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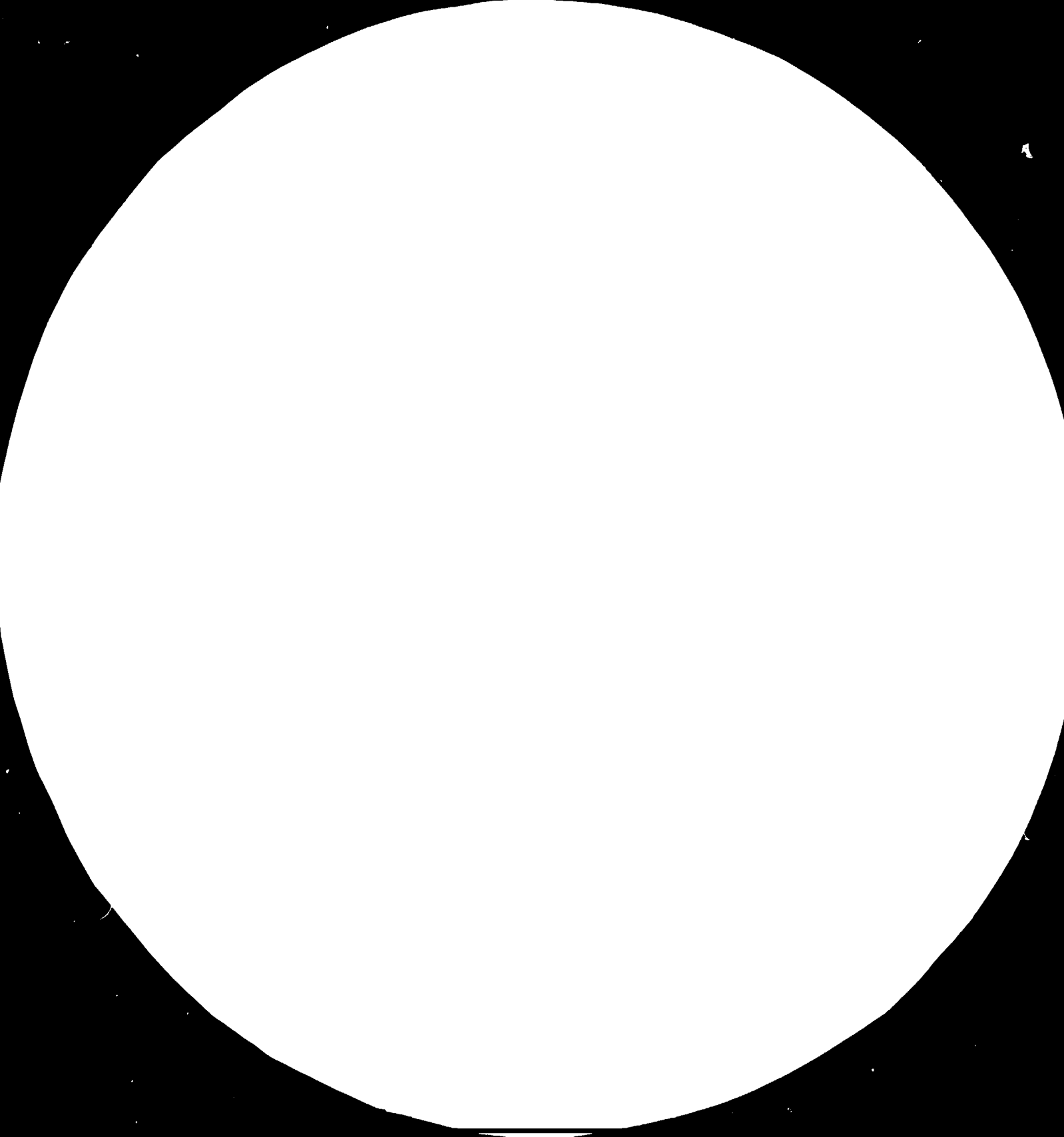

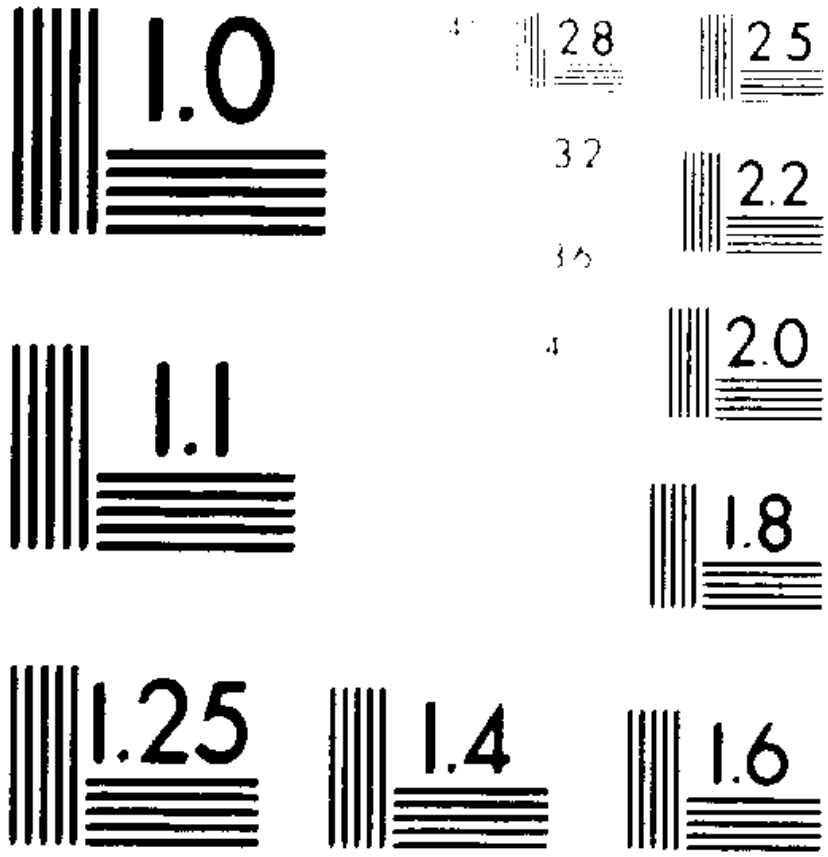

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ASSISTANCE TO THE DEVELOPMENT OF SMALL INDUSTRY IN INDONESIA

(PROJECT DP/INS/78/078)

FINAL REPORT OF

PROJECT INS/78/078

FOR

ASSISTANCE TO THE DEVELOPMENT OF SMALL INDUSTRY IN INDONESIA

Ram K. Vepa

1984

DEPARTEMEN PERINDUSTRIAN

DIREKTORAT JENDERAL INDUSTRI KECIL

1984

TERMINAL REPORT OF

UNIDO PROJECT INS/78/078

FOR

ASSISTANCE TO THE DEVELOPMENT

OF SMALL INDUSTRY IN INDONESIA

Ram K. Vepa

This draft of the Terminal Report has been prepared by the Chief Technical Advisor, Dr. Ram K. Vepa, in cooperation with the Project Team - both National and International.

It embodies the work done the Project Team up to September 1984. Since field work is continuing, subsequent work will be reported in the final draft.

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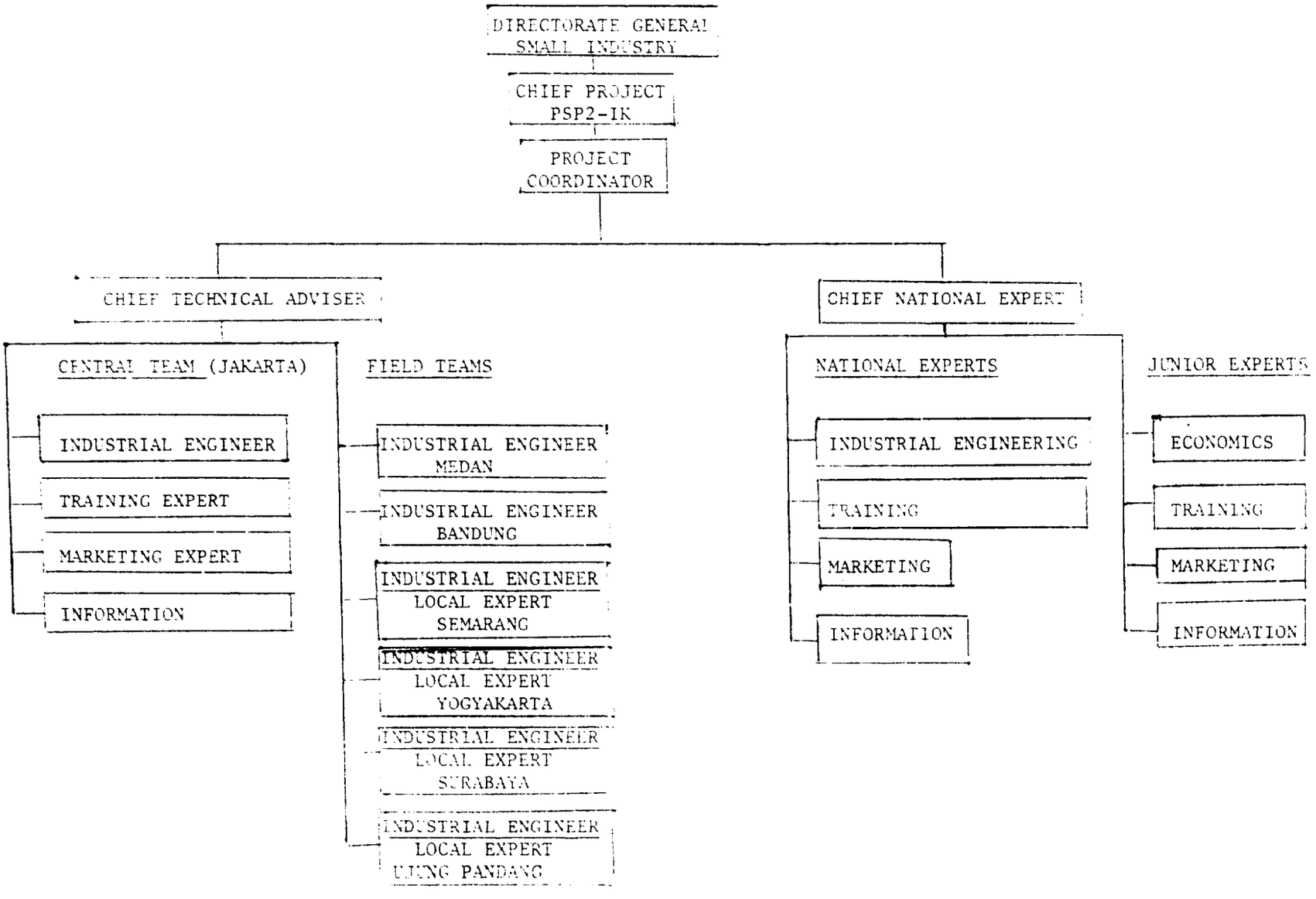
ABBREVIATIONS

DJIK	:	Direktorat Jenderal Industri Kecil (Directorate General Small Industry)
PSP2-IK	:	Peningkatan Sarana Pengembangan & Pembinaan Industri Kecil (Programme for the development and Guidance of Small Industry)
KANWIL	:	Kantor Wilayah (Provincial Office)
BIPIK	:	Bimbingan dan Pengembangan Industri Kecil (Small Industry Development Programme)
PPIK	:	Pusat Pelayanan Industri Kecil (Small Industry Extension Centre)
DKI Jakarta	:	Daerah Khusus Ibukota Jakarta (Jakarta Metropolitan Centre)
DI Yogyakarta	:	Daerah Istimewa Yogyakarta (Yogyakarta, special region)
R & D	:	Research and Development
Q/C	:	Quality Control
MIE	:	Mini-Industrial Estate
CSF	:	Common Service Facility Centre
UPT	:	Unit Pelayanan Desa (Technical Service Centre)
REPELITA	:	Rencana Pembangunan Lima Tahun (Five Year Development Plan)
TPL	:	Tenaga Penyuluh Lapangan (Extension Officers)
TPLS	:	Tenaga Penyuluh Lapangan Spesialis (Specialist Extension Officer)

BPS	:	Biro Pusat Statistik (Central Bureau of Statistics)
LIK	:	Lingkungan Industri Kecil (Same as Mini-Industrial Estate)
PIK	:	Perkampungan Industri Kecil (Industrial Estate)
SUIK	:	Sarana Usaha Industri Kecil (meant for Craftsmen-artisans)
PPP	:	Pusat Pelayanan Promosi (Promotion Services Centre)
PPI	:	Pusat Pelayanan Informasi (Information Services Centre)
PUSDIKLAT	:	Pusat Pendidikan dan Latihan (Centre for Education and Training)

STRUCTURE OF INS/78/078



SUMMARY

1. In the Third Development Plan (REPELITA III) special attention was paid to the promotion and development of Small Industry and the following targets were laid down :

   -- an annual growth rate of 6-7%;
   -- creation of additional employment opportunities for 434,000 persons;
   -- additional investment of Rp.90 Billion* leading to additional production of Rp.60 Billion in the Small Sector.

2. To achieve these objectives, a separate Directorate General of Small Industry (DJIK) was established and a Small Industry Development Programme (BIPIK) was implemented through the Provincial (KANWIL) offices. A Policy Frame wa: developed involving :

   -- institutional infrastructure in the shape of Mini Industrial Estates (MIE), Common Service Facilities Centres (CSF) etc;
   -- an Extension Network (PPIK) in nine provinces;
   -- Technical Service Centres (UPT) at clusters;
   -- Product Reservation Scheme reserving about 129 product groups for the Small Sector;
   -- Purchase Preference Scheme for the economically weak sections, and
   -- Special Credit Programmes for fixed assets (KIK) and working capital (KMKP).

3. UNIDO Project INS/78/078 was approved in December 1980 under which UNDP is to provide US$2.4 million to be spent over three years and Government of Indonesia an equivalent amount under the counterpart budget (Rp.1.57 Billion). The UNDP input is largely in the shape of an international team of experts - of which five are at Jakarta in the fields of Policy Formulation, Technology, Training, Marketing and Information - and six in the field at Medan, Semarang, Bandung, Yogyakarta, Surabaya and Ujung Pandang. for providing assistance to the small industries in the respective regions.

4. The project officially commenced in August 1981; by the first year, only three members of the Central Team were in position.

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*) (At that time 1 US$.- = Rp.630 approximately)

During the Second Year (1982-1983) the Central Team was complete, but only three of the six field teams were working. The remaining three field teams were set-up only between August 1983 and January 1984. The Marketing expert worked only for one year and left due to health problems; the post was not filled up. Counterpart teams functioned at the Central Level and Local Experts, funded by the Project, were appointed at Semarang, Surabaya, Ujung Pandang and Yogyakarta. Four Short Term Consultants were associated with the project for three months each in the fields of Credit, Statistical Data-Collection, Packaging, and Standardisation & Quality Control.

5. The immediate objectives of the project may be summarised as:

-- to make a comprehensive evaluation of the policy frame for the development of Small Industry in Indonesia;
-- to plan and establish five model Small Industry Development Centres (PPIK);
-- to plan and establish 14 Mini-Industrial Estates and CSF on them;
-- to extablish joint programmes with R & D and Technology Institutes,
-- to identify and promote about 25 Sub-Contract opportunities;
-- to train 3-500 Extension Officers and Entrepreneurs and;
-- to assist in formulating 5-10 bilateral and multilateral agreements for implementing the development programmes.

6. At the First Tripartite Meeting in September 1982, the following additional tasks were suggested :

-- to identify 100 new industrial opportunities which could attract loans from Banks and other financing institutions;
-- to formulate a model sub-contracting agreement and promote about 25 such arrangements;
-- to design 15 New Model Training Programmes;
-- to help establish 3 Pilot Information and Documentation Centres; and
-- to help establish 2 Sub-Contract Exchanges.

7. Activities undertaken :

(i) Policies

-- Comprehensive review of the development policy frame was undertaken;

-- Draft of a Basic Law on Small Industry was drawn-up;

-- Over-view study of the Extension Services in the five provinces was made;

-- Product Reservation Scheme was studied and suggestions made to expand the list and implement the scheme effectively:

-- 'Action Plans' to monitor the implementation of the plan at the KANWIL and Kabupaten levels was suggested;

-- Institutional base for the Development Programme may be widened in REPELITA IV by establishing National Centres for Information and Documentation, Educations and Training, Technology Services, Design and Product Development, and Promotional Services;

-- Sectoral approach to the Development Programme was discussed in the light of the re-organisation in the DJIK.

(ii) Technical Assistance to Existing Units

-- Units on the Mini-Industrial Estates were given assistance in terms of management, financial control, lay-out, production and marketing;

-- Common Service Facilities in the MIE were improved through installation of machinery and training of personnel;

-- Artisan clusters and the attendant technical services centres (UPT's) were assisted.

Details of the assistance furnished in each region are given in the report.

(iii) Identification of New Industrial Opportunities

-- A list of about 280 new industries was made and circulated to all the provinces in which the project is operating;

-- In each region, relevant product possibilities have beer explored and suggested;

-- An additional list of 100 products have been suggested under the Product Reservation Scheme;

-- 18 Product groups have been identified in the Sub-Contracting field in the Automotive Sector;

-- The specific requirements of agencies such as PLN (State Electricity Board) and Perumtel (Government Telecommunication Agency) are also being investigated;

-- 10 New Product items in the Electro-Technical Sector have been identified for productionising in West Java;

-- The capability of Project Identification and Formulation of Feasibility Studies was sought to be enhanced by a three stage programme at Jakarta and Surabaya attended by 25 participants in each location.

(iv) Interaction with R & D Institutes

-- The Industrial Engineer at Jakarta has been in touch with the Agro-Industries Institute, Bogor, for improved designs of Food Processing machines such as Peanut sheller, Vegetable slicing machine, Emping shelling machine, Roaster, Pressing machine, Fruit pulper etc. He has also conducted an extensive study of the manufacture of 'Tahu' to improve its shelf life and marketability.

-- The Industrial Engineer at Yogyakarta has sought the assistance of Leather Research Institute for Training of Personnel of the UPT at Manding.

-- The Industrial Engineers at Semarang and Ujung Pandang have consulted the MIDC for additional machinery for the CSF at Tegal, Ceper and for foundry at Massepe.

-- It is at Bandung, however, where most of the R & D and Technology Institutes are located that there has been a close and active interaction with the Electronics Institutes

(LEN) Instrumentation Institute (LIN), Metal Industry Development Centre (MIDC), National Metallurgical Institute (LMN), Swiss Polytechnic, Institute of Technology, Banding. Four Technology upgradation exercises have been conducted in Sheet Metal Fabrication, Surface Finishing, Design of Electronic Transformers and Total Business Dynamics. About 10 production units are to be set-up with these institutes acting as technical 'god-fathers'.

(v) Marketing and Sub-Contracting

-- Product strategies were to be developed for one product for each region but except the Shoe industry in West Java, the others could not be completed.

-- Training Programmes were undertaken for the officials of the Market Promotion Centres.

-- Programmes in Packaging and Quality Control were undertaken with the assistance of Short Term Consultant to demonstrate their application to the Small Sector.

-- The draft of the Model Agreement on Sub-Contract was discussed with both large and small units and has received wide acceptance.

-- Field Teams have been working with individual units to expand their Sub-contract programmes.

-- Proposal to set-up 2 Sub-Contract exchanges has been made.

-- An in depth study of the Sub-contracting in the Automotive Sector was undertaken.

-- A Study of Industrial Cooperatives as a help for joint marketing was also made on contract.

(vi) Training

-- About 300 persons - trainers, extension personnel and entrepreneurs have been trained by the Training Expert.

-- 14 Training Programmes have been designed and manualised of which 4 have been implemented.

-- In addition, field teams have conducted 12 training programmes in specific technical areas for about 150 CSF personnel and entrepreneurs.

-- Eight fellowships have been awarded for training on Information Management, Training Methods, Industrial Estates, Low Cost Automation in India, Philippines and Ireland; four more are committed. Study tours by three senior officials to Japan, France, Italy and Belgium has been facilitated to study policies and programmes in those countries for the small sector. Three more have been sent to Japan, Philippines and South Korea for the same purpose.

(vii) Information and Documentation

-- An information centre was set-up at Pulo Gadung (near Jakarta) and another was assisted at Yogyakarta; two more at Surabaya and Medan, are under consideration.

-- A proposal for a National Information and Documentation Centre was formulated for consideration by DJIK.

-- A National Level Workshop for Training officers concerned with information centres was undertaken at Jakarta followed by regional workshops at Yogyakarta, Jakarta and Surabaya.

8. Achievement of Immediate Objectives

The following Table provides a summary of the tasks proposed and those accomplished :

Table: Summary of Tasks Proposed in the Project Document and accomplished by the Project (upto June 1984)

Su.No.	Tasks proposed	Tasks Accomplished	Remarks
1.	Establishment of Central Team and Field Team at Six locations	The Central Team was completed by December 1982 and field teams in six locations by January 1984	
2.	Comprehensive Evaluation of the Development of the Small Industry in Indonesia	Completed by July 1982 subsequently Studies on Basic Law, Product Reservation, Institutional Infrastructure have been conducted.	
3.	Detailed Work Plan	Prepared annually for 1982, 1983 and 1984	
4.	Planning and Implementation of five model PPIKs (Small Industry) Development Centres)	Made a Study of five Centres and recommended improvements both at the provincial and policy levels.	
5.	Planning and Implementation of 14 MIE's (and their CSF's)	Assisted in the operation of about 12 MIE's that have been set-up; helped in operating the CSF's and Training Personnel.	In addition a number of clusters and their attendent UPT's were also assisted.
6.	Identifications of 100 New Business opportunity in Production and Sub-Contract	(i) The exact number can not be specified but is likely to be around 100. (ii) The ability for Project Identification and Feasibility formulation has been enhanced by a three stage training programme.	

Table : Summary of Tasks proposed in the Project Document and accomplished by the Project (upto June 1984)

Su.No.	Tasks proposed	Tasks accomplished	Remarks
7.	Sub-Contracting (i) Draft Model Agreement (ii) Arrange 25 such programmes (iii) Set-up 2 Sub-Contracting Exchanges	(i) A Model Agreement has been drafted and discussed widely (ii) About 20 such programmes are being actively assisted. (iii) Proposal for 2 Sub-Contract Exchanges (iv) Proposal for Sub-Contracting in Government Companies formulated	
8.	Interaction with R & D Institutes to generate about Joint Programmes (Exact number not specified)	About 20 such programmes have been taken up; more are likely to materialise before the end of the Project	
9.	Training (i) Design 15 New Training Programmes (ii) Training 3-500 Extension	(i) 26 New Programmes have been formulated and manualised (ii) 280 personnel have been trained in the progress conducted by the Training Expert (iii) More than 150 Extension personnel and Entrepreneurs have been trained in 10 programmes conducted at the field level.	
10.	Information 3 Pilot Information Documentation Centres to be assisted.	2 have been assisted at Jakarta (Pulogadung) and Yogyakarta; two more at Surabaya and Medan are under consideration.	

