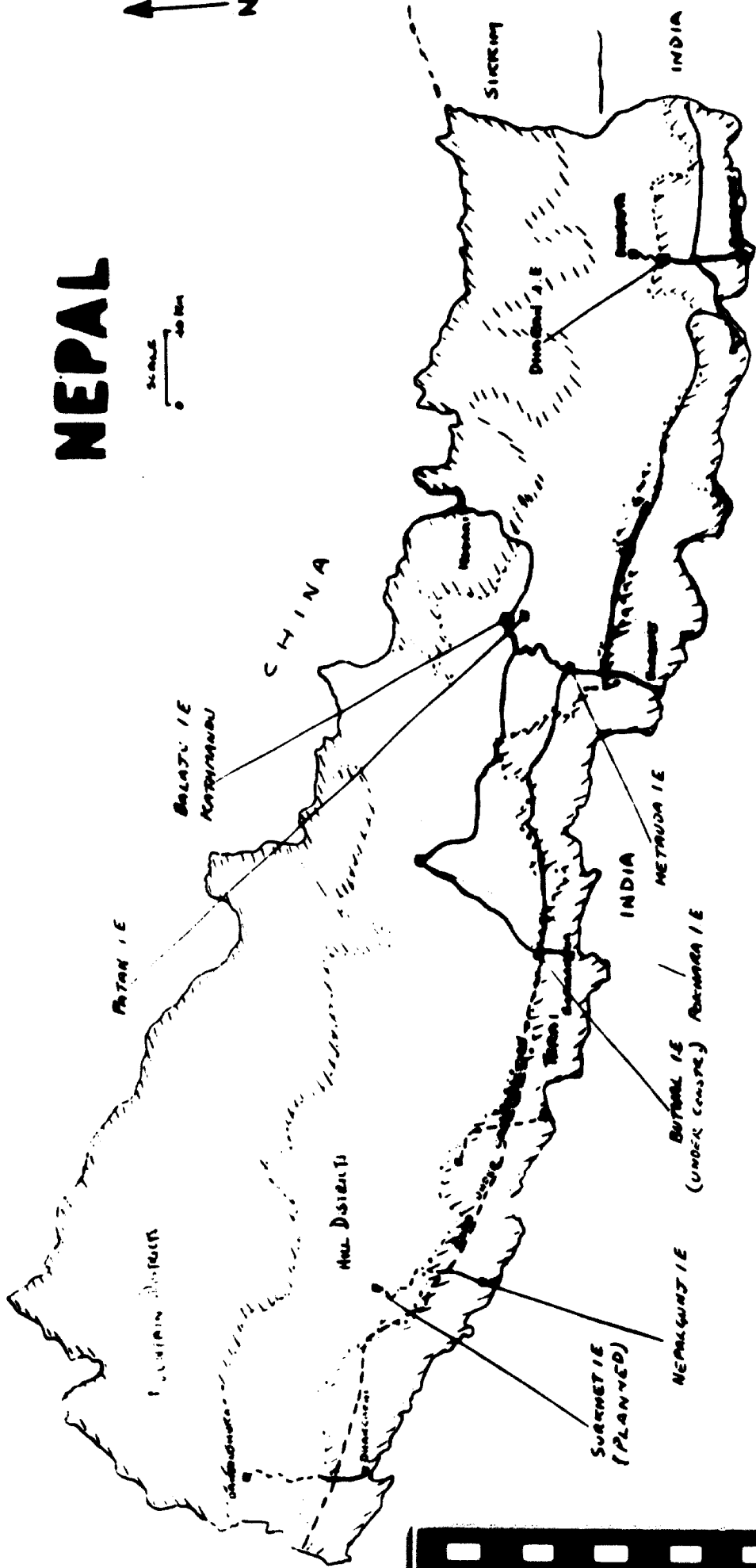
Mr. S.W. de Vries

Asst., Field Adviser UNIDO

