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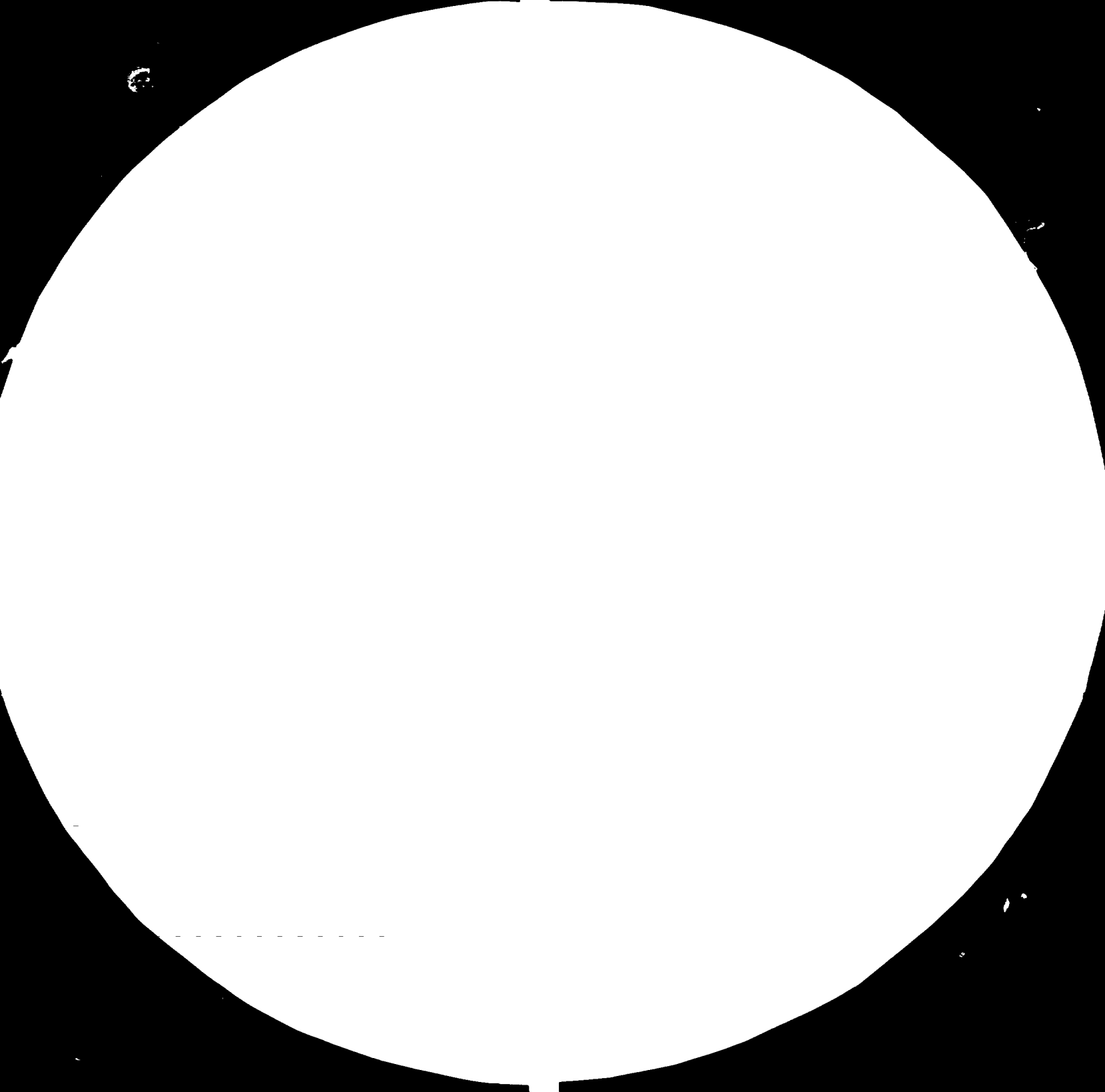
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UNITED NATIONS INDUSTRIAL
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STUDY ON THE POTENTIAL FOR RESOURCE-BASED
INDUSTRIAL DEVELOPMENT IN NEPAL ^{2/}

Report of a mission to Nepal to assess the country's Metal/Engineering
Industry Development Potential]

10 - 20 April 1983

by

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^{2/} The views expressed in this paper are those of the author and do not necessarily reflect the views of the secretariat of UNIDO. This document has been reproduced without formal editing.