Table: Summary of Tasks proposed in the Project Document and accomplished by the Project (upto June 1984)

Su.No.	Tasks proposed	Tasks accomplished	Remarks
11.	Feilowships - 10	8 completed - 4 committed	
	Study Tours - 10	6 completed so far	
12.	Contracts awarded (5)	2 awarded;	

9. Utilisation of Project Results

The project outputs have been utilised in the following areas :

-- An awareness of the importance of Modern Small Sector for production as well as creation of new employment opportunities;

-- The need for a more effective monitoring of the policy frame;

-- The new Industrial possibilities that exist and how to develop them as Industrial Projects;

-- The potentiality in the Electro-technical area in West Java;

-- The Sub-contracting possibility and how to develop them;

-- The design of new training programmes;

-- The Model Information Centre at Pulo Gadung to be duplicated elsewhere;

-- Better operation of the CSF and UPT's and,

-- Greater awareness in the Small Units on improved management and production techniques.

10. Findings

As a result of the project experience, the following observations are made :

a). Administrative

-- The need to provide for a specific pre-operational stage of at least 6 months;

-- The need for an administrative officer to liase with the Government organisation;

-- The desirability of funding key-local staff from the project;

-- Review of the existing provision regarding the funding of tickets for internal travel by the Government for the International Experts;

-- The utility of National and Local Experts and the need to continue their association with the work in some capacity;

-- The need to define clearly the coordinating points in the Government organisation with which the Project Team can interact on a day to day basis;

-- Enhanced provision for equipment for demonstration purposes;
-- Specific provision for providing language ability to the staff;
-- Need for full-time translators attached to the project;
-- Greater orientation to the sectoral approach;
-- Nomination for fellowships and study tours to be reviewed well in time.

b). Technical

-- The objective of the development programme is to strengthen in the Small Industry Sector, not to subsidise it. Special incentives are to be regarded as merely transitional and reviewed from time time.
-- A balanced approach to the needs of the traditional and modern small sector needs to be maintained and 'package' of assistance tailored to suit the needs of earlier.
-- A Basic Law for small industry may be drawn up to bring together all the elements of the development policy frame.
-- A special sub-sector 'Very Small Units' may be defined for units with investments below Rp.10 million. A uniform definition for Small Industry acceptable to all agencies concerned may be adopted.
-- In the DJIK, two new Directorates dealing with 'Elcetro-technics' and 'Economic Investigation and Statistics' may be set up.
-- 'Action Plans' may be got prepared by each Kabupaten to link macro-national targets to field activities.
-- A comprehensive Credit Policy may be evolved in consultation with Bank Indonesia and credit may be made need-based. Easy access to credit is more important than cheap credit.
-- The present progress of MIE (Mini-Industrial Estates) may be reviewed to include leasing worksheds on a rental basis. Machinery available in the CSF is underutilised and may be supplemented to meet the needs of the Small Units.
-- The UPT's at the Sentras may be strenthened and a few entrepreneurs in each sentra may be selected act as pioneers for demonstrating new processes and equipment.

-- The Extension net work (PPIK) is well organised; however, its technical capabilities may need to be strengthened. Two or three specialists in fields relavent to the region may be appointed to act as resource persons. Extension workers should not be regarded as 'miracle men' but only as a live link with the industry.

-- It may be useful to charge even a nominal fee-for services rendered in such matters as loan application appraisals, consultancy services etc.

-- Training activities may be extended to include entrepreneurs and made more product-oriented.

-- The 'Bandung Experience' of the project has demonstrated that meaningful interaction with the R & D Institutions can be made if directed to specific products and 'tuned' to the needs of the small entrepreneurs.

-- New Industrial Opportunities need to be identified (in close cooperation with the banks) for providing potential growth areas for small entrepreneurs.

-- Sub-contracting arrangements may be well defined through written agreements and monitored closely through KANWIL offices. A draft of such agreement has been prepared by the project. Sub-contracting Exchanges may be set up at Jakarta and Surabaya. Government companies may be instructed to act as 'pace-setters' in Sub-contracting.

-- Better product design, packaging and quality control are integral to marketing. The Market Promotion Centres may play a more dynamic role in providing marketing assistance to the entrepreneurs in these areas.

-- Information Centre can help in a two-way process of exchange of information between the field and the headquarters.

-- Data Collection needs to be streamlined and simplified to fit the national industrial statistics.

II. Recommendation

-- In view of the high priority accorded to the development of Small Industry in REPELITA IV and to maintain the momentum generated by the Project, it is recommended that a successor project be formulated to commence as early as possible.

-- It is recommended that in the next phase, instead of an 'omnibus' Project, priority areas are identified and a project formulated in each case which is more sharply focussed and more easily manageable.

-- As a purely illustrative exercise, the following areas may be considered

- Sub-contracting in select industries
- Electro-technics (Electrical, Electronics, and Instrumentation)
- Product Design for better Marketing
- Data Collection, Storage and Retrieval

-- Each of the above projects may be closely linked to the organisation through a National Project Director who will set tasks for the project and monitor their implementation.

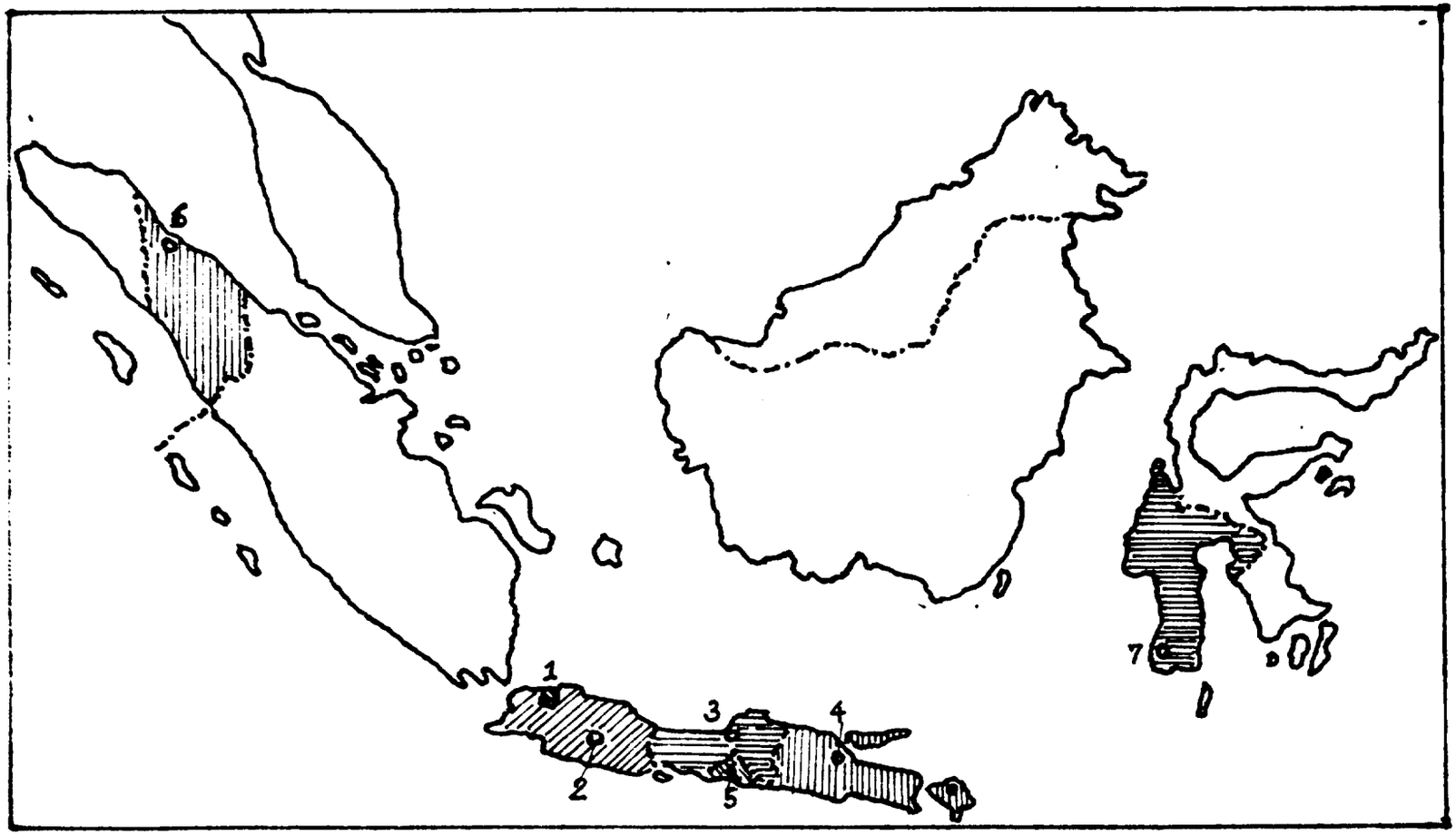
Tenure of Missions of Individual Experts

Post	Name/Designation	Location	Duration of Mission
			1981 | 1982 | 1983 | 1984
11-01	Ram K. Vepa - Team Leader	Jakarta	
11-02	B.Eidsvig - Ind.Engineer	Jakarta	
11-03	L.Aavatsmark - Ind.Marketing	Jakarta	
11-04	H.Fajardo - Ind.Training	Jakarta	
11-05	B.R.Kohli -Ind.Information	Jakarta	
11-06	F.G.Marklund - Ind.Engineer	Semarang	
11-07	M.E.D.Humphreys- Ind.Engineer	Yogyakarta	
11-08	S.Ursberg - Ind.Engineer	Surabaya	
11-09	P.K.Sandell - Ind.Engineer	Bandung	
11-10	A.T.Verboom - Ind.Engineer	Medan	
	A.H.Sheikh - Ind.Engineer	Medan	
11-11	L.R.Bishop - Ind.Engineer	Ujung Pandang	
	Short Term Consultants		
11-51	A.S.El Morsey -Standardisation	Jakarta	
11-52	B.Catane - Credit	Jakarta	
11-53	J.C.Spijkerman - Data Display	Jakarta	
11-54	Guy Chevallier - Packaging	Jakarta	

Some Visual Indices of Tasks Accomplished

Sr.No	T a s k	Target		Visual Display Proposed Completed
		Proposed	Completed	
01.	Plan and Operate Model Extension Centre (PPIK)	5	5	
02.	Plan and Operate 10-14 MIE	12	12	
03.	Identify 100 New Business Opportunities	100	100	
04.	Interaction with R & D Institutes	50	20	
05.	New Training Programmes	15	25	
06.	Personnel Trained	3-500	380	
07.	Sub-Contract Arrangements	25	20	
08.	Sub-Contract Exchanges	2	2	
09.	Pilot Information Centres	3	2	
10.	Fellowships Awarded	10	12	
11.	Study Tours	10	8	
12.	Contracts Awarded	5	2	

LOCATIONS OF THE UNIDO PROJECT INS/78/078 - CENTRAL & FIELD TEAMS MAP I



1. JAKARTA
2. BANDUNG (WEST JAVA)
3. SEMARANG (CENTRAL JAVA)
4. SURABAYA (EAST JAVA & BALI)
5. YOGYAKARTA
6. MEDAN (NORTH SUMATRA)
7. UJUNG PANDANG (SOUTH SULAWESI)

Terminal Report on the UNIDO Project (INS/78/078) for Assistance to the Development of Small Industry in Indonesia

1. Introduction

1.1. The Third Five Year Development Plan (REPELITA III) officially launched by the Government of Indonesia in April 1979, laid down the following broad objectives :

-- a more equitable distribution of development leading to the welfare of the entire population;
-- a sufficiently high economic growth;
-- a sound and dynamic national stability.

1.2. To fulfil these objectives, it was stipulated that special attention to be paid to the promotion and development of Small Industry and Small Business in the country. More specifically, the following targets were laid down :

-- an annual growth rate of 6.7%;
-- Creation of additional employment opportunities for 434,000 persons and,
-- Additional investment of Rp.90 Billion (the Exchange rate at that time was about Rp.630.- - 1 US$) leading to additional production of Rp.60 Billion (calculated at 1973 constant prices).

1.3. Small Industry was defined by the Ministry of Industry (133/M/SK/8/1979) as any unit where;

-- Investment in plant and machinery (not including land and buildings) does not exceed Rp.70 Million (a little more than US$100,000 at the exchange rate then prevailing);
-- Investment per person employed does not exceed Rp.625,000 (approximately US$.1000 at that time);
-- The owner is an Indonesian citizen.

Bank Indonesia and Buro Pusat Statistik employ slightly different definitions.

* "In REPELITA IV, the definition of Small Industry is being changed to a higher investment ceiling Rp.150 Million (Approximately $ 150,000 at the current exchange rate) to take into account the devaluation of the rupiah in 1983 and the continuously escalating prices of machinery".

1.4. The UNIDO Project (INS/78/078) was designed to assist the Government of Indonesia to implement the development programme to reach the goals specified above.

2. Objectives of the Project

(a) Development Objectives

2.1. To coordinate the development programme towards the Small Industry, Government set-up in late 1978 a separate Directorate-General dealing with Small Industry as a part of the Ministry of Industry. At the head office, the Directorate-General, Small Industry (DJIK) is devided into five directorates - dealing with Programmes, Equipment and Raw Material, Entrepreneurship Development, Production, Evaluation and Standardisation. (Recently, in April 1984, there has been a major reorganisation of the DJIK into sectoral directorates dealing with Programmes, Metals, Chemicals, Textiles (and Leather), Food and Handicrafts). Each of the Directorates is divided into Sub-Directorates of Food Processing, Chemicals and Fibres, Metal, Services and Building Materials.

2.2. A Small Industry Development Programme (BIPIK) is implemented all over the country through the provincial (KANWIL) Industry offices. Each of the BIPIK Units located in the KANWIL office, has divisions dealing with Mini-Industrial Estates, Extension Services, Supply of Machinery and Raw Materials and Technical Support. In 9 of the 27 provinces, there is a Small Industry Extension Centre (PPIK) which provides support to the Small Units in Technology, Credit Assistance, Management, Marketing, and Information.

2.3. Various programmes have been formulated by Government to assist the Small Industry Development in the country. The more important of these are :

-- Establishment of Mini-Industrial Estates (variously known as LIK, PIK, SUIK depending on the nature of facilities provided);

-- Common Facility Centre (CSF) in select trades on the Estates;

-- Technical Service Centre (UPT) at clusters of artisans to provide special machinery facility to them;

-- Product Reservation Scheme (1980) by which about 129 product groups are reserved for production in the small sector;

-- Purchase Preference Schemes (Presidential Decrees 14 and 18 A recently modified as 29 and 30) which give special preference to the economically weaker section of the population and,

-- Special Credit Programmes both for fixed capital (KIK) and working capital (KMKP) to assist the smaller enterprises in agriculture, transport, trade and industry.

2.4. Small Industry in Indonesia may be categorised into four groups such as :

-- Those linked to the large and medium industry through Foster-Father (Bapak Angkat) Schemes - which is an Indonesian variation of Sub-contracting;

-- Those which meet the needs the community directly;

-- Those which have artistic value such as Handicrafts and,

-- Those which have local markets in rural areas.

2.5. According to the 1974 census (the last to be compiled on a cent per cent basis) there are in the country :

-- 1,234,511 Cottage Units (employing less than 5 workers);

-- 52,610 Small Industry Enterprises (employing 5-49 workers);

-- 2,444 Medium Industry Units (employing 50-499 workers);

-- 254 Large Industry (employing more than 500 workers).

The total number of persons employed in the Cottage Industries is 3.9 million, while the rest of the Industrial Sector accounts for 1.1 million. Regionally, Java has 76.6% of the cottage industries and 71.6% of the small industry; in terms of employment, it accounts for 76.9% of all the employment in the industrial sector.

2.6. Although in terms of numbers, cottage industries represent 95.7% and small industry 3.7%, in terms of gross output they account for only 12.2% and 9.5% respectively. The medium industry contributes 12.3% and the large industry 66% respectively of the total industrial production. In terms of value added, the contribution of the cottage and small industry sectors is barely 13.5% and 8.6% respectively indicating the low labour productivity of the sectors. In absolute terms, the value added per person is said to be Rp.20,000 in the cottage sector, Rp.150,000 in the small and Rp.720,000 in the large and medium sectors.

2.7. The major product groups in Industry are Food, Textiles, Wood, Chemicals, and Metals. The following table shows the relative proportion of these sectors in Employment and Value added in the industrial sector :

- Structure of the Manufacturing Sector in Cottage (C.I) and Small Industry (S.I) in 1974 -

Sa. Manufacturing Industry	Employment % of total		Value added % of total	
	C.I.	S.I.	C.I.	S.I.
1. Food Beverages & Tobacco	35.9	44.0	45.2	48.4
2. Textiles, Apparel & Leather	11.2	16.1	8.6	11.8
3. Wood Products	42.2	12.1	26.6	13.2
4. Metals, Machinery or Equipment	1.4	6.4	3.6	7.3
5. Chemicals & Chemical Product	0.2	3.6	1.4	6.3

C.I = Cottage Industry S.I. = Small Industry

The limited contribution of the metal sector is particularly surprising since it is considered as a natural vehicle for growth in developing countries; a World Bank Report attributes this situation to :

-- tariff structure favouring capital-intensive technology;
-- slow progress of rural electrification;
-- limited impact of the extension services;
-- low leve. of agricultural mechanisation and;
-- reluctance on the part of large manufacturers to Sub-contract.

2.8. Against the background sketched above, the UNDP accorded a high priority to small industry development in the Second Country Programme approved by its Governing Council at its meeting in January 1979. A Project Document was approved and signed on December 16, 1980 by the Government of Indonesia, UNDP and UNIDO by which UNDP agreed to provide US$.2.4 Million and Government Rp.1.57 Billion (equal to US$.2.47 Million at the time of signing the document) to be spent over a period of 37 months.

2.9. The UNDP input is largely in the shape of International Experts (11 in all - 5 at Jakarta and 6 in the provinces in Java and North Sumatra) and Short Term Consultants, the Government contribution is in the shape of counterparts, support personnel, vehicles, and office expenditure.

(b) Immediate Objectives

2.10. The following were specified as the immediate objectives of the Project :

-- Establishment of a Central Project Team at the Directorate General Small Industry (DJIK);
-- Establishment and operation of Model Small Industry Extension Centres (PPIK) in five regions;
-- Establishment and operation of model Mini-Industrial Estates (MIE) Common Service Facility Centres (CSF) in five regions and train their staff;
-- Identification and Implementation of opportunities for linkages with national technology institutes to develop joint programmes for improvement of quality of products in the small sector;

-- Identification of business opportunities through production and marketing sub-contracts with large industries;
-- Planning and implementation of training programmes for extension, officers, trainers and entrepreneurs and,
-- Coordination of Technical and financial assistance from other multilateral and bilateral sources for the development programmes.

2.11. It was also indicated in the Project Document that special consideration may be given to the weak and disadvantageous groups, the integration of women in the development process, the rural poor and the economically depressed.

2.12. The Project was envisaged to be implemented in two stages :

- In Stage I, which is to be for 6 months, the project will:

  -- make a comprehensive evaluation of the existing organisations dealing with all facets of small industry development and design a system for effective implementation of Government policies;

  -- design a functional planning and implementation system;

  -- establish the central unit and three field units;

  -- formulate a detailed work-plan with quantitative targets.

- In Stage II, for the next 2½ years, the project will :

  -- Plan, Establish and Operate five model Small Industry Development Centres;

  -- Plan, Establish and Operate 14 Mini-Industrial Estates;

  -- Establish two joint functional programmes each with R & D Institutions at Bogor, Bandung and Yogyakarta in Food Processing, Ceramics, Metals, Textiles, Leather, Handicrafts etc., and

-- Identify and Promote about five business opportunities in each of the five regions.

3. Logic of the Project

3.1. The Project commenced officially in August 1981 with the arrival of the Team Leader. He operated alone for the first six months during which period, he :

-- made initial contacts with the Directorate General, Small Industry and other concerned organisations and institutions;

-- compiled a Handbook for the Project Personnel containing all relevant information on the country and the project;

-- assembled the supporting staff and dealt with many other matters to establish a project office, and;

-- reviewed the project document in the light of the actual situation prevailing in later 1981 and early 1982.

3.2. In February 1982, six months after the Project officially commenced, the Information Expert joined and in April 1982 the Training expert. By August 1982 - a year after the start of the Project - two field experts and the Marketing Expert at the centre joined. It was not till December 1982 that the Central Team was complete with the arrival of the Industrial Engineer at Jakarta while only three of the six field experts were in position even by August 1983 - two years after the project had commenced. The remaining three joined between August 1983 and January 1984, so that it was not till early 1984 that all the field teams could be fully established. Meanwhile, the Marketing Expert had to leave at the end of one year due to health reasons and the Information Expert at the end of his tenure of 2 years. The Expert at Medan also left the Project due to difficulties connected with the education of his children and other problems of adjustment. Thus, in the fielding of the members of the team both in the Centre and the Field there have been slippages which naturally

had an impact on the progress of work done. Annexure I shows the actual times of joining of the International members of the Project Team.

3.3. Meanwhile, the Project format was reviewed to see whether any modification was needed in the light of the requirements of Government agency. The following changes were approved at the first Tripartite Meeting held in September 8th, 1982 and incorporated in the Project Budget revision INS/78/078/G/01/37 which was approved on 16th March 1983 :

-- Instead of three field teams (of two each) at three locations Semarang, Medan, Surabaya, there would be 6 Teams at three more locations - Yogyakarta, Ujung Pandang and Bandung;

-- The new field teams would consist of an International Expert and a Local Expert funded by the UNDP, funds for this purpose will be drawn from the provision under UN Volunteers whose contribution to the project was considered to be limited;

-- Rationalise the tenure of all the experts for a period of at least 2 years as far as possible;

-- Provide additional expenditure for purchase of vehicles and equipment for Pilot Information Centres and Sub-Contract Exchanges;

-- Provide additional funds for the Training Programme under both fellowship and study tours to provide for greater exposure of officials and entrepreneurs abroad.

3.4. It was also recognised at that meeting that the targets as originally set out needed some modification. For instance, the Small Industry Development Centres (PPIK) and Mini-Industrial Estates (MIE) had already been established and hence the role of the project would be more in helping them to operate effectively. In some areas such as the formulation of bilateral

and multi-lateral agreements, the project could only assist if called upon to do so by the Government. In regard to interaction with R & D Institutions, the project could do so effectively only when members of the Project Team are located at Bandung and Yogyakarta; the degree of interaction would also be limited by the specific expertise of the individuals that would be posted at these locations.