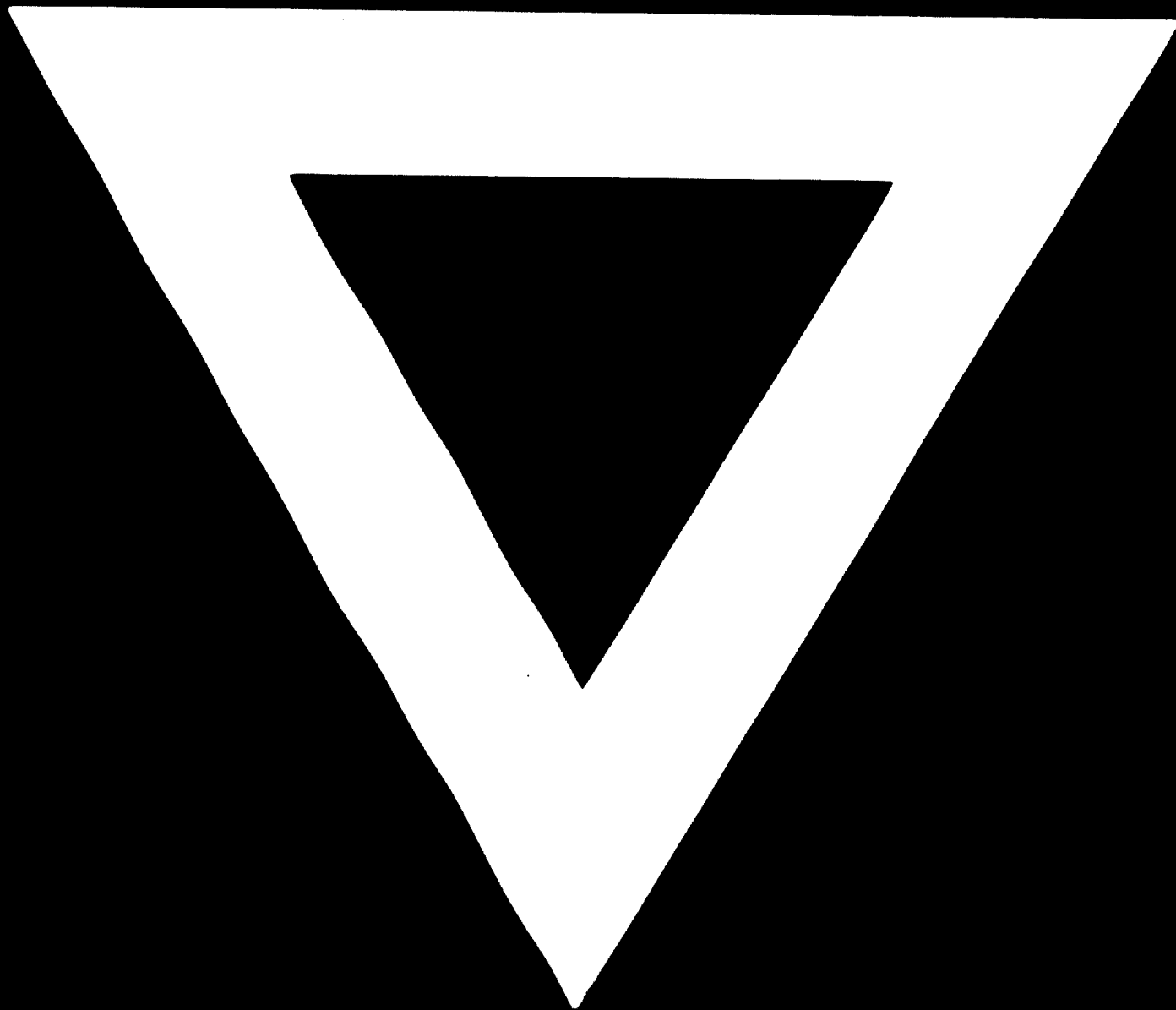
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