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CURRENCY EQUIVALENTS

In April 1933 the parity of the Nepalese Rupee (NRs) against the US Dollar was:

US \$ 1.00 = NRs. 14.20
NRs 1,000 = US \$ 70.4225

LIST OF PRINCIPAL ABBREVIATIONS

IMG = His Majesty's Government
ISC = Industrial Services Centre
MTC = Mechanical Training Centre
NIDC = Nepal Industrial Development Corporation
SATA = Swiss Association for Technical Assistance

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A, - BALAJU

B, - PATAN

I. INTRODUCTION

1. TERMS-OF-REFERENCE FOR MISSION OF METAL/ENGINEERING INDUSTRY DEVELOPMENT SPECIALIST FOR THE STUDY ON THE POTENTIAL FOR RESOURCE-BASED INDUSTRIAL DEVELOPMENT OF NEPAL

The Metal/Engineering Industry Development Specialist will provide guidance and assist the ISC in the preparation (under UNIDO contract) of a study on the potential for resource-based industrial development of Nepal.

Together with a Senior Economic Advisor, the Metal/Engineering Specialist will specifically be expected to provide guidance on matters regarding the metal/engineering industry development in relation to (i) the industrial strategies for Nepal conducive to a long-term endogenous mobilization and industrial utilization of local resources (raw material, energy, human resources); (ii) identification of industries that can sustain the optimal exploitation of these local resources; (iii) assessment of relevant international trends and development perspectives, international and regional market potentials as well as of domestic demand development and import-substitution possibilities, and (iv) recommendations regarding supporting programmes, actions and measures, aiming at the effective

implementation of such industrial strategies and the actual development of industries on basis thereof. He will also provide guidance in the overall preparation of the study and work with the ISC researchers as a team.

The Metal/Engineering Industry Specialist will, furthermore, prepare before the end of the field work in Nepal a brief interim report with findings, conclusions and recommendations.

2. Acknowledgments

The author would like to thank the staff of ISC, in particular Messrs. M.R. Bhendary and S. Shama, as well as the Nepalese company officials who were most generous with their time in responding to interviews, providing documents and information, assisting in the field work and in the analysis of relevant data. Without their help and cooperation his task could not have been accomplished.

3. Background Information

Nepal being predominantly as agricultural country, the role played by the industrial sector by comparison has been rather insignificant. The industrial sector including mining is said to employ just about 1% of the total labour force, and its contribution to the G.D.P. is recorded to be under 5%. Out of this, about 75% of the existing industries are engaged in food processing and an estimated two-thirds of the remaining are producing jute goods, textiles and other non-metallic products. Thus a small percentage of the total number is left under metal and light engineering to account for simple metal products manufacturing, fabrication and general repair service works.

This disappointing picture, particularly true of the metal and light engineering industries are due to the many constraints presently being faced by Nepal. The internal market is not only small and fragmented, but also the total dependence on many basic raw materials and intermediate products, shortages in trained manpower, and transportation bottle necks are some of the other handicaps the country faces. The open border with India makes the situation worse as the local manufacturers find it difficult to compete with better and often cheaper

Indian product imports.

No comprehensive survey or planning has so far been made to promote and develop this sector, except for some studies on the rehabilitation and expansion of the mechanical engineering workshops in Nepal conducted through UNIDO assistance, and the identification of a few investment projects for establishment during the 6th plan period as mentioned in the Industrial Sector Plan Study undertaken by the Industrial Services Centre.

Nevertheless there is much potential for growth. For this a co-ordinated approach to strategy policy planning, resource mobilisation, Government and Institutional support and greater public participation are urgently needed.

II. STATUS OF METAL AND LIGHT ENGINEERING INDUSTRY

A brief review of Nepal's metal and light engineering industries as existing today is outlined in the following paragraphs:

1) Metal Mining & Processing

The almost total absence of metal mining and processing activities has been a major drawback towards the development of the metal based industries. The only commercially exploitable mineral ore deposits are those of zinc and lead. This is being mined in the Ganesh Himal region, 175 km from Kathmandu. The output from the mines when fully operational is expected to yield 22,793 ton and 4,131 ton of zinc and lead respectively.