3.5. Taking these factors into account, the following targets were adopted at the Tripartite Review Meeting in September 1983, in addition to those stated in the Project Document :

-- To identify 100 new industrial opportunities which could attract loans from Banks and other financing institutions;
-- To help establish three Pilot Information and Documentation Centres at locations decided by DJIK (which were to be at Jakarta, Surabaya and Medan);
-- To formulate a model Sub-contracting Agreement and promote about 25 such agreements;
-- To help establish 2 Sub-contract Exchanges at locations decided by the DJIK (which were Jakarta and Surabaya) and,
-- To design at least 15 new Training Programmes for different categories of personnel.

3.6. It was also decided in consultation with the Government and the UNIDO that a different approach be adopted at Bandung to concentrate on the development of Electrical - Electronic and Instrumentation sectors - rather than over the entire spectrum of Small Industry as was being done at other field locations. This was done in view of the fact that Bandung has a large number of R & D Institutions which could serve as 'backstopping' institutions for more technology-oriented units in the Small Sector. This, however, meant a change in the job description of the Expert and a more careful screening of the candidate so as to be able to perform the tasks expected. Consequently, the expert at Bandung could join the project only by January 1984 and had a shorter time frame compared to those at the other locations.

3.7. Similarly, the first expert located at Medan could not function effectively because there were operational problems in the Mini-Industrial Estate (lack of water and power), difficulties in the absence of vehicle and secretarial assistance, and personal problem of adjustment. At Ujung Pandang the expert joined only in December 1983. Hence, out of the six field locations, three of them had the expert's services for just one year only.

3.8. The provision of Short Term Consultants, which was originally 15 m/m was reduced to 12 m/m. It was decided, in consultation with Government, that any meaningful assignment should be at least for a period of 3 months each and, hence, only four consultants could be accommodated in the provision. The following areas were selected for obtaining suitable consultants :

-- Credit Programmes for developing the Small Sector;
-- Statistical Data compilation and Presentation of the Cottage and Small Sectors;
-- Packaging in the Small Sector;
-- Quality Control and Standardisation in the Small Sector.

Annexure I indicates the dates on which the above consultants arrived and completed their missions.

3.9. A Team of National Experts was assigned by Government to work with the Central Team at Jakarta. These included a Chief National Expert, and expert in Engineering, Training, Marketing and Information. Four Junior experts were also added subsequently. A list of these personnel is shown in Annexure I.

3.10. At the field level, Government provided counterparts to work with the International Experts. These were drawn from the open market with relavent experience. In addition, at four locations, local experts were recruited to be funded by the UNDP to complement the expertise of the Industrial Expert in such areas as Training and Marketing.

3.11. Secretarial assistance was provided in the shape of secretaries and typists. Although there was provision for translators in the Project Document, suitable personnel could not be appointed on a full-time basis. Hence, the work of translation had to be undertaken partly by the in-house personnel and partly given out on a contract basis.

3.12. Since vehicles could not be made available to the field personnel from Government budget, the UNDP purchased 6 vehicles for providing to the Project Teams at the field level. In addition, a photocopier, an electric typewriter and a few other office equipment were purchased. A photocopier was provided to the Information Centre at Pulo Gadung. Annexure II gives a list of equipment purchased by the project.

4. Activities and Outputs

4.1. In detailing the activities of the Project, it needs to be borne in mind that it is, basically, a 'soft-ware' one - which is meant to advise and assist the Government agency rather then, by itself, establish any new institutions. In that extended sense, it is institution building but not so much in obviously visible terms such as buildings and machinery but in strenghthening the existing organisational structure so as to be more effective. Since the Directorate-General, Small Industry (DJIK) had been set-up earlier, and a framework of organisation had been already established at the provincial level, the thrust of the Project, at least in the initial stages, was not so much in suggesting new institutions but in strengthening the existing ones.

4.2. Similarly, in the field of Policies and Programmes, it was noted that Government had already formulated a well considered programme for the development of Small Industry in Indonesia. What was needed was not a new policy frame but to ensure that those already decreed were implemented effectively. Hence, the activities

of the Project Team both at the Centre and in the field were supportive to the activities undertaken by the concerned Government agency.

4.3. A word needs to be said about the problem of language since Bahasa Indonesia is the official language used in administration and all documents are written in that language. While many senior personnel in Jakarta have a good knowledge of English, it is much less so at the field level. Formal meetings are conducted in that language which also limits the participation of the team in such meetings. While a working knowledge of the language was acquired by most members of the team, it was not always adequate to read official documents or take an active part in formal meetings. Similarly, the reports of the Team, which were mostly in English, were translated into Bahasa Indonesia, whenever it was considered desirable; summaries in that language were given invariably. However, language was an inhibiting factor in the flow of easy communication between the International members of the team and the government agency.

4.4. The activities of the Central Team were more connected with the work of the Directorate General, Small Industry (DJIK). Much of it is embodied in Reports Issued by individual members of the team. At the field level, the activity was more tuned to individual entrepreneurs; hence formal reporting was limited except when the work, could be reported as in the case of 'upgradation Exercises' at Bandung. A list of reports issued by the team both at the centre and the field is shown in Annexure III; the reports embody the views of the individual expert writing the report and not that of UNIDO.

4.5. Quite often, individual members of the team were requested to provide information on matters which concerned the previous experiences of the expert and not with the current project. Such notes were issued as 'Occasional papers' and serialised separately.

It was made clear that such notes were to be regarded purely as individual communications and not that of the project. A list of such occasional papers is shown in Annexure II.

4.6. In order to bring the Project Team on to a 'common wavelength' and to exchange experiences, Team Meetings were arranged periodically. Initially, these were also attended by the various officials from the provincial offices which enabled them to know what the project was about and what it was doing. Three such meetings were crganised by the DJIK at Jakarta (October 1982), Surabaya (February 1983) and Semarang (October 1983). In 1984, with all the field teams in position, these meetings were restricted to the Project Team including both the International, National and Local Experts. So far, two such meetings were organised both in Jakarta - in February 1984, and June 1984. These meetings have been found extremely useful for intensive discussion within the team itself and have encouraged considerable interaction amongst the members of the team.

4.7. At Jakarta, Meetings of the Central Team, including the National Experts, have been held periodically - on an average once in three months These meetings have been helpful in reviewing the work done and to see how the activities of the individual experts can be mutually supportive. A Video Film was produced to highlight the activities of the field teams in Java and Bali.

4.8. Policies and Programmes

4.8.1. A comprehensive review of the Policy Frame of the Government of Indonesia to develop Small Industry was made in early 1982 (Report No.3 - Interim Report on the Development of Small Industry in Indonesia - Dr.Ram K.Vepa - July 1982). The review covered all the major aspects of Small Industry: Definition, Organisation, Industrial Estate, Technical Assistance, Credit and Fiscal incentives, Product Reservation, Purchase Reservation, Sub-contracting and Entrepreneurship Development. The report also

outlined a strategy for the rapid growth of Small Industry in the country. The need for a sectoral approach in the organisation was emphasised; more importantly, it drew a distinction between the cottage industry sector and the modern small industry sector - both of which are included in the current definition and underlined the need to formulate a different 'packages of assistance' for each of them. It also emphasised that while the cottage sector was, undoubtedly important in terms of number of units, persons employed and the traditional skills it embodied, the modern small sector has a greater potential in creating new employment, stimulating growth and linking to the large industries. It is interesting to note that many of the suggestions made in the Report have been considered and adopted in formulating the programmes of REPELITA IV (Fourth Development Plan)

4.8.2. A detailed study was made of the legal framework for the development of Small Industry which is at present, scattered in decrees issued from time to time. (Report No.13 - Need for a Basic Law for Small Industry Development in Indonesia - Ram K.Vepa & A.Sjorfai - March 1983). Based on the experience of both developed countries like Japan, USA and UK, and developing countries like India and Philippines, it was recommended that a more comprehensive basis may be laid down through the formulation of a Basic Law for Small Industry. Such a law would define clearly Government Policy towards Small and Cottage Industry and their roles in the national economy. A draft of such a law was drawn-up, both in English and Bahasa Indonesia, with the following headings :

- Preamble, Definitions, Organisation, Mini-Industrial Estates, Supply of Machinery, Raw Material Distribution, Credit, Industrial Extension, Transfer of Technology, Product Reservation, Purchase Reservation, Sub-contract, Fiscal Incentives, Intensive Campaigns. -

It is noted that a Bill on Industry has been approved by the President which highlights the role of the Small Sector; the proposal for a Basic Law (or Decree) is being considered by

DJIK and likely to be acted upon now that the Bill on Industry is approved.

4.8.3. An important aspect of implementation is the impact of the Extension Services Programme operated at the field level. The Small Industry Extension Centres (PPIK) were initially set-up on a Pilot basis at Yogyakarta and Surabaya in an earlier UNIDO Project(INS/78/004). Based on that experience, similar centres have been set-up in nine provinces of which seven are in the area of the present project operations. It was considered desirable to conduct a study on the way these centres operated and to suggest possible improvements. The study was conducted at two levels: Industrial Engineers at Jakarta, Semarang, Yogyakarta and Surabaya studied the centres in their areas. The Team Leader made a study of the centre at Bandung and also compiled an over view report discussing common policy issues. (Report No.23: An investigation of the organisation and activities of PPIK, Jakarta - Mr.B.Eidsvig - July 1983; Report No.37 - PPIK Design Centre - Evaluation of Present Activities - Mr.B.Eidsvig - November 1983; Report No.40 - Report on the PPIK, Yogyakarta - Mr.M.E.D.Humphreys - December 1983; Report No.42 - PPIK in Indonesia - A Study - Ram K.Vepa - January 1984).

4.8.4. It was found that while there was a general measure of uniformity in the structure and operation of these centres at the various places, there were also differences in the way on which they were being run, and consequently on the impact they were making. It was considered that the concept of a 'single window service' to the entrepreneurs - which the PPIK embodied - was a valid one whose utility could be enhanced through more effective implementation. The following suggestions were made in this connection to achieve this objective:

-- The service of the PPIK should be not merely 'software' in content but also in 'hardware'.

-- The existing Technology Assistance units need to be strengthened considerably; so is the case with the information unit;
-- The role of the Market Promotion Unit may be expanded to undertake a more active role in marketing;
-- A small fee (0.2% of the amount of loan) may be charged for loan appraisal reports; if the loan was granted by the bank on the basis of the report;
-- The utilisation of machinery in the Service Centre (UPT) was low and needed to be reviewed;
-- The possibility of associating the expertise available in Government enterprises may be explored;
-- The role and functioning of the Extension Workers (TPL;TPLS) has been clearly laid down in the DJIK Decree (45/DJIK/SK VI/81) but needed to be followed closely.

The suggestions made in the report on the individual centres as well as in the over view report have been considered by the KANWIL offices concerned and the DJIK and, in some cases, have been implemented.

Recently, the activities of the PPIK have been integrated more closely with the BIPIK, and the Centre placed directly under the head of the BIPIK .

4.8.5. The Product Reservation Scheme embodied in a Government Decree (517/M/SK/11/1980 dated 20 November 1980) has benn studied; under this decree, 129 product groups have been reserved for exclusive development in the Small Sector. (It is interesting to note that India has implemented for nearly fifteen years a similar scheme and, more recently, South Korea has announced a list of 110 products which have been declared 'out-of-bounds' for the large and medium sectors). The study revealed that the scheme, is yet to be implemented fully but could become an important mechanism, which would offer potential for the growth of the small sector.

4.8.6. The Report embodying the Study (Report No.38 - Product Reservation Scheme in Indonesia - Ram K.Vepa - December 1983) estimated that the number of Small Units making the reserved products are about 40,000 (about 36% of all the small industry units) of which 60% are located in nine provinces covering Java, North and South Sumatra, and South Sulawesi. They accounted for a production of Rp.209 Billion (out of a total of Rp.600 Billion for the entire small sector) and an employment of 300,000 persons. To make the programme more effective the following recommendations were made :

-- A Package Programme of Assistance - including preferential allocation of work places on the Mini-Industrial-Estates, greater access to credit, supply of raw materials; testing facilities and marketing assistance - may be given to such units;

-- For better monitoring, a committee with the Director General, Small Industry as Chairman may be set-up to review periodically the progress of the scheme and recommend additions or deletions from the list. Guidelines for additions to the scheme have been suggested on the basis of following criteria - proven capability of production in the small sector, potential for growth, suitable technology, easy availability of machinery and raw materials, no marked export angle and no special problems in marketing.

An illustrative list of 100 products that would, prime facie, qualify for reservation was drawn-up; it was also recommended that all reservations may lapse after a period of 5 years, unless specifically renewed.

4.8.7. Now that the Fourth Development Plan (REPELITA IV) has commenced, the process of breaking up the national targets laid down in the Plan for the small sector to the Provincial and Kabupaten (district) levels will need to be done, so that field personnel may link-up their own work to the national targets laid down in the plan.

In this connection, a mechanism to formulate Action Plans, for each region was suggested to enable more effective implementation and easy monitoring of the plans. A Manual indicating the ways in which this can be done was prepared and circulated to the officials responsible for this work (Report No.18 - Manual on Preparation and Monitoring of Small Industry Development Action Plans - Ram K.Vepa -June 1983). The preparation of the Action Plan involves inventorising the total resources - human and material - of the region, identifying new industrial opportunities, locating likely growth centres of the region, estimating the credit requirements for new industrial opportunities, and drawing-up a strategy to achieve the targets. The support programmes - technical, marketing, training etc. also need to be clearly designated to generate the necessary skills for the programme. Infrastructure required at the growth centres will need to be meshed with the respective agencies responsible for providing the services. 'Intensive Campaigns' may have to be conducted at select locations so as to create an awareness in the region of the potential that exists and also cut short delays involved in meeting procedural requirements. The Small Industry Development Action Plans (SIDAP), if prepared with care and implemented with imagination, will help to translate broad national targets into more readily perceived field objectives. It is a matter of satisfaction that the process of formulating such plans has been accepted, in principle, and recommended to the provincial industry offices for implementation.

4.8.8. An important aspect of Small Industry Development is to see how best it can be linked to the large industry. The system of Bapak Angkat (Foster-Father Scheme) has been followed for sometime and nearly 40 large units - mostly in the Government sector - have been designated as 'foster-fathers' to clusters of Small Units. A study was undertaken to see how the scheme is actually working in practice; it was found (Report No.8 - Foster-Father

Programme in Indonesia - A Study - Ram K.Vepa - January 1983); that while the scheme was sound in principle, there was no clear demarcation of the duties and obligations on both sides, and specifically, the assistance provided in marketing the products was limited. It was suggested that this should be clearly specified in an agreement for which a model was prepared to be monitored by the KANWIL office. The agreement would lay down the responsibly of the 'Foster-father' to provide guaranteed off-take, assist in supply of raw materials, technical designs and marketing and make timely payments for goods supplied while the small unit has the responsibility to deliver the goods of an acceptable quality on time at an agreed price. The model agreement has been discussed at a seminar organised by PT KUBOTA at Semarang and found to be generally acceptable to both the large and small units. It has since been adopted (with minor modifications) by several units in Semarang, Yogyakarta, Medan etc.

4.8.9. In order to encourage a larger measure of Sub-contracting, it was recommended that Sub-contracting Exchanges be set-up at Jakarta and Surabaya to identify Sub-contracting possibilities in the large sector, select small units capable of executing such orders and matching the two-the large and the small - in a mutually beneficial arrangement. These ideas have been elaborated in a report. No.49 -Sub-Contracting Exchanges in Indonesia - A Proposal - Ram K.Vepa - March 1984) which describes the functioning of such exchanges abroad. The procedures for such an 'Exchange' as well as the likely costs involved were discussed. A model service agreement between the Exchanges and its clients was also indicated. The possibilities of Sub-contracting in one field-the Automotive Sector - were given as an illustration.

4.8.10. REPELITA IV has envisaged the strengthening of the institutional base for the development of small industry and specifically identified five National Centres for :

-- Information and Documentation;

-- Education and Training;

-- Technology Services;
-- Design and Product Development;
-- Promotional Services.

A Preliminary Proposal dealing with each of these functions was prepared setting forth the objectives, functions, organisation, and running costs in each case. (Report No.55 - Institutional Infrastructure for Small Industry Development - Ram K.Vepa - April 1984). The following instituions were recommended as backstopping centres for the extension network :

-- National Information and Documentation Centre - to operate a Technical Library, conduct documentation and inquiry service; Maintain Data-Bank; undertake publications;

-- National Education and Training Centre - to plan and manage all training programmes; to conduct research and survey; to design preparation of training materials; to operate the programmes;

-- National Technology Services Centre to make technology assessment and selection; to provide basic engineering services; to negotiate and lease advanced technology to small units; to provide information to extension personnel and answer inquiries;

-- National Product Design Centre to undertake Product Development and Design in Metals, Ceramics, Leather, Wood, Bamboo, Rattan; to design improved tools, techniques, processes and build prototypes; to improve packaging techniques using locally available materials; to provide workshop facilities for fabrication of improved tools and equipment.

-- National Industrial Services Centre to supply machinery on a hire purchase basis; to distribute raw materials and operate buffer stocks; to provide domestic marketing assistance through issue of certificates of competence; to assist in export marketing by operating as a prime contractor.

These national centres will operate through the PPIK's at the KANWIL level and the KANDEP office at the Kabupaten levels. The structure of the Centres should be flexible to allow hiring of personnel from outside and yet be closely linked to the DJIK to reflect government policies and programmes. The services provided by the centre may be initially free of charge but it may be possible at a later stage to levy a small fee. However, it is unlikely that this will cover more than a small portion of the budget for the Centres which, at least in PEPELITA IV, may have to depend on the Government Budget. The proposal is under consideration of DJIK.

4.8.11. A major re-organisation in the Directorate General, Small Industry (DJIK) has been done in April 1984, on a sectoral basis-metals, chemicals, textiles, food and handicrafts - leading to a significant change in the way the development programme will be monitored at the headquarters. In a Report (No.58 - The Sectoral Approach to the Development of Small Industry in Indonesia - Ram K.Vepa, May 1984) it has been suggested how this new approach could be judiciously combined with the earlier functional approach; it has been recommended that separate sub-directorates dealing with Infrastructure, Machinery and Raw Materials, Sub-Contracting, Training - be set-up and allotted to an appropriate directorate to act as a nodal agency for that function. In addition, it was recommended that two separate Directorates may be set-up in Light Industry and Economics and Statistics - the former to deal with the Electrical and Electronics Industry (which has a good potential in the small sector) and the latter to deal with data compilation and presentation as well as conduct techno-economic surveys and draw-up feasibility studies. Separate definitions for the Cottage and Services sectors have been proposed to ensure that these Sub-sectors can better contribute to employment generation.

4.8.12. The problem of easy access to Credit by the small entrepreneurs has been studied by a Short Term Consultant and recommendations have been made to improve the existing position (Report No.30 -

A Study of the Credit for Small Industries in Indonesia - B.Catanc - July 1983). It was noted that the beneficiaries of the existing loan programmes (KIK, KMKP) form barely 5% of the total number of cottage and small industry units; in fact, the proportion of small industry in such loans has progressively decreased from 24.4% (by value) in 1974 to 10.9% by 1980 in the case of KIK, and from 38.5% to 10.6% in KMKP loans. It was recommended that the Central Bank (Bank Indonesia) may issue a directive requiring handling banks to set apart at least 25% of their advances under the KIK/KMKP Programme to finance new industrial activities. The problem of sanctioning loans where no collateral can be offered has been discussed and it was recommended that in such cases, a project, otherwise considered worthwhile, may be sanctioned on a higher guarantee fee by the insuring organisation, PT Askrindo. The need for raising the existing ceiling of the KIK/KMKP loans from Rp.15 Million to Rp.50 Million for KIK, and Rp.30 Million for KMKP was recommended. It was also suggested that DJIK, in together with Bank Indonesia and the handling banks, launch an extensive information drive to make better known the credit facilities available to small entrepreneurs. The recommendations were discussed at a widely attended meeting organised by DJIK on 20th July 1983 and many of them were accepted for further consideration.

4.8.13. With the commencement of a new Five Year Plan, the need for establishing a clear and well defined baseline statistics has become evident. The problem of Data Collection and Presentation was studied by a Short Term Consultant (Mr.J.C.Spijkerman) in cooperation with the BPS (Biro Pusat Statistik) who had conducted a full scale census in 1974. The report submitted by the consultant at the end of his mission (Report No.34 - October 1983) underlined the need for a uniform definition of small industry to be adopted by all the agencies concerned. It was also recommended that a central registration for all enterprises be done and brought up to date for Small Industry, such registration would

need to be simple and direct. The need for a Census of small industries - 100% for those designated as small by BPS and on a sampling basis for the cottage units - was also emphasised to bring the data up to date. The questionnaire for the annual inquiry was simplified and made compatible for easy storage and retrieval. The recommendations made by the consultant were discussed at a meeting organised by DJIK on October 4th, 1983. These are being considered by DJIK and BPS for implementation.

4.8.14. In addition, to the above specific studies, information was provided on a number of policy matters to various division within the DJIK whenever it was sought - such as, for instance, on Credit Policies in Japan, India and Philippines, definition adopted in a number of countries; operation of purchase preference scheme in India by Government enterprises. Individual members of the team have also offered suggestions, both orally and in writing, on programmes proposed on the Fourth Plan. It is a matter of satisfaction that many of the ideas thrown up in Reports and informal discussions have found their way, in one form or another, into the thinking behind the Fourth Development Plan (REPELITA IV).

4.9. Technical Assistance to Existing Industrial Units

4.9.1. Since the project team consists of seven Industrial Engineers at the field level, the emphasis in the work of the team has been in the area of technical assistance both to the existing units and in the identification of new possibilities. In this section, it is the former activity that will be reported. (Annexure IV).

4.9.2. Existing units are located both on the Mini-Industrial Estates set-up by Government in a few centres as well as in the clusters (Sentras) at a number of locations. The Mini-Industrial Estate are of three categories.

-- Those which are extensive in area and consist of work sheds of three or four sizes (LIK). They are located in the main centres such as Medan, Bandung, Semarang, Tegal, Sidoardjo

(near Surabaya), Magetan, and Yogyakarta. They are either multi-purpose such as at Semarang or Sidoardjo or functional such as Magetan (leather), Yogyakarta (handicrafts). About 15 such estates are either operating or under construction.

-- Those which provide both work place and living accommodation (PIK), about ten such estates are working or under construction in Jakarta Metropolitan Region, West Java, Central Java, Yogyakarta, South and North Sulawesi.

-- Those which are purely for Sub-contracting purposes as adjuncts to major industrial areas (SUIK) near Jakarta, Cilacap, Surabaya and Medan.

Technical assistance was afforded to all the three types of estates.

4.9.3. In addition, there are clusters of artisans (Sentras) in Metals, Chemicals, Textiles, Leather and Building materials. About 500 such clusters are recognised of which about 245 are in the 8 provinces in which the project is operating. While common service facilities (CSF) are set-up in the Mini-Industrial Estates, UPT (Technical Service Centres) operate in the clusters. About 80 such UPT's are located all over the country of which 60 are in the eight provinces covered by the project.

4.9.4. Jakarta Metropolitan Region

4.9.4.1. The SUIK Estate in Pulo Gadung (near Jakarta) has a total of 92 sheds with 16 metal units and 55 units of other kinds of industries, the rest being vacant. A study was made of the functioning of the estate and also of the individual industries in the metal sector (Report No.44 - Mr.B.Eidsvig - February 1984). It was noted that the size of the shed (5.9 x 5.9 metres) is too small for effective working and the rent charged (Rp.1000,- per square metre per month) is on the high side. It was recommended that the present policy

of admitting only the existing units may be modified to allow new units to enter the estate. 19 Units have been sent out last year due to their inability to pay the rent; it was considered that greater assistance to such units might have avoided such a situation.

4.9.4.2. The units studied covered a variety of activities .

-- Tip-Top, Indonesia (Tyre dismantling machinery);
-- Wijaya (Welding racks);
-- Elemen Panel Box (Panel box manufacturing);
-- Mustica Kutra (Cutting pipes and belts);
-- Murdin (Saw blade maintenance);
-- Yusiton (Assembly of Automotive metal parts);
-- Karia Jasa (Assembly of Alumunium Window frames);
-- Metafor - Indo (Steel tubular chairs);
-- Pratama (Dryers)
-- Arisdiker Prima (Glass, fibre and wood products);
-- Ground Aviation Service (Welding different items).

In each case, recommendations were made for improved lay-out and better management. It was also suggested that the considerable scope for more sub-contracting amongst the units themselves may be explored.

4.9.4.3. A proposal was made to equip the Common Service Facility (CSF) Centre with more machinery in two phases :

-- In the first phase, a forge, shearing and punching machine, spot-welder, 1" drill machine, milling machine, power hack-saw grinder (6") and polisher (8") at an expense of about Rp.28 Million.

-- In the second phase, a casting cupola, bender and cutter, gas welder, shaping machine, centre lathe, capstan lathe, machinery for surface treatment and 10 ton press at a cost of Rp.44 Million. Software

assistance in planning, product selection, machinery selection, lay-out, work-planning, cost-control and productivity increase may also be given.

4.9.4.3. These proposals were discussed with the head of the BIPIK in the KANWIL office and as a result, the personnel requirements of the proposed CSF were worked out (Report No.53 - Mr.B.Eidsvig - March 1984) as also reasonable charges for the use of machinery installed. Model forms of the progress report and job sheets on the work done for the customers were prepared.

4.9.4.4. The operation of the Technical Design Centre operated by the PPIK on the Estate has been studied. (Report No.37 - Mr.B.Eidsvig - November 1983). The Centre is meant to undertake design of simple equipment that could be manufactured on a small scale. The activities underway relate to the design of :

-- fish splitting machine;
-- fish drying cabinet;
-- fying machine for deep fat frying;
-- machinery for leather products.

The fish splitting machine is an expensive one (Rp.3 Million) and it is considered doubtful whether the small sector can manufacture such an item. Simplified designs were suggested which can cut down the cost to Rp.600,000 when produced in bulk. In respect of others, modifications have been suggested to the existing designs. It was suggested that the Design Centre may concentrate on in-plant assistance to existing entrepreneurs rather than undertake design of new machinery which may be left to the R & D Institutes.

4.9.4.5. The Four Technical Services Centres (UPT's) - two in garment manufacturing at Kalibata and Sukabumi, one in foot-wear in Kuningan and one on the SUIK for the metal sector were studied and suggestions made to improve their effectiveness. The UPT at Kalibata was found to be working well though more modern equipment is needed. The UPT at Sukabumi has modern equipment but many of the operators were not familiar with their operation. At Kuningan, the machinery was under-utilised and greater assistance to entrepreneurs was desirable. In general, it was recommended that :

-- operators working in the UPT's be better trained to work on the machinery;
-- permit entrepreneurs to utilise the machinery themselves and,
-- greater assistance to be given through training programme on general management and bookkeeping as well as in-plant counselling on their own premises.

4.9.4.6. Units on the Rawabilal Estate and Klender Estate were visited and suggestions were given in planning and lay-out.

4.9.4.7. The Machine Manufacturer's organisation (APSEP) wanted assistance in their operations; meetings were held with the members for better utilisation of their capital and productive capacity. More specific assistance was provided to eight units - one manufacturing lathes, and the others different products. In each case, the existing organisation, lay-out, and production process was studied and suggestion made for improvement (Report No.27 - Mr.B.Eidsvig April 1983; Report No.56 - Mr.B.Eidsvig - April 1984).
A Proposal has been made to set-up a separate development company by APSEP which would help to coordinate development and utilise spare capacities.

4.9.2.5. In response to a request from the Bangka Tin Plate Association, visits were made to some of the pe[illegible] units and discussion were held as to the improvement product quality so as to be able to compete in the market.

4.9.3. Central Java

4.9.3.1. A Study of the Mini-Industrial Estates (MIE) at Semarang and Cilacap was undertaken in December 1987 - February At Semarang, 98 sheds are occupied and 72 are actually in metal, (29) wood, (16) and Food (15). At Cilacap, has 44 sheds of which 23 are in operation [illegible] sector. At Cilacap, 49 are occupied covering [illegible] industry. All the three estates suffer from in-[illegible] transport facilities (being away from the heart of the feeling amongst the entrepreneurs that [illegible] take about 4-12 months to sanction a loan and the [illegible] to start repayment (6 months) is considered too [illegible] facilities are limited or non-existent. The 'Dinas' [illegible] to keep in closer touch with the problems of [illegible] for this purpose, a 'data-card' [illegible] suitable form is provided.

4.9.3.2. A more in-depth survey was taken-up at Jepara where [illegible] to be assisted through a World Bank Project to [illegible] machinery. (A Metal cluster at Batu Ceper is [illegible] assisted similarly). Discussions were held at Jepara regarding the additional machinery to be obtained and were checked with the Metal Industry Development Centre at Bandung. The possibility of introducing facilities and die making and an induction furnace were also the SIDC and a list of machinery drawn-up for [illegible] the world bank.

4.9.3.3. A new model Gas Welding set with reduced gas consumption

demonstrated at Semarang, Tegal, Bareng and Yogyakarta. A Training Programme for 30 participants in the use of the set was organised at Tegal. At Bareng, a black-smithy unit was assisted to make banding fixtures for U-Profiles, manually, but it is intended to improve it through hydraulic process.

4.9.5.4. Three clusters at :

-- Kudus - blacksmithy;
-- Juwana - brass-casting;
-- Purwodadi - Food-soyabean cake.

were studied in December 1983 to provide information on production and marketing. It was found that most of the units suffered from low margins of profits, delayed payments and difficulties in marketing. Dissemination of such information can be more fruitful, if supported by audio-visual facilities.

4.9.5.5. At the request of the KANWIL office, a survey was made in January 1984 of four production centres operated by the provincial admimistration - at Kudus (Smithy), Klaten (Foundry, and machinery), Purwokerto (Automotive and Service Units) and Sokaraja (Construction and Machinery Units). The smithy unit is 25 years old and suffers from poor maintenance; the Klaten unit, equally old, was in a little better condition and relied on job orders. Recommendations for improving the productive capacity of the units have been formulated and sent to the KANWIL office for further consideration by the Boards of Directors in consultation with the Banks.

4.9.5.6. An Exhibition and Technical discussion were held at Semarang between 29th March and 4th April 1984. Advice was given to the entrepreneurs who exhibited their products. The main problems were in design, finishing and standardisation. A significant item exhibited was a lathe manufactured at Tegal. The field team participated in the discussion on Design Engineering, Plant Engineering, Workshop and Consultation.

4.9.5.7. A Training Programme for Garment Manufacturing Entrepreneurs was held in early March 1984. Advice and assistance was given in the preparation of teaching material.

4.9.5.8. Design of Wagons for transport of Sugar Cane was discussed with Director of PT Perkebunan XVI at Solo and a new design was suggested which was accepted.

4.9.6. Yogyakarta

4.9.6.1. In view of its compact area, the project team has been working closely at the KANDEP (District Level) and holding frequent meetings with the extension personnel. This has also enabled them to keep in close touch with clusters of entrepreneurs at several locations. Thus a Tile Producing Sentra at Godean was advised on how the machinery supplied by the BIPIK, could be better utilised to increase the output. At Kulon Progo Wates, the team advised the basket weavers to mix the dyes to ensure better colour standardisation. A blacksmith cooperative at Sleman producing agriculture tools is being advised to improve the product and thus the profitability.

4.9.6.2. PT Karya Prima Kalasan is a unit at Sleman making aluminium furnaces suitable for small scale entrepreneurs. Its productivity and quality were studied and discussion held on better recovery of aluminium from scrap. Demonstration of a furnace capable of handling metal up to 100 kg/day was given; a visit was also organised to East Java for 6 artisans to see the furnaces designed and operated by the Project Team there at Pasuruan and Bondowoso.

4.9.6.3. A Cooperative at Mandiri was assisted to make shears for a carpet making project. A simple device for storage of fish and food operated by solar power or wood is being investigated for use in areas with no electricity. Prototypes are being

fabricated at the workshop of DIan Desa and will be field tested at Baron in Gunung Kidul. Proposal for the manufacturing of low cost equipment that would improve the productivity of Pandai Besi (Black-Smithy) units has been made. Protypes are proposed to be constructed.

4.9.6.4. A preliminary study of the working of the following five UPT's in the region has been made:

-- Manding - Leather
-- Sekarsuli - Metal
-- Yogyakarta - Metal
-- Wonosari - Foundry
-- Kasongan - Foundry

The UPT at Manding is poorly utilized due to equipment not being in operation; training of the operators was done with assistance from the Leather Research Institute at Yogyakarta. The UPT at Kasongan has problems connected with the pricing policy. Proposals have been made for the diversification of the products made by the UPT at Sekarsuli and Manding. At Sekarsuli, wheel barrows, trowels, hoes, spatulas can be made; at Manding, new products such as sheaths (for wool shears) and wiritng cases can produced.

4.9.6.5. Based on discussions with the local potters, a promotional exhibition of their products was organised at the local Handicrafts Show Room. The exhibition elicited response from the customers so as to provide a valuable feed back to the entrepreneurs for developing his products and business.

4.9.6.6. The most significant work done in Yogyakarta was in the area of non-ferrous casting - Aluminium, Brass and Bronze. Major losses in raw material and fuel result through inefficient equipment and technology. A visit was organised for select members of the Industry to East Java to witness as under actual working conditions an improved furnace designed by the UNIDO Field Team there. Two such furnaces have been ordered - and are now being installed at the Brass Casting Sentra at Sleman. Detailed studies have been made of five industries - two in Aluminium, two in Brass and one in Bronze and recommendation have been made to improve their present method of operation.

4.9.7. East Java

4.9.7.1. The Mini-Industrial Estate at Sidoarjo (outside Surabaya) was first studied and it was noted that the machinery available in the CSF on the estate was poorly utilised to meet the requirements of the entrepreneurs. Recommendations for additional machinery have been made as also changes in the training of operators and policies regarding the charges for the services. The cost involved is about Rp.37 Million in the first phase and about Rp.25 Million in the next phase. An oil powered hardening kiln was designed in cooperation with the 'Pinda Keramika Loka'.

4.9.7.2. Attention was paid to a number of clusters of which the more important were :

-- Waru Ngingas	-- (Metal)
-- Tanggulangin	-- (Suitcases)
-- Malang	-- (Cermics; Furniture)
-- Pasuruan	-- (Brass and Aluminium Castings)
-- Bondowoso	-- (Brass and Aluminium Castings)
-- Madiun	-- (Blacksmithy)
-- Magetan	-- (Leather)
-- Marjosari	-- (Kerosine stoves)
-- Jombang	-- (Bronze)
-- Mojokerto	-- (Bronze)

In each of the clusters, the existing service facilities were studied and recommendations made to enhance their utility to the entrepreneurs. At Waru-Ngingas, recommendations for improved lay-out and additional machinery have been made At Malang, a ceramic centre was proposed based on machinery that can be locally fabricated. As the UPT in Magetan, the Bamboo splitting machine was improved in operation by adjusting the knife settings. At the UPT, Madiun, a belt grinder was designed to improve the finish and speed of the tools. The suitcase cooperative at Tanggulangin (which has been set-up through the assistance of an earlier UNIDO Project INS/78/004) is doing well under the brand name 'Intako'.

4.9.7.3. Wood carving is traditional craft in Bali ...e to recession, decline in tourism and changing tastes, there has been a fall in the market off-take. A Study was made (Report No. 14 - Mr. S. Ursberg - March 1983) of the possibility of diversifying

the activities of the wood carvers and also increasing their collective strength through bulk purchase of wood, dissemination of market information, joint marketing and operation of a display room. A CSF Centre for wood working has been set-up in Denpasar to demonstrate new techniques and provide facilities such as for wood seasoning to the existing craftsmen. Diversification to educational equipment and toys has been promoted and a small volume of exports has begun in these products. Better finishing and packaging is required for increasing the marketability and the project team is working closely with the BIPIK at Bali and select entrepreneurs who are progressive and enthusiastic.

4.9.7.4. Development work was undertaken at Pasuruan where traditionally brass-casting has been an important activity. The products cast are both functional and ornamental. To effect an improvement in the existing process, it was thought desirable to :

-- reduce fuel consumption;
-- reduce the amount of metal required;
-- reduce production time and,
-- improve recycling.

Based on the survey conducted with the artisans and visits to other furnaces in Surabaya, an improved design of the furnace was taken-up and tried in September 1983. The experiment was successful; the combustion was complete and smoke - free and heat was well retained within the furnace. In October 1983, the operation of the new furnace was done by the craftsmen themselves.

4.9.7.5. Based on the success of the Pasuruan design, a second furnace (80 kg capacity) has been set-up at Bondowoso and successfully demonstrated. The price of such a unit is around Rp.300,000.- (about US$300) which is not considered too high for most entrepreneurs. The wet sand casting process at Pasuruan and Bondowoso is also being studied; good silica sand is necessary

for this purpose. Experimental mouldings with supplies of sand from the Tuban area are being tried. The furnaces at Pasuruan and Bondowoso have evoked considerable interest and have been demonstrated to a group of artisans from Yogyakarta. 8 such furnaces have been ordered both by entrepreneurs and for the UPT's.

4.9.8. North Sumatra

4.9.8.1. The Industrial Engineer moved to the MIE outside Medan only in March 1983, since it was handicapped for sometime due to lack of water facilities on the Estate. 30 Sheds were constructed and allotted to 20 entrepreneurs in metal and wood working. It was initially decided to find out why they were not operating although in some cases, bank loans have been provided. Discussions were held by the KANWIL office and the Project Team with the entrepreneurs as a result of which all the entrepreneurs commenced their projects. Where bank loans are yet to be advanced, assistance was provided to enable the allottees to get finance from the banks. Some existing units making agricultural tools and automotive parts have been advised to improve productivi

4.9.8.2. The CSF in the MIE, had not commenced operations although machinery was purchased but not installed. The operators recruited for the purpose did not know how to operate them. A Training Programme for the operators on Maintenance and Operation was undertaken in April - May 1983. The electrical wiring of the CSF was modified for safety reasons. A Training Manual for Small Entrepreneurs and TPL's has been prepared in Bahasa Indonesia. This includes shop management, safety rules, maintenance procedures; about 15 persons have been trained at the CSF each in wood and metal working. The CSF is being utilised by the entrepreneurs for various operations involving mailing, lathe work etc.

4.9.8.3. At the request of the KANWIL office, a proposal to establish a CSF at Pematang Siantar, the second largest town in North Sumatra, was taken-up. A sample survey was undertaken to ascertain the specific needs of the entrepreneurs engaged in wood working and metal working crafts. On the basis of responses received, and the field visits, a proposal for the CSF has been drawn-up in two phases-in the first phase comprising a metal and wood working shop at a cost of Rp.80 Million. In the second phase, machinery for heat treatment, hardness testing, wood seasoning, welding etc. have been provided. Necessary personnel requirements and operating costs have been indicated. The proposal (embodied in Report No.43 - Mr.A.H.Sheikh - December 1983) has been recommended by the KANWIL office to DJIK for a final decision.

4.9.8.4. A Number of clusters outside the MIE were also visited. These include :

- Siborong-borong - Blacksmithy
- Desa Sibuntinem - Rattan
- Lumban Siagan - Handloom and handicraft.

It was noted that almost all the units suffered from lack of new designs, inadequate quality control, and poor market facilities. A Craft Development Centre has been proposed to provide new designs, supply raw materials and help in marketing the finished product.

4.9.8.5. Units outside the LIK have been visited and on-the-spot advice offered to them for better use of machinery and processes. These included :

-- PT Super Andalas Steel - Steel Structural Fabrication

-- M/S Perbengkelan Konstruksi - Sub-Contracting Firm making ladders, electric poles, doors gates etc.

-- PT Sumatra Raya Sari Engineering Co. - Metal products, such as pipes, elbow tee joints, bushes, propellers.

-- M/S Lisma Rattan - Handicrafts

4.9.8.5. Visit was made to Banda Aceh on request from the KANWIL office. A design for the production of Nilam Oil, free from contamination of iron particles, was prepared and furnished to the KANWIL office at Banda Aceh.

4.9.8.6. A proposal for a better access to Credit facilities by small entrepreneurs was prepared and forwarded to DJIK.

4.9.9. Ujung Pandang

4.9.9.1. The expert joined at Ujung Pandang only in December 1983, hence the time reported on is limited. However, according to the work plan drawn by the Team, it was proposed to pay special attention to three growth centres of the region :

-- Ujung Pandang where an MIE was under construction;
-- Pare-pare an important industrial centre where an MIE was being set-up;
-- Massepe -- 250 km north of Ujung Pandang where a cluster of blacksmiths exists.

4.9.9.2. At Ujung Pandang, the machinery for the CSF has been installed but electrical connection is yet to be provided. Entrepreneurs interested in operating on the MIE have been selected and suitably advised. The CSF has a centre lathe, power saw, welding equipment (both arc and gas) grinding and drilling facilities as well as for bending and shearing. Wood working machinery include planing, power saw, and wood carving tools.

A Technical Training Scheme has been organised at the MIE with the help of a portable generator loaned for the purpose; the available machinery have been operated as part of the training programme .

4.9.9.3. The MIE at Pare-Pare includes a CSF building which is complete but machinery is yet to be installed. Identification of product possibility is being done to assist entrepreneurs who are provided facilities on the MIE. They are also being assisted to obtain credit from the banks, select machinery and to begin production.

4.9.9.4. A Pilot Foundry Scheme was taken-up at Massepe. The furnace has been designed and was arranged to be fabricated. It has commenced operation for non-ferrous castings. A Training Programme for 12 persons (including BIPIK personnel and entrepreneurs) is being held. The CSF at Massepe is nearing completion with machinery partly installed and buildings completed. A Pilot Scheme for an improved workshop has been suggested and contacts made with 40 entrepreneurs in the area.
A similar Scheme for a Pilot workshop at Rantepao has been formulated and it is under consideration; an extension programme was organised at Rantepao in Cooperation with the BIPIK Staff.

4.9.9.5. Assistance has also provided to the following existing units :

-- PT. Tenaga Jaya Raya	-- Choice of site for the workshop on machinery and equipment.
-- CV. Nur Intan Jaya Corporation	-- Choice of equipment for processing garbage.
-- CV. Lagosi	-- New designs for Kitchen Unit; trial production has been successful.
-- CV. Surya Utama	-- Application for loan from BAPPINDO; Design and Layout of workshop; selection of Machinery and Equipment; Construction of a Crucible (for non-ferrous casting) and Cupola (for ferrous casting)
-- CV. Pasir Mas	-- Manufacture of roof tile.

Three applications (for metal workshop and foundry, wire mesh and garments) have been processed and recommended to the banks for loan.

4.9.10. West Java

4.9.10.1. The revised job description for the Industrial Engineer at Bandung required him to :

-- Identify new industrial opportunities in the small scale sector in the fields of Light Industry, Electronics and Instrumentation;

-- Assist in the identification of suitable entrepreneurs in the above fields on the Industrial Estate and outside;

-- Provide extension service to existing entrepreneurs in the fields of management and prduction in these fields;

-- Assist in planning and designing the Mini-Industrial Estate specifically for locating new units in the fields of electronics and instrumentation;

-- Assist in the establishment of common facility testing centre for electronics on the MIE;

-- Assist in the supervision of credit granted to entrepreneurs; and

-- Establish close links with R & D Institutions and Technology Institutions for new products and processes in Electronics that can be utilised in the small sector.

4.9.10.2. It is seen from the above that the focus of the project team's work in West Java was specifically in the fields of Electrical, Electronics and Instrumentaton - which may be designated together as Electro-Technics. The Industrial Engineer started work in the third week of January 1984 and made an initial quick survey of the industry in West Java and Jakarta Metropolitan Region by visiting about 30 industrial units, both medium and small. In addition, Manufacturers' associations, Research amd Development Institutes

and Technology Institutes were also contacted so as to obtain an overall view of the problems of the Industry and particularly of the Small Units. The survey revealed that there has been a sharp decline in production in almost all items since 1981 - mostly due to inflation and a shift in production - price patterns. This has naturally had an impact on the small scale supplies to large and medium units. It was therefore decided to quickly identify the technical deficiences common to most units in the sector and to see how best they can be assisted to overcome them.

4.9.10.3. The following technology gaps were identified amongst most of the small entrepreneurs :

-- Lack of an overall comprehension of good management techniques particularly in regard to cash-flow control

-- Design of Small Transformers for electronic equipment;

-- Metal Surface Finsihing and Plating;

-- Sheet Metal Fabrication.

Technology upgradation exercises in each of these areas were conducted for a week each in April and May. In each case, exchausitive manuals were prepared in Bahasa Indonesia with summaries in English. About 50 participants drawn from the DJIK, KANWIL offcie, and the entreprneurs participated in these programmes.

4.9.10.4. The results in many cases have been gratifying. In the design of transformers, a considerable reduction in weight as well as quality of material utilised was achieved leading to better quality at no increase in price. Improved finish and plating techniques enabled many products to achieve a professional look. An exhibition arranged on June 1st at Bandung was visited by the Director-General, Small Industry, who was impressed with the improvement in the product quality registered as a result of the training programme. It was, indeed, satisfying to see that

entrepreneurs showed a new attitude towards quality improvement and did not assume, as they did earlier, that any improvement in quality meant automatically an increased cost.