Iron ore deposits have been located at Phulchoki some 15 km from Kathmandu. The reserve is sufficient to support a mini steel plant of 50,000 ton per annum capacity. However, attempts to undertake this project have not been successful so far.

A small steel rolling mill is located at Parwanipur, Birganj with an annual capacity of 20,000 ton. It produces mild steel rods for construction uses, but the problems it faces in procuring the raw materials has comes the plant to operate at less than 30% of its rated capacity.

A few copper and beryl ore deposits have been identified, but their reserves are so small and scattered that any commercial exploitation at the present is ruled out. Individual miners combined have recorded ore output of less than 100 ton per annum.

ii) Foundry Sector

Foundry is a primary production facility essential to the growth of the industrial sector. Cast iron parts are needed to serve as major components in final assembly of many engineering products. There are about six foundry shops in the country and the biggest ones are of just one ton capacity. They are producing a limited range of goods such as manhole covers, weights, pulleys and gears etc. A new foundry shop is being constructed at Patan with UNIDO assistance. This foundry which will have a capacity of 2000 ton per annum will give a fillup to the local engineering units around Kathmandu Valley. One pilot foundry plant is also

being operated by the Department of Mines.

iii) Light Engineering Industries

The metal and light engineering industries operating in Nepal could be classified to fall under three categories.

A. Metal Products Manufacturing -

This category applies for small manufacturing units mostly unregistered and producing simple metal products consisting of the following:

- a) Hand tools - For a limited application and range such as for mechanical, masonry, farming and gardening works.
- b) General hardware - Such as nails, screws, hinges, tower bolts, hooks and pegs, brackets, clamps etc.
- c) Household utensils - Made from non-ferrous metals stainless steel and cast iron.
- d) Metal containers - Such as boxes, trunks, tanks, for food packaging and general domestic application.
- e) Metal craft - Such as curios, statues, ornaments etc.

These units are scattered through-out the country but its concentration is mainly in the Central Development Region. Their products are somewhat crude, lacking in quality and finish, and quite unable to compete with the imported products. Even so their combined output is so small that it constitutes only a fraction of the total supply.

B. General Engineering Workshops -

These workshops generally manufacture fabricated metal goods such as agriculture implements, suspension bridges, roof trusses, sluice gates, water turbines, solar water heaters and an assorted number of other items. These engineering workshops are bigger and better organised but, because of a low demand for these goods, most of the units are under utilised. The most outstanding of these units located regionwise are listed below:

Central: Balaju Yantra Shala (P) Ltd.

Necoeco Industries

National Structural & Engg. Co.

National Engineering Works

Hatauda Engineering Works

Agriculture Tools Factory

Himal Iron & Steel

Eastern: Biratnagar Workshop
 Shanker Iron Works
 Dharan Industries

Western: Butwal Engineering Works
 Godar Engineering Works
 Shrestha Engineering Co.

C. Automotive Engine Repair Workshops -

The auto repair workshops concentrate on the reconditioning of engines for buses, tractors, cars, diesel engines and farm machinery engines. There are a large number of these workshops operating in urbanised areas. Their position as regards to other metal and engineering units are quite good and business profitable. Usually the auto repair workshops combine their work schedule by undertaking partial fabrication, repair, and services of agricultural equipments and industrial machinery. Some of the prominent workshop are listed below:

- | | | |
|----|------------------------------|----------|
| 1. | Balaju Auto Works | Katmandu |
| 2. | Dital Auto Works | " |
| 3. | Soorya Auto Mechanical Works | " |
| 4. | Technical Training Institute | " |

5. Ratna Motor Works	Biratnagar
6. Morang Auto Works	"
7. Butwal Training Institute	Butwal
8. Chowdary Automobiles	"
9. Pratap Singh & Sons Engg. Works	Hetauda
10. Bisunath & Sons	Birgunj

By mid 1981, of 61 enterprises in different industries in and around Kathmandu, 12 (19.7%) were engaged in the manufacture of metallic products having a total output of NRs. 13 million (11.6%) with a labour force of 550 (13.2%); the fixed capital amounted to NRs. 5 million (7.4%). However, by mid 1984 these establishments are expected to have added 173 workers, as well as machinery and equipment amounting to NRs. 2.93 million.