4.9.10.5. A heartening feature of the project activities in Bandung is the close interaction with Research and Development Institutes and Institutes of Technology who have cooperated actively in the organisation of the technology upgradation programme. Close contacts have been establish with :

-- Lembaga Elektronika Nasional (LEN)
-- Lembaga Instrumentation Nasional (LIN)
-- Metal Research Onstitute (LMN-LIPI)
-- Metal Industry Development Centre (MIDC)
-- Swiss Polytechnic
-- Institute of Technology, Bandung (ITB)

4.9.10.6. A Technology- economic and Marketing seminar on 'Voltage Regulators' was orgnaised on August 25th in Cooperation with the LEN-LIN, KADIN etc. for entrepreneurs and staff of the KANWIL office. Presentation were made on the market potential for semi-automatic voltage regulators and the design feature for such equipment. It is expected that a few Small Entrepreneurs will come to make this item and receive assistance technically from LEN and financiallly from the Banks. Another seminar in October 13th was attended by top officials of the Ministry of Industry as well as entrepreneurs and Industry associations.

4.9.10.7. A Proposals to utilize the traditional handicrafts skills to make decorative TV cabinets for export purposes was formulated. Protypes are proposed to be made at the Handicrafts Institute at Yogyakarta for display at select exhibitions. In cooperation with the Departemen of Pendidikan dan Kebudayaa, (Education and Culture), a scheme to develop 'Electronic Training Kits' for use in Senior Level School has been formulated. It is hoped that funds will be allocated for the protypes to be develop for productionising a later stage.

4.9.10.8. The Mini-Industrial Estate at Bandung is at present dealing primarily in garments and footwear. In the next phase, it is intended that there will be an emphasis on Electronics and Rubber Products. At that stage, special facilities for Design and Testing of Electro Technical products will be necessary. The Industrial Engineer is currently formulating a proposal to set up Design and Test Centre on the MIE at Bandung for Electronics and Electronical Industry.

4.9.10.9. The approach adopted in Bandung differs from that followed elsewhere in the field work of the project; there has been concentrated attention in the fields of Electrical and Electronic industry for which bandung is considered specially suitable in view of its high technology institutes and proximity to the Jakarta Metropolitan area. The results so far achieved seem to bear out the success of this approach as a new awareness has been created in the short span of ten months both amongst the entrepreneurs and the public on the considerable potentiality the electro-technical field offers to the technically-oriented entrepreneurs in the small sector.

4.10. Idnetification of New Industrial Opportunities

4.10.1. Besides providing technical assistance to existing units, an important activity of the project is to identify industrial possibilities meant to provide new business opportunities for potential entrepreneurs. Increasingly, new industrial uses for agricultural materials, formerly regarded as waste products, are being found. Consumer goods are in demand even in the rural areas of the country; and large industrial units are finding it operationally more effective to farm to outside suppliers many parts and components than make them inhouse. Thus new industrial opportunities arise out of :

-- Industrial applications of Agricultural wastes;
-- Import Substitutions;
-- Consumer goods for Rural Markets;
-- Sub-Contracts to large and medium units.

4.10.2 At the Tripartite Meeting held in Septemebr 1982, it was suggested that the project identify about 100 such opportunities for application in the various regions in which it was operating. Such identification would involve a special study of the region, the availability of raw materials and markets as well as the technology involved. The methodology for the identification process was set-out in a Note circulated to the members of the Team in September 1982 (Occasional Paper No.9 - Ram K.Vepa - September 1982). It was suggested that the first step was to make out a listing of all possibilities from the resource as well as the demand point of view. This could then be narrowed down through a screening process in which the technical feasibility (within the investment ceiling limits of the small sector) and the economic viability of the unit are examined. Then the requisite data is to be collected for making a 'profile' which would normally include :

-- Description of the product;
-- Potential market;
-- Viable capacity;
-- Brief description of the production process;
-- Quality Control aspects;
-- Inputs required - Land, Machinery, Raw Material, Personnel, Power/water;
-- Credit requirements - Fixed Assets, Working Capital;
-- Cost of production;
-- Returns (on a 60% sale assumption);
-- Profitability (before and after tax);
-- Break-even analysis;
-- Suppliers of Machinery/Raw Material;
-- Likely 'Customers'.

4.10.3. The first step in this regard was taken by the Industrial Engineer at Jakarta who compiled in January 1983 a list of about 280 Project Opportunities classified under several headings :

-- Metal Products (72)

-- Food Products (40)
-- Textiles/Garments (21)
-- Leather and Leather Products (9)
-- Chemicals/Fibres (24)
-- Plastic Products (30)
-- Rubber and Rubber Products (15)
-- Wood Products (23)
-- Paper Products (16)
-- Mineral Products (12)
-- Building Materials (12)
-- Service Industry (8)

In each case, the investment required, the employment likely to be generated, production, profit and ranking in terms of priority was given. For about 100 of these opportunities, more information was given on production and market.

This list (embodied in Report No.28 - Mr.B.Eidsvig - May 1983) was circulated to all the KANWIL offices and the field teams for their comments and applicability in their regions to see which of them may be relevant to the particular area.

4.10.4. As mentioned earlier, a list of 100 items has been recommended for inclusion in the product Reservation Scheme (Report No.38 - Ram K.Vepa - December 1983) based on the availability of raw materials, market demand, and technical skills. These included simple items in all the sectors - and was suggested as a list from which additional product reservations can be made.

4.10.5. In almost all the locations where the project is operating, there are consulting groups of the Bank Indonesia who are also investigating new opportunities to which the banks can lend money. The Field Teams, in most locations, have kept in close touch with these teams as well as with other financing institutions in the area. Through these efforts, various possibilities are being pursued in each of the regions.

4.10.6. For instance in Yogyakarta, the Industrial Engineer has been investigating the possibility of making carpets with locally available wool and heavy duty ropes from local fibres. In addition, 'Kaolin' is to be used for LT Insulators and Ceramic fuse components for the electrical industry. Another possibility being looked into is the production of PVC drawing instruments for which a local source of PVC sheets as well as entrepreneurs has been identified. The marketing of end caps for flourescent lamps and tungsten light fittings is being considered as a Sub-contract with PT Sibalik at Yogyakarta; a feasibility study has been worked out. Other items being considered are packaging material from waste rubber, products made from fibre glass and stationery items. 'At the request of another UNIDO Project (78/002) the possibility of producing various accessories for the boat building industry such as pulley blocks. winches, port holes, cowlings and teak wood gratings have been investigated. Samples produced at Mandiri (for wood items) and at Nitikan Sentra (for Aluminium items) have been forwarded to the UNIDO Project 78/002 for evaluation of their export potential'.

4.10.7. At Medan, the new Industrial opportunities considered were in light Engineering Industry, The following items were recommended for production :

-- Screw Drivers

-- Pliers

-- Spanners

-- Hammers

-- Leg vice for forges

-- Bench vice for fitters

-- Tool grinder

-- Power Hack Saw.

In addition, improved method of production was introduced for such items as Cangkul (Hoe), Garpu (Fork) Kampak (Axe). The new method involves production in one piece by forging , eleminating an additional welding process as is being done at present. This reduces the risk of cracks and demage to the internal structure by repeated forging. The improved method was demonstrated and a number of punches and dies required for it were introduced.

4.10.8. At Semarang, 12 Industrial possibilities have been considered by the Industrial Engineer which included besides Sub-contracting items (dealt with in a separate section later), coconut fibre at Kroya and accessories for fishery development as well as use of fish skin for leather. Close touch was maintained with the Industrial Research and Development Centre at Semarang regarding use of gypsum available in the Tegal area.

4.10.9. In West Java, the Industrial Engineer has taken-up as a major component of project activity, the identification of new product possibilities which will substitute imports and lay the foundation for a professional, modern small sector in the field of Electronics/Electrical and Instrumentation - or 'Electro-Technics' to use a comprehensive term embracing all the fields. On this basis, the Industrial Engineer has identified the following items as a first step :

-- Semi-Automatic Voltage Regulators - with Solid State Control;

-- Electronic Fan Speed Controllers and Light Dimmers;

-- Range of Battery Chargers for home use for large units; telephone exchange etc;

-- Line correction units- for computer users;

-- Analogue Panel Meters -- of which large imports are being made;

-- Digital Panel Meters;

-- Process Control Systems for Sugar

-- Small Control Valves (below 3kg);

-- Simple Oscilliscope for Radio and TV Servicing work;

-- RF Signal Generators;

-- TV Pattern Generators;

-- House Service Meters;

-- Electronic Training Kits;

-- Decorative TV Cabinets;

In each case, the technology (suitable for the country) is being identified, entrepreneurs selected, detailed feasibility studies prepared, assistance for the purchase and installation of equipment, training of workers and start of the initial production arranged. Special 'linkage' with R & D Institutions is also being arranged to act as ' Technical Godfather' of the project. Within the KANWIL office, operational capabilities have been enhanced by training programmes so that it can undertake the task of :

-- preparing the necessary documentation;

-- selection of entrepreneurs;

-- allocation of sites of the MIE;

-- helping bank finance for selected entrepreneurs.

4.10.10. In addition to the above, the requirements of agencies such as Perumtel (the Government Telecommunication Agency), PLN (the State Electricity Authority), the Public Health Organisation (PUSKESMAS) are being studied to see how their bulk requirements in the Fourth Plan can be met through existing and potential production in the small sector. A preliminary scrutiny has indicated excellent possibilities in this regard. It is considered that a significant proportion of the accessories required by these agencies could be met through small Scale units

and a rough estimate has placed the number of such units needed as between 100 to 200.

4.10.11. At Ujung Pandang, Industrial profiles have been prepared in :

-- New product lines made of coco wood such as building material. furniture carving;

-- Foundry producing propellers required for outboard engine;

-- Small Foundries dealing with non-ferrous castings.

These have been prepared on specific requests from potential entrepreneurs.

4.10.12. A Study made on contract by the Sufsidi Consulting Office, for the project on 'Sub-Contracting in the Automotive Sectors' has indicated that in the REPELITA IV there will be a good scope for making many parts and sub-assemblies for the commercial vehicles in accordance with the deletion programme laid down by Government. An estimate made in the study has projected the possibility of about 690 small units with a total investment of about US$.103,500,000 and employment of 58,375 persons to produce parts and components (pooled into 18 product groups) for commercial cars, motor-cycles and small tractors. providing employment to more than 58,000 people.

4.10.13. While identification of new possibilities is being undertaken by the field teams relevant to each region, it was considered desirable to undertake as part of the activity of the central team a major programme to enhance the intrinsic capability within the organisation (DJIK) for project identification, preparation of feasibility studies and implementation of the project. For this purpose, the Industrial Engineer, Jakarta designed a three stage training programme which would :

-- in the first module, formulate the criteria for identification of a potential opportunities;

-- in the second module, develop it into a feasibility study which is acceptable to the Banks for sanction of loan and,

-- in the third stage, proceed with its implementation.

The project activity is concerned directly with the first two modules while the third is primarily the responsibility of the entrepreneur assisted by the promotional agency.

4.10.14. The first series of the training modules was completed in August 1983 at Jakarta and Surabaya. At each of these centres, about 25 participants drawn from the adjacent provinces were assisted to identify projects. They were divided into groups of four each and each group was charged with identifying relevant projects. Material (Report No.31 - Mr.B.Eidsvig - October 1983) was sent in advance to the participants who were advised to bring with them the necessary information regarding their region. Based on the data collected and using various criteria, four projects were selected for each of the 6 groups that participated in each session.

4.10.15. After the formal session, the Industrial Engineer Jakarta and the field experts have been in touch with the progress of work. To undertake the second stage of the training programme, material was prepared (both in English and Bahasa Indonesia) and sent to the participants (Report No.45 - Manual for the Preparation of Feasibility Study for Small Scale Industries Projects in Indonesia - Mr.B.Eidsvig - February 1984). This manual provides comprehensive information not only on the methodology of preparing a feasibility study but also gives a variety of information considered useful to the participants in drawing-up the feasibility studies. To assist the trainers in organising such programmes, a series of teaching material for overhead projection were also prepared (Report No.45 -b-). As a typical feasibility study (for the benefit of the participants , a study on the manufacture of Wheel Barrow was prepared (Report No.50 - Mr.B.Eidsvig - March 1984) and circulated to the participants.

4.10.16. The first of the second stage of the Training Programme was conducted in Jakarta in May 1984. Five Feasibility Studies were finalised and the participants were asked to prepare the other three on the same basis. At Surabaya, a similar training programme

has been held ~~in~~ July 1984. At the end of the programme, it is expected that about 40-50 feasibility studies would become available in the following topics in the regions shown agains each:

.. Medan : Tomato Sauce
Coffee Processing
Corn Drying
Fruit canning

.. Aceh : Seasoning and processing of wood
Nutmeg sugar in syrup
Roofing tiles and pipes in clay
Activated Carbon

.. Bandung : Pineapple juice
Brass water valves
School chalk
Rubber, (Car components)

.. Jakarta : Waste paper-pulp
Tahu and Tempe canning and preservation
Safety Masks
Cast Iron foundry

.. Ujung Pandang : Activated carbon from coconut shells
Electro-plating
Tapioca Flour and Starch
Shrimp and Fish flour

.. Bali : Lime
Ceramic Table ware
Rice straw pulp for paper production
Wooden toys

.. Yogyakarta : Cement Roofing tiles
Brass and Aluminium accessories for lamp bulbs and tubes
Refractory Bricks
Pineapple in syrup

.. Surabaya/East Java : Distillation of Essential oils
Sand-paper
Floor parquet made of coconut bark
Bed covers

.. Semarang : Cast iron water pipe fittings
Sugar cane roller crushers
Accessories for sewing machine
Brass water valves

.. DJIK : Animal feed from fish offal
Maize cob sheller machine
Chicken incubators
Drinking water purification/bottling
Cement Asbestos products
Ketchup from coconut water
Peanut butter
Ready made soups for instant cooking

4.11. Interaction with R & D Institutes

4.11.1. A significant aspect of the project activity is to interact with the R & D Institution and Institutes of Technology so as to generate joint programmes. Three earlier UNIDO projects were located in Research Institutes and had therefore a close interaction with the particular R & D Institutes. These were :

- INS/74/034 - Assistance to the Industrial Development of Building Materials manufacture;
(Ceramics Research & Development Institute - Bandung
Materials Testing Institute - Bandung
Directorate of Building Research - Bandung)

- INS/76/001 - Strengthening the Chemical Research Institute (now renamed as National Institute for Research and Development on Agro-Industries).

- INS/78/001 - Improvement of the Extension Services at the Leather Research Institute, Yogyakarta (now renamed as Institute for Research and Development for Leather and Allied Industries).

4.11.2. After the phasing out of the above projects, it was expected that the follow-up could be done by the current project. However, for the first two years, not much could be done due to the following factors :

-- none of the field teams was established before August 1982 and even then they were located at Semarang, Surabaya and Medan;

-- the field experts at Yogyakarta and Bandung were fielded only in August 1983 and January 1984 respectively and

-- the expertise of the field experts of the current project did not coincide with the thrust of the previous UNIDO projects which was in the fields of Ceramics, Building Materials, Food Processing, and Leather.

Hence, no active interaction could develop between these institutes and the project, except for occasional meetings.

4.11.3. However, with the location of the expert at Yogyakarta in August 1983, the pace of interaction was stepped up; the industrial engineer has taken the active assistance of the Leather Research Institute at Yogyakarta to train operators at UPT in Manding to better utilise the equipment installed there. Similarly, he has been in touch with the Handicraft Institute at Yogyakarta to see how training programmes for pottery and ceramic works could be organised in cooperation with the Handicraft Institute.

4.11.4. The Industrial Engineer at Semarang, and the Industrial Engineer at Ujung Pandang have been conferring with the Metal Industry Development Centre (MIDC) which has, in operation an extension programme to the Small Units. The expert at Semarang has had discussion with the MIDC

on the machinery requirements for the CSF at the MIE in Tegal and Ceper while the expert at Ujung Pandang has discussed the design of the foundry being set-up at Massepe in South Sulawesi.

4.11.5. The Industrial Engineer, Jakarta has been interacting closely with the Agro-Industries Research Institute at Bogor since February 1984. As a result of the visit and discussions he had with the staff of the Institute, it was considered useful to improve the design of the equipment used in the Food Processing. These include :

-- Peanut Sheller;
-- Vegetable Slicing machine;
-- Emping Shelling Machine;
-- Roaster for Emping;
-- Fruit pulper;
-- Emping Pressing Machine;
-- Blowing Separator.

Except the last two, which are new equipment, modifications have been suggested to the existing designs. Rough sketches have been made and sent to the Institute which were discussed in June 1984 with the concerned staff. It was decided to study the new designs and build prototypes for testing their performance. If found successful, the new designs will be fabricated in large numbers for use by the Small Scale Food producers.

4.11.6. A 'spin off' from the interaction with the Bogor Institute is the study on 'Tahu' production which is undertaken by many small scale units in and around Jakarta. Based on visits to 'tahu' making units, as well as machinery suppliers, and discussions conducted in KANWIL office, a comprehensive set of proposals have been made by Industrial Engineer, Jakarta to improve the production process so as to improve shelf life and better marketing opportunities (Report No.60 - Mr.B.Eidsvig - June 1984). The suggestions for improvement include :

-- Better control on raw material (soyabean);
-- Storage of soyabean;
-- Optimise soaking and grinding operations;
-- Improved hygienic practices;
-- Use of natural preservatives;
-- Chilled packing;
-- Sealing and pasteurisation practice;
-- Use of left overs;
-- Intermediate products and vitamin enrichment and,
-- Improved production lay-out.

In view of the fact that 'Tahu and Tempe' figure widely in the food habits of the Indonesian people, an improvement in the production process on the lines suggested above is estimated to result in considerable savings. An increase in profit and a decrease in sale price is also considered possible if the proposals are implemented.

4.11.7. Since most of the R & D Institutes are located at Bandung, it is obvious that any close interaction with them can take place only after the Industrial Engineer of the Team joins at Bandung. After he started work in the third week of January 1984, the Industrial Engineer has been making active efforts to undertake joint cooperative programmes with the R & D Institutions in the areas of his own expertise. The Institutes with whom he has been in close touch include :

-- Lembaga Elektronika Nasional (LEN);
-- Lembaga Instrumentalia Nasional (LIN);
-- Metal Industry Development Centre (MIDC);
-- National Metallurgical Institute(LMN-LIPI);
-- Swiss Polytechnic;
-- Institute of Technology Bandung (ITB).

On 3rd March 1984, a representative meeting was organised in the KANWIL Office under the chairmanship of the Head of the KANWIL office, to discuss a common programme of action for improving the quality of the Small Sector in the area of Electro-Technics.

This was, perhaps, the first time that all these institutes had come together for a common purpose of upgrading the performance level of the Small UNits. As a result of this meeting, it was decided to undertake jointly four Technical Upgradation exercise in :

-- Total Business Mangement;
-- Manufacture of Small E;ectronic Transformer;
-- Metal Surface Treatment and Finishing;
-- Sheet Metal Fabrication.

Exhaustive manuals were prepared in each of the subjects jointly.. and made available to the participants of the 'exercises' which were conducted for a week each in April and May. These manusl in Bahasa Indonesia represent a considerable source of technical information to small entrepreneurs which is otherwise not readily available. The impact on the quality of products of the small units was visible in the exhibition organised at the end of the four exersices on June 1st. Many of the products acquired a distinctly professional look and registered an improvement in quality along with a reduction in cost of production. The success of the technical upgradation exercises was largely due to the catalytic role played by the Industrial Engineer in bringing together all concerned R & D Institutions and Technology (and Management) Institute for the benefit of the Small Sector.

411.8. The Industrial Engineer, Bandung, has pursueed this cooperative programme on a systematic basis so that the efforts of the KANWIL office (and BIPIK) and the R & D and Technology Institutes could countinue to serve the small sector even after the project is phased out. In the short term, the R & D Institutes will actively provide technical assistance to the 10 products identified as well as others which will be finalised after the requirements of the Technical agencies have been carefully examined. As mentioned earlier, close interaction is being developed with LEN (LIPI) is respect of Voltage Regulators and Electronic Training Kits, with the Handicrafts Institute, Yogyakarta for decorated TV Cabinets, and the MIDC for better metal finishing techniques. In the field of Electro-technics, the close-contacts developed with the concerned R & D Institutes and Technology Institutions will be a positive factor in the rapid growth of the Electro-technics Industry in the Small Sector in West Java.

4.12. Marketing

4.12.1. Marketing is regarded as one of the key areas of weakness for most Small Units anywhere; in fact, as the sector develops and many of the other problems faced in the initial stages - such as Credit, Production, Management etc. are solved to a large extent, Marketing emerges as major obstacle to the growth of many units. On the other hand, it also needs to be said that many problems categorised as 'Marketing' are not always so and are, in fact, a reflection of other problems - such as poor quality, high price, weak management etc. Hence, the 'genuine' marketing problems need to be identified amidst many which are passed off as such. Secondly, marketing is, and will remain, basically an entrepreneurial function and government promotional agencies can only help up to a point and no more; it may even be counter productive to go beyond it.

4.12.2. In Indonesia, marketing assistance to small units is provided primarily through Presidential Decrees (14A) (1980) and 18 (1981) which give graded preference (depending on the value of purchase) to the economically weak sections - which cover a large portion of the small sector. For instance, upto Rp.20 Million, purchase contracts may be awarded to local small suppliers directly while upto Rp.50 Million such contract is awarded on a tender system but limited to the small suppliers. For purchases upto Rp.100 Million, a price preference of 10% is to be given to the economically weak groups. These stipulations refer both to goods and services such as construction, transportation etc. Recently, two new decrees (29 and 30) have further tightened control over government expenditure to meet these requirements.

4.12.3. The Project Team had a Marketing Expert for one year (1982-1983) and during much of this period, the person was not quite fit. The Marketing Team made field visits to select centres - Bandung, Ujung Pandang, Surabaya, Denpasar - to study, on the spot, the problems in marketing faced by the small units. At these locations, they conducted 'Mini-Workshops' for two days each to screen the

various commodities of the region with the concerned officials in the KANWIL office and to see how their marketing problems could be resolved. The problems of the units on the Mini-Industrial Estates were also looked into and suggestion made for assisting them. Procedures for bulk purchase by government agencies such as the army were studied to see how the small sector can have a greater share of their purchases. Discussion was held with a sister project of the ITC in the Ministry of Trade (INS/81/003) which had identified about 10 items - many with a strong small scale angle - for formulating specific export strategies.