Sector : Metal & Metal Products
 Scale : Small Medium, Large

Summary Table of
 Industrial projects
 (Sixth Plan period)

Rs. in million
 All current prices

11/

S.N.	Industry	Capacity	Scale	Units xxx	Investment		Return on Investment in %	Total Invest- ment	Total Fixed Invest- ment	Total Man- Power (Nos)	Electri- city required in kw	Total gross output	Total Value Added		Remarks
					Total Rs.	Fixed Rs.							in Rs.	% of gross output	
1	Lead & zinc	2700mt	Large	1	64.47	62.46	10	64.47	62.46	500	2300	57.30	33.09	63	
2	Foundry	1750mt	,,	1	23.50	19.25	14	23.50	19.25	100	600	15.70	5.54	41	
3	Hand tools	60mt	small	1	1.03	0.89	60	1.03	0.89	21	60	2.34	0.88	56	
4	Nut, Bolt & Screw	876mt	,,	1	1.91	0.93	80	1.9	0.93	15	50	7.00	1.85	24	
5	Valve Pipe Fittings	600mt	small	2	1.64	1.20	18	1.24	0.90	120	70	6.24	1.34	22	
6	Wire, Nails & barbed wire	40mt	cottage	2	0.83	0.36	44	1.66	0.72	20	80	6.32	0.86	12	
7	Ball bearings (cast iron fittings)	36000	doz	1	0.41	0.30	33	0.41	0.30	15	15	1.00	0.24	20	
				Total				98.22	77.01	511	374	79.02	43.82		

Inspector : Machinery, Equipment & Components
Scale : Small, Medium & Large

Summary Table of
Industrial Project
(Sixth Plan Period)

Rs. in million.
All current prices

S.No.	Industry	Capacity (per yr)	Scale	Unit	Unit Investment		Return on Invest- ment in %	Total Invest- ment Rs.	Total Invest- ment Rs.	Total power (kw)	Electri- city required kw	Total gross output Rs.	Total value Added	
					Total Rs.	Fixed Rs.							in Rs.	gross output
1	Water meter	6000 nos	small	1	0.66	0.59	20	0.66	0.59	25	20	1.90	0.40	24
2	EM Electric motor	2400 ,,	,,	1	0.81	0.67	17	0.81	0.67	18	10	1.20	0.25	21
3	Handpumps	3000 ,,	cottage	2	0.49	0.36	68	0.98	0.72	28	40	2.40	0.91	28
4	Domestic elec- tric appliance	6500 ,,	,,	1	0.65	0.33	31	0.65	0.33	15	15	0.52	0.32	62
5	Hand knitting machine	600 ,,	,,	1	0.45	0.37	79	0.45	0.37	23	15	0.90	0.52	57
6	Hand machine tools	48 ,,	,,	2	0.48	0.44	18	0.96	0.88	28	50	0.86	0.36	44
7	Nycol battery	12 mil pcs	Large	1	18.45	13.50	36	18.45	13.50	51	120	22.4	8.48	30
8.	ACSR	756 km	Small	3	2.41	1.25	22	7.23	3.75	30	450	11.42	7.22	39
				<u>12</u>				<u>30.49</u>	<u>20.70</u>	<u>218</u>	<u>740</u>	<u>18.66</u>	<u>16.54</u>	<u>30</u>

III. TECHNICAL TRAINING FACILITIES

A number of technical training institutes and facilities under various Government Departments are functioning in the country. Most of them were set up through financial assistance from International agencies. These institutes offer vocational training courses in general and auto mechanics, electricians, civil engineering and practical courses in machine tool operation, welding, blacksmithy, plumbing etc. The list of the technical training institutes, their location and their funding agencies are given, as follows:

<u>Name</u>	<u>Location</u>	<u>Aid Agency</u>	<u>Training duration</u>
1. Mechanics Training Centre (M.T.C.)	Katmandu, Balaju	S A T A	3 years
2. Technical Training Institute	Katmandu, Thapathali	German	2 years
3. Butwal Technical Institute	Butwal	United Mission (U. S. sponsored)	4 years
4. Institute of Engineering	Katmandu Patan	-	2 years - Dip.
5. Biratnagar Training Workshop	Biratnagar	Previously I.L.O.	1 year

In addition to these institutes there are other schools and centres providing on-the-job training or apprenticeships. New ones, like the Institute of Engineering, are being established at Dharan, Pokhara, Hetauda and Nepalgunj through British, A. D. B. and Indian assistance.

IV. FINDINGS

1. Industrial Performance

Based on the observations made during the visits to sample workshops in two of the seven Industrial Estates of Nepal, namely Balaju and Patan (see Appendix), it appears that these Enterprises operate mainly on single orders which happen to be issued by individual customers, rather than actively soliciting business. If it were not for the fill-in jobs of manufacturing suspension bridges and water turbines ordered by the Government, some of the employees would have to be temporarily dismissed.

The work performed in most of these workshops is relatively simple and does not require highly skilled labour or modern machinery and equipment. In general, the capacity utilization of these small industries and their efficiency was found to be rather low. The lack of entrepreneurship, marketing and sales promotion restricts any opportunity for eventual expansion of operations.

With exception of one firm which produces office metal furniture commercially and sells it through an agent who advertises on radio and in newspapers, none of the others were interested in accepting specific proposals for producing consumer goods. Yet, credit is due to one company whose engineer modified a traditional water mill into a multi-purpose power-unit with horizontal water turbine. This newly designed equipment appears to render increased performance for grinding as well as a power transmission with belt system to run other small machines, such as a rice huller, oil expeller, thresher, small dynamo or generator, etc. At its reasonable cost (appr. Rs 20,000), this device seems to have promising sales prospects.

From the information gathered at the Kathmandu branch office of the Agricultural Tool Factory Ltd. (A.T.F.), Birgunj, the company is the country's only industry engaged in the fabrication of simple and minor tools (ploughs, spades, shovels, hammers, crowbars, chisels, shellers, etc.) as well as of some animal drawn equipment. Tractor implements and threshers (tractor, trailers, power tiller trailers, disc and cultivators, etc) constitute the secondary product line of the Factory and are manufactured in

only small quantities. The overall capacity utilization of the plant is at about 40% only, which accounts for the priority given by His Majesty's Government to the Rehabilitation of the Agricultural Tool Factory, rather than to the establishing, at present, of another new enterprise, though the domestic production of agricultural tools and implements amounts to approximately 10% of total consumption.

A.T.F.'s present low rate of productivity appears to be due to:

- (i) inefficient management common to many public enterprises;
- (ii) manufacture of too big a variety of items, thus keeping costs high because of uneconomic and frequent changes of production cycles;
- (iii) ineffective service network to repair simple agricultural tool and implements produced by A.T.F. which are harder than ordinary ones^s made by local blacksmith and, therefore, more difficult to repair;
- (iv) difficult^{er} design of the products from the agricultural tools the farmers were accustomed to.

2. Major Constraints

Nepal, being a landlocked country, is confronted with many problems that are facing its public and private industrial sectors. Some of the obstacles to effective industrialization are, as follows:

- (i) Inadequate infrastructure, such as road and transportation facilities for effective import of raw materials and industrial machinery as well as potential export competitiveness and shortages of electric power supply;
- (ii) Small size of domestic market, due to the low purchase power of a large segment of the country's population;
- (iii) Insufficient amount of technically trained skilled workers and middle level management;
- (iv) Lack of entrepreneurship connected with limited experience in modern marketing and sales promotion;
- (v) Long delays experienced in imports of raw materials, spare parts and equipment-partly caused by local administrative procedures in obtaining necessary import licences and slow customs clearances.

His Majesty's Government has already allotted priorities in the Sixth Plan (1980-85) to alleviate some of the above handicaps. Amongst these measures are :

- a) Improvement of the transport sector by construction of numerous suspension bridges to facilitate the movement of people and goods in various parts of the country.
- b) Effective utilization of the abundant water resources to provide additional electric power to energy intensive industries.
- c) Increase of the agricultural production to raise the income of the rural population and their purchase power, at the same time releasing labour to work in decentralized industrial enterprises.
- d) Strengthening of skilled manpower training and development administration to encourage the growth of industries for more effective import substitution and export orientation.
- e) Streamlining of trading procedures.