4.12.4. Detailed studies for each region on one specific product were taken-up next and a start was made with shoes and leather products of Cibaduyut West Java. The shoe cooperative at Cibaduyut is fairly well organised and is backed by a Technical Service Centre (UPT) operated by the BIPIK. Products for other regions - such as rattan at Tegalwangi in West Java - have been identified so that specific strategies can be developed on one or two important products for each region. The wood carving industry in Bali was studied by the Expert at Surabaya and specific suggestions made to improve its marketability.

4.12.5. Considerable attention was paid to the training of officers manning the Market Promotion Centres operated by the BIPIK in many of the provinces. At the national level, a workshop was organised in August 1983 to review the working of these centres and to see how they can be made more effective. The role and function of such Centres were clarified and alternative models of operating such centres to include promotion, market information, product development and business development were suggested.

4.12.6. After the departure of the International expert in August 1983, the National Expert has been following up through regional workshops to conduct on the job training for officials involved in the work. Such workshops have been conducted at Jakarta (for the Metropolitan Area), Yogyakarta, and Surabaya. Similar programmes

have been scheduled for four other centres but coudl not be held for a variety of reasons. These workshops which are held, each for a period of three days, are meant to familiarise the personnel of the market promotion centre (PPP) and market assistance units of the PPIK with the way in which meaningful support can be given to the small units in better marketing their products.

4.12.7. In West Java, the Industrial Engineer organised a 'market survey' by the extension staff of the PPIK to assess the market potential for new products which are intended to be productionised in the small sector. These are in the areas of import substition; Power, Electronics, Instruments and passive Electronic components. Before the survey was actually conducted, a training programme was organised to familiarise the staff with the techniques of market research.

4.12.8. An important aspect of marketing is in the field of Sub-contracting which is based on a linkage between the large and small sectors on a mutually beneficial basis. Such sub-contracting, if it is to be successful, must rest primarily on economic grounds and not as a result merely of government pressure or as a charity programme. While fiscal incentives and government support are helpful they should not be depended upon solely to promote sub-contracting; its primary attraction is, or should be, that a well run small unit can supply goods to a large unit (or other small units) at a comparatively lower cost than what it would be, if the products were made by the large unit itself. Sometimes, economies of scale and technical specialisation dictate that precision parts and sub-assemblies are 'off loaded' to outside parties, so that the parent unit can devote more time to quality control, design and marketing. It is on this basis that sub-contracting has been made an integral part of the economies in many developed countries (notably Japan) and has contributed to their growth.

4.12.9. In Indonesia, a variation of the sub-contracting system known as the Bapak Angkat (Foster-father) has been developed - whereby a

parent unit (usually large or medium) is designated as the 'Foster-father' and is required to assist a number of small units, as its 'children'. About 40 enterprises - many government owned - have been designated as Foster-fathers; most of them are in Java - 15 of them in Textiles, (and Leather), 9 in metal, 8 in building materials, 5 in chemicals, and the rest in miscellaneous items such as food and salt. In each case the parent units are expected to provide the necessary raw material to a number of small units and also assist in the marketing of the finished products.

4.12.10. In practice, however, it was noted that the system was working more as a marketing outlet for the large unit for its own products rather than providing significant assistance to the small units - particularly in marketing. There were other complaints on both sides; it is said that the small units (whether individual or cooperatives) do not make prompt payment for supplies made while the small units feel that no tangible assistance in marketing is provided. Since no specific obligations have been laid down to guarantee a certain percentage of the total production, the small unit is never sure how much it can depend on the 'foster-father' in finding a market for its products.

4.12.11. To partly meet these problems, a model agreement was drafted by the team which sets forth clearly the duties and obligations on both sides :

-- On the part of the large unit to
guarantee the off-take of a certain volume of production of the small unit and to make prompt payments;

-- and On the part of the Small units to
produce goods according to agreed specifications and deliver them on schedule.

It was also provided that the KANWIL office could act as a third party to arbitrate in case of disagreement involving pricing problems or unfair rejection of goods supplied or any other dispute.

4.12.12. The Model Agreement (drafted in English and Bahasa Indonesia) was circulated widely to large and medium units as well as associations of small units. It was discussed at a widely attended meeting on October 14th-15th, 1983 at Semarang organised by the local KANWIL office in association with a medium sized unit PT KUBOTA (who manufacture diesel enginees for mini-tractors). The meeting discussed basically three issues :

-- The need for a greater use of locally produced components as required by the decrees of the Ministry of Industry;
-- The need for awritten agreement in the implementation of the Foster-Father Scheme and;
-- The need for a total Q/C (Quality Control) System to ensure the desited quality of the components Sub-Contracted.

The discussions indicated that there was a wide measure of acceptance amongst both the large and small units to a written agreement on the lines of the model draft prepared by the project team. It has been recommended that such an agreement be used widely, particularly by government owned enterprises.

4.12.13. In Central Java, there has been a considerable interest in Sub-Contract possibilities. It is encouraging to note that PT.KUBOTA has developed a wide net work of Sub-Contractors (38 of them) all in Central Java and the rate of rejection is only 4 -5 %. The company has adopted (with some modification) the model agreement recommended by the team and is providing assistance to its Sub-Contractors. The Field team at Semarang has worked with some of them at Solo (PT.Bima Baru) and at Tegal. At Solo, a proposal to diversify output of PT. Lima Baru (which is now almost entirely dependent on orders from KUBOTA) into production of 200.000 drum taps per months was made to management of the company. In turn, this would release orders worth about Rp. 55 Million from KUBOTA to Smaller Units.

4.12.14. Apart from PT KUBOTA with whom the Project Team have been in close touch, discussions have been held with PT.TEXMACO Jaya at which cooperative units were present to discuss sub-contract possibilities. A significant

development in this regard is the recent decision of the government to persuade government enterprises to sub-contract to the small units a number of their requirements. Representatives of 22 units have visited Tegal and Klaten and have indicated their requirements to the Small Units. The team is assisting in the identification of suitable suppliers for these items.

4.12.15. In East Java, Sub-Contract possibilities have been promoted through ineraction with the large units. PT Boma Bisma Indra a state run unit assembling dieselengines - are assisting a number of small units with technology and raw materials. The team has helped in this process. PT. Ispat Indo - a steel making firm in Surabaya - has been actively interested in Sub- Contracting and had organised a Seminar in Novemebr 1983 and had given orders to 15 small units. The project team is helping in building a closer relationship between PT Ispat Indo and a metal cluster at Waru Ngingas, near Surabaya. PT. Haka, is the foster-father for leather products for units in Magetan and discussion have been held with them to sort-out problems faced in their dealings with the small units.

4.12.16. In Ujung Pandang, a local unit, PT Tenaga Jaya Raya, has been undertaking sub-contract orders for ship-builders. Although it has adequate orders, the limitation is on the space available and the quality of machinery. Assistance is being given to purchase more modern machinery and to move the workshop to a more suitable location, from where greater sub-contract orders can be executed. Similar possibilities exist at Pare-Pare and Massepe which are being investigated.

4.12.17. In Yogyakarta, the possibility of a specific sub-contract agreement between PT Karya Prima and local engineering cooperative at Mandiri has been identified. The capability of the local units has been assessed on a survey conducted in May. Discussions were arranged in June between PT Karya Prima and the entrepreneurs to conduct an evaluation exercise to determine

the suitability of the entrepreneurs. Steps are also being taken to recommend to BAPINDO on the need for additional machinery and finance to purchase them.

4.12.18. In West Java, the Sub-contracting possibilities in the electrical and electronic industries were surveyed and it was considered that the biggest obstacle was in the 'credibility' gap that exist between the two sectors. To overcome this gap, four technology upgradation exercises were conducted which have generated a new sense of confidence on both sides. Sub-contract possibilities with major government agencies such as PLN, Perumtel are also being explored so that meaningful sub-contracting can take place on a wide scale. 'A meeting is being organised between the large firms and potential Sub-Contractors in mid-October, 1984 to help in obtaining a greater linkage between the two sectors in the Electronics field'.

4.12.19. It is considered that Government Companies have a special role to play in fostering greater linkages with the Small and Medium Units. Hence, to persuade such companies to take to Sub-Contracting in a larger measure, a programme has been proposed to DJIK, the chief features of which are :

-- Appointment of a high level officer in each company to look after Sub-Cpntracting
-- Establishment of a Plant Level Committee with representatives of the company, KANWIL Office, and the Banks to identify the products suitable for Sub-Contracting, select Entrepreneurs and provide technical and financial assistance to them.
-- Preparation of a half yearly report to the Ministry of Industry and DJIK about the progress in Sub-Contracting.

It was also suggested that all new applications from large companies for new items or for expansion be scrutinised to determine the Sub-Contracting opportunities implies; and this be specified clearly in the permission accorded to the company. Further, a package of incatives (such as exemption from tax of inter-company transactions

involving sub-contracted product, tax deduction of expenditure incurred on Vendor development, favourable interest rates on loans taken for such purposes etc. be accorded to all companies for encouraging greater Sub-Contracting. These recommendations are under consideration of DJIK.

4.12.20. An institutional device to encourage sub-contracting is the concept of 'Sub-contract Exchange' - much in the manner of a telephone exchange - which helps to bring the large and medium units who require jobs to be done in touch with small units who have the skills and spare capacity for rendering such service. The exchange serves as a 'data-bank' where information on the capabilities of registered small units is card indexed. When a large unit wants a job to be done, the exchange analyses the job in terms of machine capabilities and provides the names of units which can perform the service. It may or may not participate in the pricing negotiation between the two. Such an exchange will facilitate a much larger use of the capacity of the small units by the large firm with the assurance that the job will be done satisfactorily. It has been proposed that the project team will assist in the establishment of two such exchanges at Jakarta and Surabaya. A detailed proposal on this regard has been made (Report No.49 - March 1984) which is under consideration of the DJIK.

4.12.21. To identify the large potential available in the Automotive sector as a result of the 'deletion' programme a study was proposed to:

-- determine, as realistically as possible, the likely demand in number and specification of parts and components likely to be required by the automotive sector (which includes motor-cars, commercial vehicles, tractors, motor-cycles);

-- review existing production capacities of small industrial units and the problems faced by them in supplying to the large units;

-- determine the requirements of the large scale assemblers and the purchase and pricing policies pursued by them and,

-- suggest incentives, both fiscal and technical, to be pursued by government that would encourage a greater measure of Sub-contracting to the small units.

The proposal was approved by the UNIDO and awarded as a contract (No.83/103) to a local consultancy group - the Sufsidi Consulting office - in January 1984.

4.12.22. The Report based on intensive discussion with the Project Team at various stages which was submitted in July 1983 has estimated the likely production of automotive vehicles by the end of the Fourth Plan and the required percentage of their parts to be produced domestically. It has then estimated the volume of requirement of parts and components that can be produced in the small sector. Assuming a viable product mix of 18 groups, it arrived at a total number of 690 units that can be established to meet the demands of the automotive industry. It has also proposed a specific unit in the KANWIL office to promote Sub-contracting in close cooperation with other sections; this is fairly similar to the proposal for a Sub-Contract Exchange that has been made by the project team itself.

4.12. 23. An important aspect of better marketing is the cooperative pattern of organisation which can provide collective strength to the small units and enable them to compete on more equal terms with the large units, through economies affected in bulk purchase of raw materials and through joint advertisement and marketing. In practice, however, it is noted that only a few cooperatives functioned efficiently - often, due to the dedicated efforts of a few individuals. It was therefore considered useful to make a study of the working of select cooperatives in sectors relevant to the small industry - such as food processing, metal, leather, handicrafts etc., - and see why some seem to be doing

well and others not. More specifically, such a study will seek to :

-- Examine, in depth, a few representative cooperatives in different regions of Java and study their working, activities undertaken by them, the degree of participation by the members as a result of their membership of the cooperative;

-- Rate the degree of success or failure achieved by the cooperatives both in purely commercial terms as well as in less tangible, but none the less important, social benefits of harmony and goodwill exemplifying the traditional Indonesian concept of 'Gotong-Royong' (mutual help);

-- Study the impact of governmental assistance to cooperatives and,

-- Recommend specific measurers that may be taken by a government promotional agency such as the DJIK to increase the effectiveness of the cooperatives.

The proposal was approved by the UNIDO and a contract (No.84/14) was awarded to a local consultancy organisation - PT Bufar Cemerlang Consultants - in April 1984.

4.12.24. Two important aspects of Marketing were studied through Short Term Consultants who came to the country on three month missions to assist the project. One of them related to 'Packaging for the Small Sector' for which the Short Term Consultant (Mr.G.Chevallier) worked with the project between October 1983 and January 1984. Considering the wide diversity of the field and the limited time available to the consultant, it was decided in consultation with the DJIK, that the consultant would devote his time to the food processing sector. Even so, a wide variety of products had to be covered such as :

-- Emping (Soyabean chips);

-- Krupuk (Chips);

-- Tahu

-- Kecap;
-- Tempe (Soyabean Sauce);
-- Sambal (Hot spicy paste);
-- Dendeng (Dried spiced meat);
-- Mie (Noodles);
-- Terasi (Shrimp based paste);
-- Gula Kelapa (Sugar from Coconut);
-- Geplak (Coconut based confectionery);
-- Jamu (Traditional herbal medicine) and,
-- Soft-drinks.

4.12.25. The Consultant made three typical case studies to demonstrate the inter-relation of packaging with other aspects of business development. These were :

-- Production of Salt (at a factory in Semarang);
-- Coconut Sugar (near Semarang);
-- Unit making chips and snacks at Jakarta (Lestari Factory).

In each case, it was suggested that a small change in packaging techniques would reduce the cost significantly and handling easier. At the Chips factory, suggestions were made to guarantee longer shelf life and acceptability abroad.

4.12.26. On a more general basis, recommendations have been made on how better packaging can be done as a service activity on a cooperative basis. A small mobile packing unit may also be considered which could go to individual factory premises to do the final packing on the spot. It is necessary for this purpose, to standardise on the shape and size of the product so that a large number of customers can be served.

4.12.27. The possibility of developing a domestic packaging industry in the small sector was also investigated. It was suggested that an institute like the MIDC could be commissioned to develop simple packaging machines that can be fabricated in the small sector.

Locally available raw materials like bamboo can also be used for packaging; in that case, modifications may need to be made in the existing pattern of weaving. The Fine Arts Department of the Institute of Technology at Bandung (ITB) and the Industrial Design Division of the Ceramics Institute at Bandung can help in evolving better packaging designs. The setting-up of a Packaging Institute nad the need to train a number of persons so that expert advice is available readily was also recommended to the Government. These recommendations (in Report No.39 - Mr.G.Chevallier - January 1984), presented at a meeting held on January 11, 1984 are under the consideration of the DJIK.

4.12.28. An important aspect of marketing particularly in Sub-contracting is the problem of Standardisation and Quality Control since one of the criticisms most commonly made against the products of the small sector is their inability to conform to agreed quality. This problem was studied by another Short Term Consultant (Mr.El Morsey A.S) between January 1984 and March 1984. During his period, the Short Term Consultant paid visits to Research and Development Institutes, Mini-Estates and Clusters at Bandung, Yogyakarta and Surabaya, and also held in-depth interviews with entrepreneurs in West, Central and East Java. He participated in a Training Programme organised by the Ministry of Industry between 15th and 28th February 1984. He also gave a practical demonstration in the following industrial units on quality control techniques :

-- GAVIS -- for ground aviation services and general workshop;
-- Yamarco -- Interiors (Batik);
-- Carona -- (for ladies handbags);
-- Tip-top Indonesia -- for tyre-press;
-- Elemen -- for cabins of fire hydrants and electrical cabines);
-- Yusiton -- for components of car bodies - as sub-contract to Mitsubishi motors;
-- Minatex (knitting and garment making unit).

The Consultant made a number of recommendation which were presented at a meeting a March 25, 1984 and embodied in a Report (No.51 - March 1984) which is under consideration of the DJIK.

4.12.29. The important recommendations made by the Consultant are :

-- To continue the existing programme of providing technical guidelines for small industrial units and lay-down quality requirements for cottage units;

-- On a long-term basis, to establish testing facilities through a network of field test stations in the CSF and UPT as well as through mobile test stations for units located outside the MIE and clusters (as an example, the equipment for a Leather Testing Laboratory was provided);

-- An inventory of existing testing facilities to be taken-up by DJIK so as to fill the gaps;

-- In-process Quality Control Equipment to be developed, and fabricated for the small units;

-- Quality Control of Industrial Raw Materials used by Small and Cottage Units needs to be done;

-- Distinction to be made between reservation of products for the small and cottage industry sectors from the quality point of view;

-- Disseminate information to small and cottage units of the technical specification they need to meet;

-- Apply 'integrated quality control scheme' to small industries;

-- Training of entrepreneurs in Standardisation and Quality Control;

-- Formulating process quality control specification and,

-- Set-up a Standing Committee for monitoring the Standardisation and Quality Control awareness in the small sector.

4.12.30. As can be seen from the above, although the project had the benefit of a marketing expert for only one year, it was made-up to some extent by two short term consultants, and two studies awarded, on contract, besides the work of field experts and the national expert at Jakarta.

4.13. Training

4.13.1. The Project Document specifies the provision of assistance for 'upgrading of the planning, implementation and monitoring of the in-service training programmes for the Extension officers, trainers and entrepreneurs'. In pursuance of this objective, the following specific tasks were set :

-- Design of 15 new model training programmes;

-- Training of 3-500 Extension service officers and small entrepreneurs including a number of trainers through technical and entrepreneurial development programmes implemented within the country.

4.13.2. The job-description of the training expert specifically highlighted the following activities :

-- Identification of the problems encountered by Small Entrepreneurs in the fields of management and production and assessment of training needs;

-- Planning and Implementation of formal on-the-job-training programmes and seminars both for field extension service officers and small industries;

-- Collaboration, as much as possible, with existing Research Institutes in conducting training programmes, and,

-- Training of counterpart personnel in the preparation of training materials and in the implementation of the programme.

4.13.3. It became apparent in the implementation of the project that the training function could not be confined solely to the work of the training expert. In the regions, Industrial Engineers found it necessary to undertake technical training programmes for the personnel of the CSF (Common Service Facility) and the entrepreneurs. Collaboration with the R & D Institutes in the conduct of Technical Upgradation Exercises, was conducted by the Industrial Engineer at Bandung in well defined technical areas. These have been described in an earlier section since the training activity undertaken by the field teams were considered really as an extension and part of the total assistance package they were providing to the entrepreneurs and extension personnel of the region. Similarly, in the fields of Marketing and Information, training of personnel was undertaken by the concerned experts; so did most of the Short Term Consultants during their brief mission. While the assistance of the training expert was taken whenever it was considered necessary to do so, it needs to be remembered that the training activities of the project as a whole went far beyond the work of the training expert alone; what is reported in this section refers only to the latter.

4.13.4. In the light of the above, the work of the Training Expert dealt primarily with two areas of concern in the development of human resources :

-- training and development of people that deliver service to the small sector and,
-- training and development of entrepreneurs that are the recipients of such services.

Attention was focussed initially on the Directorate General for Small Industry (DJIK) as the primary organisation that is to service the Small Industry Sector so as to contribute to the total economic development of the regional development. To do

so effectively, the DJIK must function at an optimum level of efficiency; however, such gaps, if any, can be reduced, if not entirely eliminated by training, by changing the behaviour of individuals, by giving them whatever additional specific items of knowledge, skills or attitudes they need, in order to perform to the levels of standards set.

4.13.5. The ultimate objective of training therefore as a component of the project for assisting the development of small industry is to help achieve the goals of organisation through optimum utilisation of manpower by bridging the group between actual and expected performance through the administration of inputs as called for by the identified training needs. The overall strategy was, therefore, to identify these gaps and to design specific training programmes that will be responsive to the identified training needs of the individuals in the DGSI as well as the entrepreneurs in the small sector. Corrollary to this, was an assessment of the existing training system to determine its adequacy in coping with the delivery of the training needs that have been identified and the administration of the training functions.

4.13.6. There exists a strong awareness within the organisation of the DJIK for the role of training in the accomplishment of various tasks for the development of the Small Industry Sector in Indonesia. The Director General himself recognised the need for upgrading the performance capability of the personnel in every unit of the organisation through training and development in response to the needs. The training experts activities were primarily foccussed on the training of the trainers (in the DJIK and the KANWIL offices) as well as that of the extension service personnel; that of the entrepreneurs has been largely undertaken by the field teams.

4.13.7. The identification needs of select groups were undertaken in three phases :

-- Personnel involved in Small Industry Development function .. This was done through an unstructured country wide survey in the performance of seven critical functions - policy and strategy formulation, research and information, human resource training and development, consultancy and extension services, industrial promotion, marketing and entrepreneurship, facilitation and regulation, and administration and management. The Study (Report No.7 - Mrs.H.Fajardo - April 1983) identified 20 Training Programmes needed to upgrade the work performance of the functionaries involved.

-- Personnel working in the Small Industry Extension Network .. This was conducted through a structured survey all over the country. As a result of the study (Identification of Training Needs for Extension workers - Mrs.H.Fajardo - December 1983), nine training programmes were identified for design and implementation as an elaboration of the training needs under Consultancy and Extension of the earlier study.

-- Small Industry Entrepreneurs in select clusters in West Java, Central Java, Yogyakarta and East Java were studied; the report (identification of Training needs for Small Industry Entrepreneurs in Industry Clusters - March 1984) identified 23 training programmes needed for the entrepreneurs.

4.13.8. In response to the training needs identified above, the following programmes have been designed and implemented :

-- Seminar/Conference in Human Resource Training and Development for Small Industry Development - March 1983 - 35 participants;
-- Training Workshop on Identification of Training Needs (February 1983) - 17 participants;
-- Training workshop on Evaluation of Training - June 1983 - 14 participants;
-- Training workshop on Curriculum Design and Preparation - July 1983 - 10 participants.

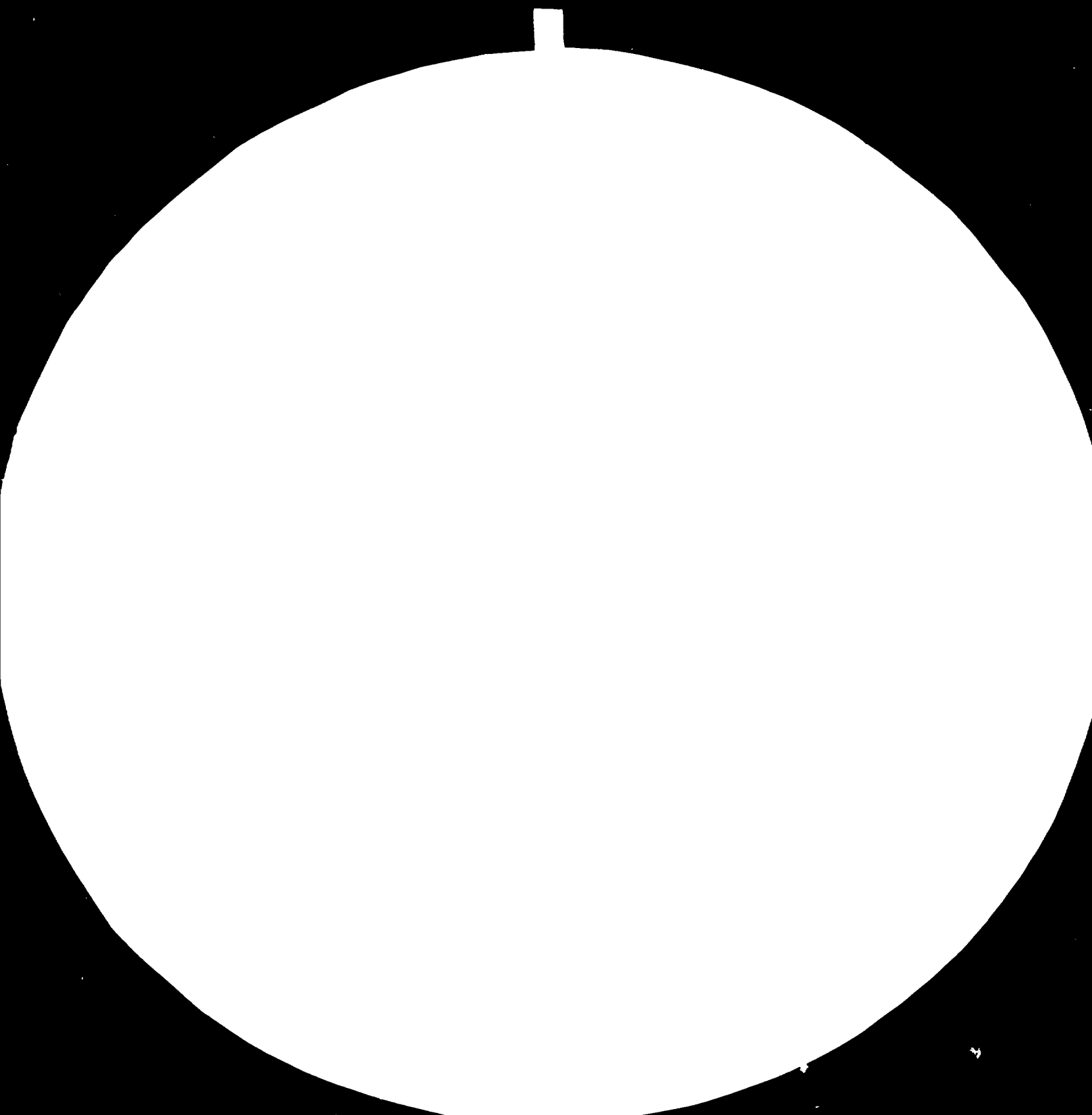
4.13.9. The following training programmes have been designed but not yet implemented :

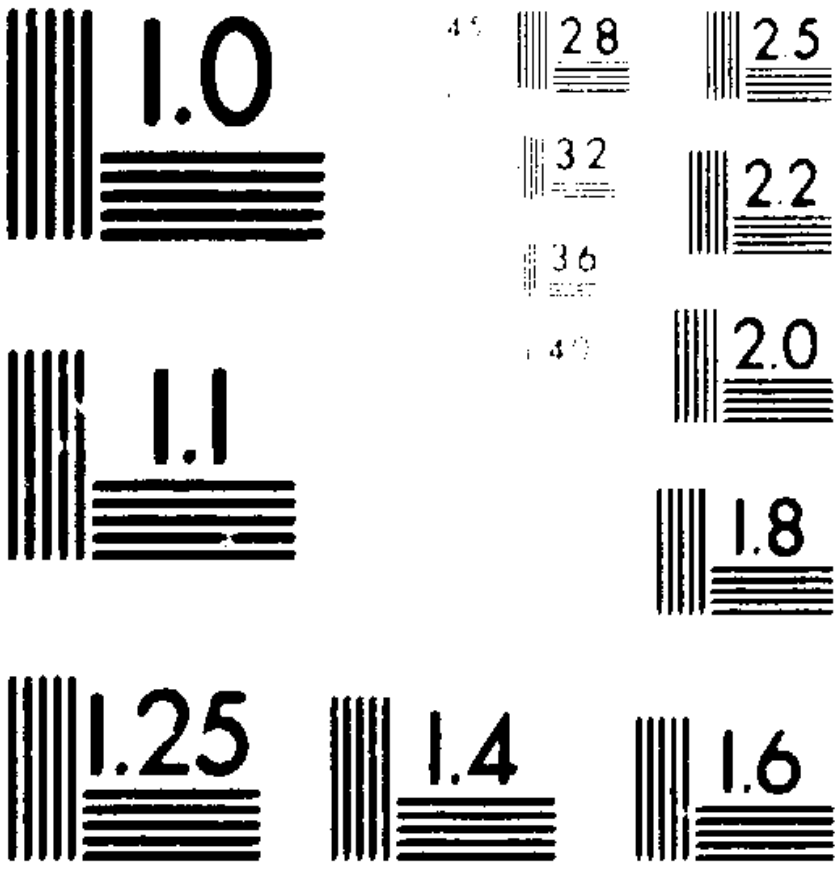
-- Product Costing and Pricing;
-- Project Management;
-- Applied Research Techniques;
-- Management for Supervisors;
-- Book Keeping and Accounts for Small Industry Entrepreneurs;
-- Market Research and Strategies Formulation;
-- Selection of Machinery and Equipment;
-- Technology Transfer;
-- Product Diversification;
-- Advanced Course for Extension Workers;

4.13.10. As stated above , other personnel of the project team have conducted training programmes :

-- Three Stage Training Programmes for Project Identification and Formulation (Industrial Engineering Team, Jakarta);
-- Workshops on operating information centres (Industrial Information Team, Jakarta);
-- Workshops on operating market promotion centres (Industrial Marketing Team, Jakarta);
-- Industrial Safety & Maintenance (Industrial Engineer, Medan);
-- Wood working and Metal working operators (Industrial Engineer, Medan);
-- Technical upgradation exercises in the fields of Total Business, Dynamics, design of electronic transformer, sheet-metal fabrication, metal surface finish and palting (Industrial Engineer, West Java).
-- Technical and Management Training in foundry operation for non-ferrous castings for 25 participants drawn from the MIE, BIPIK, CSF's at Messepe, Pare-Pare and Ujung Pandang;
-- Technical Training in Machinery and Equipment at MIE, Ujung Pandang for 16 participants from MIE, BIPIK and CSF.

4.13.11. The Training Expert and her team have participated in several training programmes conducted by the DJIK such as the Extension Services Training in Yogyakarta,Bali and Jakarta, the training of trainers in Bandung and Jakarta, and the Administrative training for senior officers of the Government; about 150 persons have participated in these programmes.





4.13.12. Several on-the-job-training activities were undertaken involving a total of 60 persons as follows :

-- Identification of Training Needs (28);
-- Applied Research Techniques (6);
-- Coordination of Training Programmes (4);
-- Curriculum Design and Preparation (10);
-- Evaluation of Training (4);
-- Training activity for REPELITA IV (1);
-- Career plan for Extension Workers (1);
-- Manpower, Planning, Training & Development (6 persons)

Through intensive interactions with the various personnel of the DJIK, there has been a substantial transfer of knowledge, skills and attitudes.

4.13.13. As a result of these activities, the following quantitative outputs have been achieved :

-- Training of personnel	- 280	by the Training Expert
(Target: 300-500)	150	by others
-- Design of new Training	- 14	by ITE
programmes (Target 15)	12	by others

4.13.14. Other outputs have also been produced as a corollary to the work of the training programme of the project :

-- Institutional Framework for Human Resource Training and Development-a proforma structure for a national centre that can provide an integrated institutional base for training and development has been formulated.
-- Career development pattern for small industry extension personnel was drawn up
-- A Scheme for Entrepreneurship Development Programme as a component of the small industry development programme was designed
-- Assistance was provided for the preparation of a Five Year Plan for implementation of training programmes
-- Forms for evaluation of training programmes to assess reaction

of participants, learning and results were designed and utilised by the Education and Training Group of DJIK.

4.13.16. Overseas Training Programmes

4.13.16.1. Under the budget line 30, an amount of US $72,000 was originally provided of which US$42,000 was on fellowships and US$30,000 on Group Training and Study Tours. In the Project Budget Revision INS/78/078/G/01/37 dated 14th March 1983, this was enhanced to US$120,000 - of which US$60,000 is to be on Fellowships and US$60,000 on Study Tours. In 1984, in the latest budget revision, a provision, of US$96,186 has been made - US$58,669 for fellowships and US.$.37,517 for Study Tours.

4.13.16.2. Fellowships

Based on the UNIDO Training Programme Guide as well as on other information available to the Project Team, proposals was were made to DJIK of suitable training opportunities for which nominations of those considered qualified were sought. In some cases, these did not materialise due to the late receipt of the nominations. So far the following nominations have either been completed or committed :

No.	Name	Course	Venue	Duration
1.	Ms.Ermy Amir Husein	Small Industry Information Management Course	UP-ISSI Manila	6/09/82 - 6/12/82
2.	Mr.Tonggor L.H. Pandiangan	Training Methods and Skills	SIET Hyderabad India	October - December 1982
3.	Mr.B.Sembiring	Industrial Estates Planning Management Centre	IDA Dublin	2/10/83 - 1/11/83
4.	Mr.Hamid Saad	Industrial Estates Planning Management Centre	IDA Dublin	2/10/83 - 1/11/83

Sr.	Name	Course	Venue	Duration
5.	Mr.Firman Jaya	Low Cost Automoation	CITD Hyderabad India	7/01/82 - 28/03/82
6.	Mr.Kaharuddin *	Small Industry Management Consultant	SIET Hyderabad India	September - December 1984
7.	Mr.Hasan Rujanto *	Small Industry Promotion Course	SIET	September - December 1984
8.	Mr.Trisila *	Export Promotion	Card Dusberg Cologne	October 1982
9.	Mr.Iskandar Junaeni MA *	Export Promotion	Card Dusberg Cologne	October 1982
10.	Mr.H.Pakpahan *	Production Management	Japan	not yet done
11.	Ir. S.Hartono *	Project Study Preparation	UP-ISSI Philippines	Oct.-Dec.1984
12.	Drs.M.Zainuri *	Project Study Preparation	UP-ISSI Philippines	Oct.-Dec.1984

*) Not yet completed

4.13.16.3. Study Tours

The following Study Tours have either have been completed or committed so far:

Su.no.	Name	Dates	Countries Visits	Purchase
01.	Mr.F.Sartono	19/01/83 - 4/02/83	Japan	To Study Policies and Programmes for Development of Small Industries.
02.	Mr.Winarno	26/03/83 - 13/04/83	Italy France Belgium	To Study Programmes for development of Small Industry.
03.	Mr.Ida Gandamana	26/03/83 - 13/04/83	Italy France Belgium	To Study Programmes for development of Small Industry
04.	Mr.Hayatun Nusuf	9/07/84 - 30/07/84	Philippines S.Korea Japan	To Study Policies and Programme for development of Small Industry

Su.no.	Name	Dates	Countries Visits	Purchase
05.	Dra.Edith Ratna	09/07/84	Philippines S.Korea Japan	To Study Policies and Programme for development of Small Industry
06.	Mrs.Lili Asudiredja	09/07/84	Philippines S.Korea Japan	To Study Policies and Programme for Development of Small Industry

4.14. Information and Documentation

4.14.1. One of the activities of the Project Team at the Central level was in the fields of Information and Documentation; more specifically, it was intended to survey the existing information, collection and dissemination system within the DJIK and the provinces and to see how it could be improved. Although no specific targets were indicated in the Project Document, it was agreed at the first Tripartite Review Meeting held in September 1982 that the Project Team would help to establish three Pilot Information and Documentation Centres at locations decided by the DJIK; these were tentatively indicated as Jakarta, Surabaya and Medan.

4.14.2. One Information Centre has begun to function at Jakarta on the Pulo Gadung Estate under the control of the KANWIL office of the DJIK Jakarta. Apart from the assistance given by the International and National Experts in training the personnel on job, a photocopier was supplied from the Project Funds to supplement the facilities at the Centre. The Centre is run by a Manager assisted by five persons dealing with Documentation, liaison with Information Sources, Collection and Maintenance of Data-Bank, Publications, Reproduction and Audio Visual facilities. A journal is being brought out as well as brochures and leaflets on subjects of interest to small entrepreneurs. Suggestions

have been made to make the Centre as a dynamic source of information both to the entrepreneurs as well as extension staff.
A description of the Centre is provided in a Report (No.63 - May 1984) compiled by the National Expert.

4.14.3. Efforts to set-up similar centres at Surabaya and Medan did not fructify; in both cases, the necessary funds could not be provided. At Surabaya, accommodation for the centre was identified and a few (4) persons trained by the project team to work at the Centre when it actually begins to function. At Medan, an old building, earmarked for the purpose, needed extensive renovation before it can be used. A few furniture items have been purchased. Hence, the possibility of establishing the other two centres depended critically on the required funds being made available at these locations. In Yogyakarta, an information centre was set-up, on the initiative of the KANWIL office, to which the project team provided assistance through training of personnel.

4.14.4. In order to familiarise a number of persons, with the operation of such information centres, a Training Programme for those likely to be deputed to work at such centres was held at the national level in Jakarta in September 1983 attended by 24 participants. Through talks by the International and National Experts (and guest speakers) as well as visits to other information centres participants were made aware of the techniques of management and operation of the Centres. An evaluation of the training programme indicated that the participants had gained a great deal of practical insight into the working of the Information Centres.

4.14.5. As a follow-up of the national programme, it was decided to conduct 'mini-workshops' at the provincial level to reach a larger number of participants. Three such courses have been conducted at :

-- Yogyakarta (14th-16th December, 1983);
-- Jakarta (3rd-5th January, 1984);
-- Surabaya (17th-19th January, 1984).

These workshops have created an awareness in the provinces to set-up the Information Centres and also train a group of persons who can work at such centres.

4.14.6. A proposal for a National Information and Documentation Centre in the office of the DJIK has been formulated and recommended to DJIK. (Report No.25 - Mr.B.R.Kohli - August 1983). The proposal is a comprehensive one dealing with the structure, location, services, manpower-requirements, equipment etc. The Centre will have sections dealing with Library, Documentation and Inquiry Service, Data-Bank, Reproduction, Audio-visual section, and Dissemination service. The Centre will coordinate a network of Information Centres at the Regional and Provincial Levels.

4.14.7. A Survey of the Information Services considered useful to the small entrepreneurs has been made (Report No.12 - Mr.B.R.Kohli - March 1983). The report brings together information scattered in various agencies and was compiled to serve as a useful reference volume for the information centres proposed to be operated throughout the country. A 'Technical Digest' providing information on technology developments in other developing countries was prepared but could not be brought out regularly due to the problem of funding. Similarly, ideas for leaflets and brochures were provided to instil greater awareness of the facilities provided by government agencies but the bulk production could not be done due to the expenditure involved. A Bibliography on References in Human Resources Development as an aid to trainers of entrepreneurship programmes was prepared in cooperation with the Training Division.

5. Achievement of Immediate Objectives

5.1. The Project Document had specified the following as the immediate objectives of the project in paragraph 6 of the Document (P.3):

-- Establishment of a central project team at the DJIK to advise on the planning and implementation of several development programmes, particularly the establishment of MIE, PPIK's, Product Reservation etc.;

-- Establishment and Operation of model Small Industry Development Centres (PPIK) and their Component Extension Service Centres.;

-- Identification and Implementation of opportunities for linkages with National Technology Institutes;

-- Establishment and Operation of Model Mini-Industrial Estates, CSF, in the five regions and train their staff;

-- Identification of new business opportunities through Production and Sub-contracting;

-- Planning, Implementation and Monitoring of the In-service Training Programmes for extension officers and entrepreneurs and,

-- Mobilise and coordinate technical and financial assistance for other multilateral and bilateral sources.

5.2. In paragraphs 35 and 36 of the Project Document, the outputs have been spelt out more specifically :

. Stage I (first 6 month period)

-- Comprehensive study of the development programme,
-- An Implementation system for the programme,
-- Establish a functioning central project team at DGSI,
-- Detailed workplan for Implementation.

. Stage II

-- Planning and Implementation of 5 model PPIK's;
-- Planning and Implementation of 14 MIE's of which 5-10 may be functional;
-- Interact with R & D Institutes to continue two joint programmes each;

-- Identification of 25 new business opportunities through Sub-contracts;
-- Training of 3-500 Extension officers and Small entrepreneurs;
-- Assist in concluding 5-10 bilateral and multilateral agreements.

5.3. At the first Tripartite Review Meeting in September 8, 1982, it was noted that :

-- Due to delays in the fielding of experts, the central team had not become fully operational (it did so only in December 1982 - 14 months after the commencement of the project) and the first field teams had not begun to function till August 1982 - one year after the project commenced. In fact, it was not till 1984 that all the field teams could be established. Hence, the concept of Stage I and Stage II as set forth in the Project Document became somewhat blurred in practice.

-- In most of the targets, the team had only a supportive role and, in one, hardly any. Thus, the negotiations for bilateral and multilateral agreements was an area where the team could only assist when called upon to do so. In others such as the establishment of MIE's, CSF, PPIK's, it was critically dependent on budgetary decisions that had to be taken by Government; and in any case, in most of the areas in which the Project Team was operating, they had already been set-up.

-- Interaction with R & D Institutions where earlier UNIDO Projects had operated such as the Ceramic Institute, Building materials Institutes, Leather Research Institute, depended on fielding the experts at Yogyakarta and Bandung (who in fact took-up their positions only in August 1983 and January 1984 respectively) and also the availability of the necessary expertise.

Keeping in mind what can be done by the team itself within the broad framework of the Development Programme, it was suggested that the following specific tasks may be accomplished;

-- Identify about 100 new Industrial Opportunities to attract finance from banks;

-- Formulate a model sub-contract agreement and identify 25 such possibilities;

-- Help to establish 2 Sub-contract Exchanges;

-- Design 15 new model training programmes for different categories of personnel and,

-- Help to set-up 3 Pilot Documentation and Information Centre at locations chosen by DJIK.

5.4. The work accomplished by the project team to be seen against this perspective. Since 1984 is the only year when all the field teams were in position. The time of operation of the entire project team was somewhat limited. But even so it can be said that many of the immediate objectives and the quantitative targets have been accomplished.

5.4.1. General

(i) A Project Handbook was compiled by December 1981 and Annual Workplans worked out.

5.4.2. Policies and Programmes

(i) By July 1982, a comprehensive review of the development programme in Indonesia was undertaken and various recommendations made for more effective implementation.

(ii) Studies have been made on the Product Reservation Scheme, Foster-Father Scheme.

(iii) A mechanism to implement and monitor at field level through formulation of Action Plans was suggested.

(iv) The institutional base for the Development of Small Industry in REPELITA IV was worked out through the setting-up of five centres.

(v) The draft of a Basic Law on Small Industry was drawn-up.

5.4.3. Model PPIK's

Five Small Industry Extension Centres already set-up at Bandung, Semarang, Yogyakarta, Surabaya and Jakarta were studied and recommendations made for their more effective functioning both at the provincial level as well as at the policy levels.

5.4.4. Model MIE's

Wherever MIE's exist or have been planned, the project team has assisted in helping the entrepreneurs to obtain bank finance, improve production process and market products. In this manner, the following MIE's were assisted :

.. North Sumatra - Medan
.. West Java - Bandung
.. Central Java - Semarang, Tegal, Cilacap
.. Yogyakarta - Yogyakarta
.. East Java - Sidoardjo, Magetan
.. Bali - Denpasar
.. South Sulawesi - Ujung Pandang, Pare-pare
.. Jakarta - Pulo Gadung

Thus, 12 MIE's have been actively assisted to operate better. In view of the thinking in Government, to watch the working of these estates before setting-up new ones, the project did not have an opportunity to plan new ones.

5.4.5. CSF's

On each of the MIE's Common Service Facility Centres have been

set-up or planned to be set-up. The Project Team have taken an active role in getting into operation the existing machinery, train personnel, and suggest additional machinery to be purchased.

5.4.6. Sentras

In addition to the MIE's, the team has actively interacted, with a number of Sentras (or clusters) in each province, particularly where technical service centres have been located. Thus in Medan, a proposal for a new CSF at Pematang Siantar has been formulated; assistance has been given to the Sentras at Central Java, at Kudus, Batu, Klaten; at Yogyakarta in Manding and Kasongan; at Waru Ngingas, Madiun, Malang, Magetan, etc., in East Java; at Massepe in South Sulawesi. At all these places, as well as on the MIE's, consultation has been provided for better management, better lay-out, improved production process, and better quality.

5.4.7. R & D Institutions

The interaction with national R & D Institutes has taken place at the following places :

-- National Agro-Industries Institute, Bogor; about 6-8 new designs for improved processing machinery have been discussed and are to be investigated; a major study on 'tahu' making was undertaken;

-- Leather Research Institute, Yogyakarta;) *)
-- Handicraft Research Institute, Yogyakarta;)

*) Training Programmes were organised in Cooperation with this Institute;

-- Metal Industry Development Centre (MIDC);

(i) The requirements of additional machinery for Tegal and Ceper were discussed;

(ii) Active assistance in organising two technical upgradation exercises in sheet metal fabrication and surface finishing were undertaken.

-- Lembaga Elektronika Nasional (LEN);
-- Lembaga Metallurgical Nasional (LMN-LIPI); *)
-- Lembaga Instrumentation Nasional (LIN);

*) (i) Active assistance in organising technical upgradation exercise on electronic transformers has been taken-up;

(ii) Propose to set-up about 10 cooperative programmes for the production of new items.

-- Ceramic Institute, Bali; Discussion were held to improve the ceramic production in Bali and also in connection with the fabrication of equipment for the CSF in ceramics at Malang.

-- Chemical Research Institute, Semarang; Discussion were held on the use of gypsum locally available.

5.4.8. In addition to the above interaction, the project team has undertaken development work on its own :

-- Design of a furnace for non-ferrous castings (brass-aluminium) at Pasuruan, Bondowoso, (East Java), with improved combustion and less fuel consumption. These have been successfully worked out and more units are expected to be set-up. Two similar units have been installed at Sleman and Nitikan in Yogyakarta.

-- Kerosine or Solar operated cooling systems at Yogyakarta for fishery development;

-- Demonstration of improved gas-welding set at Semarang, Tegal and Yogyakarta;

-- Fabrication of prototypes for semi-automative voltege regulator, semi-automatic coil winding machine.