3. Industrial Development Potential

The outlook for accelerating the pace of industrialization in Nepal appears to be quite promising, provided public and private investments are made available for viable industrial projects. At the same time, provision of financial, technical and technological assistance from cooperating countries and/or agencies should be explored as well as the possibilities to engage in joint ventures for import substitution and export promotion. In this respect, the following engineering industry products have particular market opportunities due to the current housing and construction boom prevailing in this country :

- a) Hand Tools, where local production only accounts for 20% of the demand.
- b) Wire Nails and Barbed Wire, which are mainly imported (1640 ME/year)
- c) Screws, Bolts and Nuts; items which have sufficient domestic market (400 and 450 ME/year respectively).

- d) G.I. Pipe Fittings, at an estimated output of 600 M.T. annually in substitution of Indian imports.
- e) Builders Hardware, for which there is a yearly demand for 36,000 dozens.

For the manufacture of the above listed products it is essential to ensure adequate production capacities in foundry, electroplating and galvanising facilities to provide satisfactory supply to the relevant factories. Moreover, the establishment of a ^{steel} small plant to provide the necessary billets for effective operation of the two re-rolling mills producing rods and bars seems to be indispensable for eliminating the dependence on imports. Allegedly, there exists sufficient scrap material in Nepal to warrant this endeavour.

Aside from the items directly related to the building and construction activities, the intensive mining of zinc and lead as well as an increased production of castings will facilitate the implementation of plants to satisfy the local demand for :

- Dry Cell Batteries
- Wet Cell Batteries
- Hand Pumps
- Irrigation Pumps
- Fluid Meters
- Electric Motors
- Simple Machine Tools

V. CONCLUSIONS AND RECOMMENDATIONS

In the absence of adequate amount of natural resources, Nepal is mainly dependent on imports of raw materials for its industries. Only human resources and energy (electric and water power) are, to a limited amount, available for the expansion of the metal and engineering industries. Special emphasis must be given to further the development of trained industrial man-power and the erection of mini hydro-electric power units. To foster decentralization of cottage and small scale industries on a nation-wide basis, energy generating equipment (water turbines and wheels, hydraulic ^{units} fans, pumps and solar water heaters) are of utmost importance and must be made available, promptly.

The Government has also placed high priority on import substituting and export oriented industries by the following pertinent industrial projects:

- (i) Strengthening of Existing Mechanical Workshops
- (ii) Establishment of Light Engineering Industries Complex

As regards the latter project, assistance will be given to the private sector, both domestic and foreign, to implement viable ventures.

Other benefits deriving from engineering industry must be stressed, namely its function as generator and transmitter of technological capabilities. Casting, forging, welding, fabricating, etc. not only promote the respective skills but mark the beginning of machine building capabilities, promote design consciousness and provide the first insights for disaggregation of an equipment or technology package. The engineering industry establishes the very essential skill base for technical progress. It permits the indigenous development of appropriate technologies and their innovating developments. It helps to eliminate the critical shortage of spare parts or other component and there is nothing better than mechanical, electrical and electronic workshops to give this necessary on-the-job training.

In conclusion, it is recommended that the development of trained technical manpower should be strengthened and institutionalized with the aim of achieving the following objectives:

- c) To improve production techniques of the basic engineering services, thus helping in expediting modernization not only of the existing industries but also in early realization of many new investment projects which depend on the local availability of efficient tool and die making and foundry production facilities.

- b) To build up a sound foundation of metallurgical and metrological services in order to carry out proper quality control, testing and training of personnel in these fields, to ensure continuing improvement in product standard vital to exportability.

- c) To remove the development and production bottlenecks in many metal and engineering industries by executing job orders of specialized tools and dies, jigs and fixtures and castings which can not be produced locally, on a non-commercial basis. This will help in the expansion of the sub-contract systems in the industries and will make possible the establishment of many new industries by the private sector.

- d) To alleviate the serious shortage of skilled workers and technicians in the field of tool and die making, foundry and metallurgy, by providing training applicable to actual production conditions, thus building up quickly a pool of trained skills as a strong incentive for new industries to locate in Nepal.

- e) To undertake product development, design and research, thus promoting continuing technological advancement of the metal and engineering industries.

In short, the central objectives of this programme is to fill vital gaps in such basic engineering services as tool and die making, foundry, metallurgy and metrology, which are causing bottlenecks in the industrialization plan and delays in investments for the establishment of feeder industries, as well as more sophisticated projects like machinery and precision engineering. Removing these present bottlenecks will help creating a tremendous multiplier effect and to make possible rapid expansion of existing industries as well as new investments not only in the metal working industries but in all branches of industry. As a long-term objective, increasing attention is expected to be given to product development, design and research, thus ^{servicing} ~~servicing~~ as the main vehicle for promoting continuing technological advancement of the metal working industries in Nepal.

APPENDIX

PROFILES OF SAMPLE WORKSHOPS VISITED IN
THE INDUSTRIAL ESSENTIALS OF :

A. BALAJU

B. PALAN

A - BALAJI INDUSTRIAL ESTATE

1. MECHANICAL TRAINING CENTRE (MTC)

A Joint Project of MTC and SITA

(Swiss Association for Technical Assistance)

Mechanical Training

Mechanics have been trained at MTC since 1963. The centre, formerly a section of BIS Pvt. Ltd., is now an independent institute. MTC's well-trained mechanics have been in great demand with Nepal's industries and Government Agencies over the past few years.

The existing MTC provides a vocational course for mechanics combining practical and theoretical training. There is an annual intake of approximately 20 trainees for the three year course. The MTC hopes to contribute towards the needed skilled technical manpower in Nepal.

The Course Content

The MTC aims to produce skilled technicians for work in different sections of industry and craft trades. Practical training in the well-equipped, purpose-built workshop is combined with theoretical studies in the classroom, but with a heavy emphasis on the former.

Three quarters of the course is spent in practical training. Successful trainees are awarded the senior technical SLC on the basis of a practical and written theoretical examination at the end of their final year of study.

MTC Extension

A ^cthrough evaluation of the skilled manpower requirement carried out in 1977 has led to the conclusion that there is a high demand in Nepal for skilled electricians and skilled sanitary fitters.

New power stations are being built and planned, improving electricity supply throughout the country. The duty of the task force is to maintain and cope with the electrical installations in order to distribute the additionally available electric power properly. Electricians are needed, so a larger task force must be available in the near future.

The field of technical sanitary engineering in Nepal has, as well as the extension of house-installation, a growing importance due to the applications of solar-heated water, bio-gas and natural gas etc. This growth results in the need for more qualified technicians.

IMG and SAKA have agreed to extend the present MTC and start training programmes for electricians and sanitary fitters. By the end of 1983, when the new building will be completed, the already ^{existing} waiting mechanical training facilities will be moved to that location.

A maximum number of twenty four trainees in each of the three fields will be accepted in each succeeding year for their three years practical and theoretical course.

Final Examination

This examination is held in MTC under the supervision of the National Education Committee. The Honourable Education Minister will award the successful trainees with ^{an} certificate (Senior Technical SLC).

2. BALAJU YANTRA SHALA (P) LTD (B.Y.S.)

NAME OF CONCERN : BALAJU YANTRA SHALA (PVT.) LTD. - B.Y.S.

DATE OF ESTABLISHMENT : 1960

TYPE OF CONCERN : PRIVATE LIMITED

AUTHORISED CAPITAL : Rs 25,00,000.00

INVESTMENT IN INDUSTRY : a) Paid-up capital : 13,23,400.00

b) Capital investment

from other sources

besides item No.(a): -

c) Investment through

long-term loan : 2,13,410.00

Total Rs : 20,41,810.00

INVESTMENT IN FIXED

ASSETS : Total investment of
the company/firm in
fixed assets only Rs : 4,55,702.00

NUMBER OF EMPLOYEES : 116 (80 workers and 36 administr.)

RANGE OF PRODUCTS : Tubular trusses, water tanks, wheel *
barrows, hydraulic ^{win}rams, machinery parts, *
window and door frames, file cabinets, *
almirah, water turbines & suspension *
bridges (up to 350 metres long)

PRODUCTION CAPACITY : Rs 64,32,000.00

(If revised)

MARKET : Kathmandu, Bhaktapur, Patan, Dharan,
Biratnagar, Janakpur, Pokhara, Bhairawa
and Hetauda

Note: B.Y.S. was established with Swiss Aid-known as SATA
(Swiss Association for Technical Assistance). It is now
a private company with MIDC and SATA as shareholders. The
firm is a general manufacturing company and has the largest
mechanical workshop in the Kathmandu Valley.

3. BALAJU AUTO WORKS (PVT.) L.D.

NAME OF CONCERN : BALAJU AUTO WORKS PVT. L.D.
DATE OF ESTABLISHMENT : 1965
TYPE OF CONCERN : PRIVATE LIMITED
AUTHORISED CAPITAL : Rs 3,10,000.00
INVESTMENT IN INDUSTRY : a) Paid-up capital : 3,40,000.00
b) Capital investment
from other sources
besides item No.(a) :
v) Investment through
long-term loan : 1,60,000.00
Total Rs : 5,00,000.00

INVESTMENT IN FIXED
ASSETS : Total investment of
the company/firm in
fixed assets only : 5,18,300.00

NUMBER OF EMPLOYEES : 48 (40 workers & 8 administr.)
RANGE OF PRODUCTS : All sort of vehicle service
PRODUCTION CAPACITY : Rs 5,50,000.00 per year
MARKET : Kathmandu, Bhaktapur, Patan and Hetauda

Notes: Aside from the main engine- and ^Acrankshafts reconditioning,
the company also produces suspension bridges. They have
a stock of fuel injection parts, but customers are required
to furnish other needed spare parts either by procuring
them locally or in Bangkok.

4. TEAMION (PVT.) LTD.

NAME OF CONCERN : TEAMION (P) LTD.

DATE OF ESTABLISHMENT : 1973

TYPE OF CONCERN : PROPRIETORSHIP

AUTHORISED CAPITAL : Rs 2,00,000.00

INVESTMENT IN INDUSTRY : a) Paid-up capital : 1,75,000.00
b) Capital investment
from other sources
besides item No.(a) :
c) Investment through
long-term loan : _____
Total Rs : 1,75,000.00

INVESTMENT IN FIXED
ASSETS : Total investment of
the company/firm in
fixed assets only : 1,75,000.00

NUMBER OF EMPLOYEES : 40

RANGE OF PRODUCTS : All type of structures, building
construction materials & steel
furnitures, suspension bridges.

PRODUCTION CAPACITY : Rs 20,00,000.00 per year

MARKET : All over the country

B - PATAN INDUSTRIAL ESTATE

1. NATIONAL STRUCTURE & ENGINEERING (PVT) LTD.

Establishment date	:	1971
Types of concern	:	(Pvt.) Ltd.
Authorised capital	:	1.5 million Rs
Paid up capital	:	1.5 million Rs
Production	:	Trusses, bridge, multipurpose turbine
Production capacity	:	4.5 million Rs
No. of employees	:	50
Market	:	Nepal, Overseas

2. NECOALCO INDUSTRIES (PVT.) LTD.

Establishment date	:	1957
Types of concern	:	(Pvt.) Ltd.
Authorised capital	:	994 thousand Rs
Paid up capital	:	556 thousand Rs
Production	:	Steel furniture, suspension bridges, transmission towers, roof trusses, builders hardware, door+window frames
Production capacity	:	4 million Rs
No. of employees	:	100
Market	:	Nepal

Note: Company has casting and hardening facilities. Lites for power presses are made in own workshop to produce hinges and other hardware. Metal furniture and office equipment sold commercially through agent who has a showroom and advertises on radio and in newspapers.

3. SEWCO NEPAL (PVT) LTD.

Establishment date	:	1970
Types of concern	:	(Pvt.) Ltd.
Authorised capital	:	200 million
Paid up capital	:	200 thousand
Production	:	Steel structure, bridges, truck ferries, wheel barrows, trusses & other iron goods
Production capacity	:	1 million
No. of employees	:	40 (35 workers & 5 administr.)
Market	:	Nepal