5.4.9. Identification of New Industrial Opportunities

(i) A number of new Industrial Opportunities have been identified by the field teams both in production and Sub-contracting. In West Java alone, 10 products and number of accessory items have been identified and plans are being made to be productionised. In the Automotive Sector about 690 Units covering 18 product group have been identified. In Central Java 12 products have been identified and in Yogyakarta about 5.

(ii) A special programme to enhance capability of project identification and implementation was undertaken which is expected to yield 48 feasibility profiles when completed. More importantly, it will help such an identification process to be continued by the provincial offices.

5.4.10. Marketing

Marketing strategies for a few products have been developed; the work could not be continued due to the absence of the International marketing expert. However, Training Programmes for officials working in the Market Promotion Centre were undertaken to better equip them for their work.

5.4.11. Sub-Contracting

(i) A Model draft of a Sub-contract agreement was drawn-up and discussed and has received wide acceptance.

(ii) Sub-contracting programmes with the following agencies have been pursued :

.. Central Java	:	PT Kubota PT Texmaco Jaya 20 Government owned Enterprises
.. Yogyakarta	:	PT Karya Prima
.. East Java	:	PT Ispat Indo PT Boma-Bisma-Indra PT Haka
.. Ujung Pandang	:	PT Tenaga Jaya Raya
.. West Java	:	(i) Government Agencies like Perumetel, PLN,etc., which are expected to sustain at least 100 units; (ii) Large and Medium Electronic Assembly units.
.. North Sumatera	:	PT Hari Subur

(iii) A proposal to persuade Government Companies to undertake Sub-Contracting in a systematic way has been made to DJIK.

(iv) A proposal for establishment of 2 Sub-Contract Exchanges at Jakarta and Surabaya has been made.

(v) The Sub-Contracting possibility in the Automotive Sector have been investigated in depth and proposals for 690 more units to make 18 product groups have been made.

5.4.12. Training Programmes

(i) The following new training programmes have been designed and manualised :

.. Human Resources Training and Development in Small Industry;
.. Identification of Training Needs;
.. Evaluation of Training;
.. Curriculum Design and Preparation;
.. Project Management;
.. Product Costing and Pricing;

.. Applied Research Techniques;
.. Technology Transfer;
.. Management and Supervision in Small Industry;
.. Book keeping for Small Industry;
.. Advanced Training for Small Industry Extension Workers;
.. Market Research and Strategy Formulation;
.. Selection of Machinery and Equipment;
.. Product Diversification.

(ii) In addition, about 12 Training Programmes were conducted at the field level by the field teams on specific topics;

(iii) About 430 Trainers, extension officers and entrepreneurs were trained in several programmes.

5.4.13. Information

Of the three Information Centres, one was helped to function at Pulo Gadung (near Jakarta); another at Yogyakarta was assisted to be set-up. Proposals for two more at Surabaya and Medan are under consideration. A national and four regional training programmes for those likely to work at the Centres was held.

5.4.14. In addition to the above, the Teams both at the Central and field levels have provided ready and willing assistance in many items of work when called up to do so by the DJIK and the KANWIL office. This took sometime in view of the magnitude of the project, delay in fielding the personnel and changes in the DJIK and KANWIL offices. Considering these constraints, however, it may be said that the accomplishment of the tasks set forth in the project document (and elaborated at the first Tripartite Review Meeting) may be said to be satisfactory.

6. Utilisation of Project Results

6.1. Being essentially a 'software' project, the results of the project have to be viewed as changes in approach and attitudes as well as enhancing the capabilities of personnel - both policy making and extension staff, as well as the entrepreneurs.

6.2. In regard to approach and attitudes, it is considered that the project has been successful in highlighting the role of modern small industry both for growth as well as employment creation and the need to provide special incentives for its development. The work of the Industrial Engineer at Bandung has shown that even in such high-technology areas as electronics and instrumentation, modern small units, which have low capital investment, can play a significant part. The need to modernise existing traditional units through improved practices, better productive processes and new designs has also been underlined.

6.3. In regard to the Policy frame, it was shown that while in its basic features, the frame is essentially sound, greater care is needed to monitor the implementation if the results expected are to be actually realised. The Product Reservation Scheme, can be used to stimulate growth provided it is supported by a number of other measures. It was also shown that a comprehensive Basic Law (or decree) would be desirable to clarify the role of the small and cottage industry and their linkage with the large industry.

6.4. New Industrial opportunities exist all around in a country so vast as Indonesia. The project team has shown the type of such possibilities based on agricultural wastes, through import substitution, product demand and sub-contracting. More importantly, the project has attempted to train a group of people within the organisation to be able to identify such possibilities and develop them into projects for assistance from the Bank.

6.5. The work of the field team has been primarily to provide assistance to units on the MIE as well as in the clusters outside. The CSF and UPT's have been assisted to operate more effectively through installation of equipment and training of personnel. Through design of new and improved equipment, the project has demonstrated how existing technological levels can be upgraded through relatively simple modifications.

6.6. This was particularly noticed in the Bandung area where attention was focussed in one sector - the electro technical - including electronics, electrical and instrumentation. Through a series of upgradation exercises in total management, sheet metal fabrication, surface finishing, etc., it was shown that a perceptible improvement of the product can be achieved. The lack of confidence of the entrepreneurs to introduce improvements without raising price has been overcome through a practical demonstration.

6.7. The Sub-contracting process, on which considerable emphasis is being placed in REPELITA IV has been assisted through the draft of a model agreement and discussions with both the large and small units. The Project Team had taken the view that such a process could be sucessful only if it is seen as mutually beneficial on both sides and that the rights and obligations may need to be set-out a little more formally. There has been a marked interest in Sub-contracting relationship and it is expected that these will fructify in the next few years. To assist in this process on a systematic basis, a proposal has been made for setting-up two 'Sub-contract' Exchanges at Jakarta and Surabaya. It has also been proposed to formulate a special programme to encourage sub-contracting in Government Companies and to monitor it half yearly. It is suggested that a package of fiscal incentives be provided to encourage Sub-Contracting in both Government and private companies. An indepth study on Sub-contracting in the Automotive Sector has revealed the large potentialities that exist in this sector.

6.8. In the Marketing area, the emphasis was on training of officials connected with market promotion and assistance. Through the work of Short Term Consultants, the need for better packaging techniques was demonstrated as also the need to implement simple Quality Control Techniques. A further study on channels of marketing distribution within the country could not be taken-up due to lack of time and personnel.

6.9. The training activity has been conducted at the central level by the Training Expert and, at the field level, by the field teams. In the former, about 14 new programmes have been designed and manualised (both in English and Bahasa Indonesia) and about 280 personnel including trainers and extension personnel have been trained. These in turn are expected to conduct similar training programmes so that the impact of these programmes will be felt over a wide circle. The Training Programmes undertaken at the field level, include mostly technical topics for both entrepreneurs and extension staff and will be replicated to reach a wider audience.

6.10. In the Information area, a proposal for a National Information and Documentation Centre has been made. Two Information Centres at Pulo Gadung and Yogyakarta have been assisted to come-up while proposals for two more are under consideration. A number of officials who are likely to work in these centres subsequently have been trained.

6.11. A question has been raised as to whether a cost benefit evaluation of the project can be made. While the total project cost (both by UNDP and Government) will be around

US$ 5 Million, the expected benefits will be in the area of attitudinal charges and widening of horizons which are not always easy to quantify. Further, any benefits to become evident take time to materialise. Even so, one can see the immediate benefits in the form of :

-- increased production of existing units due to greater efficiency;

-- production of new units;

-- import savings (in Electronics alone, the import bill of the country is estimated to be more than US$ 200 Million;

-- training of personnel;

-- preparation of Training Manuals.

to cite a few examples. But can one really quantify such results as development of entrepreneurship, a greater sense of confidence and an increased willingness to take risks.

7. Findings

7.1. In the light of the experience gained in this project, the following observation may be made :

a). General

7.1.1. Pre-Operational Stage

It is desirable to specifically provide for a pre-operational stage, particularly when the project is of a large magnitude involving a number of experts. It may be somewhat unrealistic to expect that a project can commence without a considerable amount of prior spade work. A minimum period of 6 months to assemble the team (in our case, the time was much larger) and set-up the basic infrastructure is considered necessary.

7.1.2. Administrative Officers

A Project of this magnitude involving 6 field teams and dependent on Government for provision of several facilities needs a full-time administrative officer who can liase effectively with the concerned government department.

7.1.3. Local Staff

While the present practice of Government providing the necessary infrastructure may be generally acceptable; it seems desirable if one or two key-personnel are funded directly from the project in order to have a smoother flow of work. At least, the Secretary and the Administrative officer of the project needs to be directly funded by the project.

7.1.4. Internal Travel

The provision for funding the cost of tickets of the international team for internal travel may need to be reviewed since it was noticed that while the project had funds for travel, they could not be fully utilised due to difficulty in obtaining funds from the counterpart budget for tickets.

7.1.5. National and Local Experts

The association of National and Local Experts has been of great value to the work of the project team in having experienced persons who are able to provide inputs based on local conditions. However, it would seem desirable, if it could be arranged such that these people are either drawn from the government organisation or closely associated with it so that the experience of working with the project team could be utilised even after the conclusion of the project.

7.1.6. Coordinating personnel

In a project like the present, with highly diversified

subjects ranging from Policy formulation, Training, Marketing, Information, Industrial Engineering etc., it may be desirable to designate a senior level official in the concerned government organisation to maintain a close touch with the progress of the work and give guidance on what needs to be done and how it should be done. This is particularly so at the central level where the DJIK is a relatively vast organisation and unless clear linkages are established, it is sometimes difficult to get adequate feed-back on the work done.

7.1.7. Equipment

The provision for equipment needs to be enhanced since even a 'software' project needs to be backed up by demonstration of suitable prototypes which have to be purchased. In the current project, the amount available for such purpose was limited since the bulk of the amount had to be utilised for the purchase of vehicles for the field teams.

7.1.8. Languages

In Indonesia, Bahasa Indonesia is widely used for all purpose and though English is understood at senior levels of government, it is desirable to acquire a working knowledge of the language before the international experts begin their work. A suitable provision in terms of time and money needs to be made if the linguistic ability is to be meaningful and not just perfunctory. There is also need for full time translators attached for the project.

7.1.9. Sectoral Approach

in the project two different approaches have been tried:in five of the field teams a general approach to technical assistance while at Bandung, a purely sectoral approach with emphasis on Electro-technics. It must be said that even in the general approach, the specific technical ar4as of work would depend on

The expertise and background experience of the expert himself. But iat Bandung, the expert was able to give his full attention to one sector, with more positive results than is possible if were diffused over too many sectors.

7.1.10. Fellowships and Study Tours

In some case, nominations for fellowships could not be utilised due to the late receipt in the headquarters of names recommended by Government. Perhaps, at the end of each year it may be advisable for the headquarters to take-up the matter so that the programme for the next year could be finalised well in advance.

7.2. Technical

7.2.1. Broadly, it may be said that any development programme for small industry needs to build up the inherent strength of the sector and not merely subsidise it. Elements of the programme such as product reservation, fiscal incentives, etc. should be looked upon as merely transitional devices and reviewed from time to time. On the other hand, such measures may be necessary, particularly in the initial stages of development to give confidence to the sector.

7.2.2. A balanced approach needs to be maintained between the traditional and modern sectors of the Small Industry. Each has a role to play : the former in terms of skills embodied and the large numbers of persons involved and the latter in terms of growth and employment. The 'package of assistance' for each of the sub-sectors needs to be tailored to their specific needs. Project INS/78/078 has assisted the traditional units to modernise as well as identify new growth areas such as electronics.

7.2.3. At present, the Development programme of the Small Industry is embodied in several decrees at various levels. It is considered

desirable if these are brought together in one 'Basic Law' which sets out, in one decree, the various policy measures announced by Government. Now that an Industrial Act has been approved, it would seem both timely and appropriate if a comprehensive Law is passed relating to the small sector. The draft of such a Law has been prepared by the Project and can be used as a guide line.

7.2.4. The recent increase in the definition of the small industry up to an investment ceiling of Rp.150 million (approximately US $ 150,000) has become necessary in view of the growing status of the sector and the escalation of the cost of machinery. However, this may require a separate categorisation of the 'very small' units (with less than 10 million Rp investment) as a sub-sector with specific incentives earmarked for them. Otherwise, they may tend to be swamped by the bigger units of the small sector. Further, definitions followed by the Buro Pusat Statistik (BPS), the Bank Indonesia and the Ministry of Industry have varied making it difficult to compare data; it would be desirable to evolve a uniform definition acceptable all the agencies concerned.

7.2.5. The recent change effected in the organisation of the DJIK on a sectoral basis is timely at the present stage of the development of the small sector. However, it may be considered whether the fields of 'Electronics' and 'Economic Investigation and Statistics' may also be set apart as separate Directorates in view of their importance. An Institutional base, as envisaged in REPELITA IV may be established at the national level for : Information and Documentation, Education and Training, and Industrial Services.

The role of the Director General, Small Industry as the principal advisor to the Government on all matters relating to the small indsutry may need to be recognised.

7.2.6. In REPELITA IV (Fourth Development Plan) a very important role has been accorded to the small sector both for production and creation of new employment opportunities.. As many as a million new jobs are propsed to be created in the Plan period. It is necessary to monitor the implementation of this programme up to the Kabupaten levels. For this purposes it is suggested that each KANDEP level office be asked to prepare 'Action Plans' which would take note of the resources - human and material - of the region and indicate the new industrial apportunities that are available to potential entrepreneurs. The Plan will also compute the credit and infrastructure requirements for such projects. It will lay down an annual programme for meeting the targets which can be effectively monitored at the KANWIL and national levels. Such plans can be made effective tools for keeping a close watch on the implementation of the development programme.

7.2.7. Credit policies towards the small sector are now diffused in more than one programme - KIK, KMKP and Kredit Kelayakan. In recent years, the share of the small industry in programmes has tended to decline. It may be useful to formulate a comprehensive Credit Policy for the small sector in cooperation with Bank Indonesia. Credit may be made need-based and not unduly dependent on collaterals. Bank personnel need to be better 'tuned' to the needs of the small entrepreneurs. What is important is easy access to credit rather than cheap credit.

7.2.8. The program of Mini-Industrial Estate for purpose of re-location of existing industry does not seem to have been entirely successful. Perhaps, as new entrepreneurs are identified and seek work places quickly, the program may pick up momentum. It may also be useful to provide an alternative system of rentals whereby the entrepreneur pays only the rent of the building and not the entire cost. The facilities offered on the Estate may need to be improved - particularly the machinery installed in the Common Service

Facility Centres. Their low degree of utilisation seems to indicate that in many cases the requirements of the entrepreneurs do not match the machinery in the CSF. Further operations in the CSF need to be trained to undertake skilled jobs such as are required by the mini - industrial units.

7.2.9. The UPT's (Technical Service Centres) at the 'Sentras' perform a very useful function and need to be strengthened. The project has worked with a number of 'Sentras' and found them to be responsive and receptive . It may be necessary to identify in each sentras, some forward looking entrepreneurs who can act as 'pioneers' for demonstrating new production proceses and equipment.

7.2.10. The Extension Service net work at the provincial and Kabupaten levels is well organised. However, it needs to be supplemented by a more intensive technical support: for this purpose, it would be useful if at the KANWIL level, specialists in selected fields of relevance to the region are appointed to act as resource persons. The extension officers (TPL & TPL's) may need to be given more specialised training in select fields so that their assistance to the entrepreneurs can be meaningful. However, it is only fair to say that they should not be regarded as 'miracle' men, and expected to perform wonders : If they can act as a live link between the organisation and the industry, they could have well served their purpose.

7.2.11. It may be useful to begin charging a small fee - however, minimal - for services rendered at least to the 'bigger' small units. For instance, in making appraisal of loan applications for recommendation to the Bank, it would not be unfair to levy a small charge of 0.2% on the value of the loan....but collect it only when the Banks has granted the loan. Similarly, panels of local consultants can be prepared whose services can be subsidised partially provided the entrepreneur is willing to bear at least 25% of the charge. The objective is to make the small entrepreneurs realise the value of the service and also to improve the quality of such service.

7.2.12. Training activities are already well organised inthe DJIK. New training programmes have been designed by the project personnel both at the centre and in the field. Such programmes have so far been largely geared to extension personnel but more and more entrepreneurs may also need to be trained. In such cases, the training has to be product oriented and tailored to the specific needs of the entrepreneurs. Thus the technical upgradation exercises conducted at Bandung and the 'furnace operation' programmes in East Java were designed to the specific needs of the small entrepreneurs and, hence, were effective.

7.2.13 The interaction of the project with the R&D Institutions has been a significant one. This was at two levels : one was rather sporadic where project personnel sought the advice of the relavent R & D Institutions for a very specific purpose and the other a continuous one - when the two worked together for a common objective. At Bogor, the Industrial Engineer Jakarta collaborated with the Agro-Industries Institute for fabrication of better food processing machinery and for better production of the 'tahu' Industry. It was however, at Bandung that the results were most heartening : the UNIDO Expert acted as a catalyst between the R & D Institutes, the KANWIL office and the Entrepreneurs to mount a joint cooperative programme, then chose a very specific product - 'transformers'-to demonstrate how the expertise available at LEN (Lembaga Elektronika Nasional) could be utilised by the small industry units : In some cases, the institution was requested to improve the quality of product for emulation, by entrepreneurs. The 'Bandung Experience' has demonstrated that interaction with R & D Institutes could be fruithful, if the available expertise is focussed sharply on the problems of specific products and if the entrepreneurs can be made to see the commercial utility of the improvements suggested. This experience can be replicated elsewhere depending on the availability of local expertise and a clear identification of the problems of the entrepreneurs.

7.2.14. The R & D Institutes can also help in identifying new industrial opportunities arising through sub-contracting, import substitution, new industrial uses of agricultural materials etc. The Project has assisted not only in such identification but also in enhancing the capability of the concerned organisation to undertake such work in future. In this process, the banks need to be closely involved so that the credit requirements of the new units can be obtained easily from the banking net work.

7.2.15. Another area in which the project has been successful is in Sub contracting where - well defined relationships have been forged between the large and small units. This involves some type of a written agreement that is monitored by the Government agency, but, more importantly, it involves a careful study of the sub-contracting opportunities available and the capability of the small units to be able to take advantage of them. In this process, the KANWIL office has an important role to play in identifying such opportunities and selecting suitable entrepreneurs who can undertaken them. The process can also be expeditied through 'Sub-Contracting Exchanges' - two of which have been proposed to be set up at Jakarta and Surabaya. Government Companies may also act as pace-setters' in encouraging sub-contracting in a systematic manner. This may involve the appointment of a senior level officer in the company to deal exclusively with sub-contracting and also undertaking a more detailed scrutiny of all proposals for new industries or those planning to expand. Fiscal incentives may also be provided to enable many companies to take a 'buy' decision rather than make it.

7.2.16. Marketing remains as one of the basic weakness of the small sector, but considerable support can be provided through improved product design, better packaging and greater adherence to quality control methods. Indonesia has a vast domestic market for its consumer goods while some of its

handicrafts items have a good market potential abroad. It is necessary to select enterprising entrepreneurs who can be given the inputs necessary for ecport. In Bali, the project has tried to deversify the existing production of wood carvers other products which can even be exported such as educational toys. The Market Promotion Centres PPIK need to play a dynamic role in securing more orders for the rural craftsman form Government Departements. The Government Purchase Decrees (29 and 30) may be geared to the small producers rather than the small contractors.

7.2.17. Information Centres can help the extension net work through a two way process; of feeding extension workers with the necessary information and, in turn, obtaining a feed back form the field. Through bulletins, and other audio visual media, both the extension personnel and the entrepreneurs can be made aware of the latest trends in production and helped to upgrade themselves. An apex National Information and Documentation Centre may be set up in DJIK to coordinate the working of various institutions; a draft proposals to this effect has been made by the project.

7.2.18. The Data Collection and display of the small scale sector needs to be streamlined so that it forms a compatible component of the national statistics relating to the Industrial sector. National Census of cottage and small units may need to be undertaken at more frequent intervals: the former on a sampling basis and the latter on a full census basis. Data sheets can be considerably simplified so as to make it easy to provide information and the data built up from below. A unified registration system for all industrial units may be undertaken so that the data pertaining to small scale sector can be fitted in with that of the large and medium sectors.

8. Recommendation

8.1. The findings - both administrative and technical - outlined above contain sepecific recommendations and it is, not intended to repeat them. However, some broad macro-recommendations may be made here on the overall perspectives of technical assistance in this field.

8.2. The present project INS/78/078 for assistance in the development of small industry in Indonesia is expected to end in December 1984. However, in view of the importance of the programme to the economic development of the country, as envisaged in REPELITA IV, it is reasonable to assume that continued assistance would be desirable, if the momentum built up by the present project is to be sustained. It is understood that tentatively it has been decided to have a successor project which may begin to fucntion as soon as possible.

8.3. The nature of the project may need to be varied to take note ot the specific requirements of the country and the experience gained from the present project. One of the important lessons is the decreasing dividends an 'omnibus' project like the current one can provide; the objectives tend to be diffuse and internal management takes much of time. The project takes too long to gather a momentum and by the time it does, its life is almost over. It is suggested that in the next phase, three or four specific priority areas may be identified and smaller projects formulated which are more easily managable and make greater use of national capabilities which should be closely associated with the project.

84. While the specific areas to be dealt with in the next project are a matter for the Government and UNDP/UNIDO to decide, it may be suggested as a purely illustrative exercise that the following areas may be considered.

-- Sub contracting and Linkage with the Large Industry. The Project may undertake a case-by-case study of the sub contracting possibilities in specific products and enterprises (A Study made by the current project has indicated that in the automotive sector alone there may be possibility for 690 new units with an employment potential of more than 58,000 people).

-- Development of 'Electro -Technics' sector - including Electrical, Electronics and Instrumentation. This is a fast growing area which offers challenge to the young minds of the country. It is knowledge - intensive and low on investments which are ideal for technology - oriented small entrepreneurs. This is one instance of the fact that the small industry is not necessarily low technology. The requirements of agencies such as the PLN, PERUMTEL in REPELITA IV are likely to be considerable and can sustain a number of new units in the small sector.

-- Product Design for better Marketing. As small Industry grows in extent and sophistication, improved product quality is essential for marketing both within the country and abroad. This requires improved desgins, better qulaity control. The project may need the services of an Industrial Design and a Marketing Expert to see how each can be utilised for the other.

-- Data Storage and Retrieval. The increasing number of small industry units makes it necessary to evolve a comprehensive system of data collection, storage and retrieval. Computerisation may become necessary in which case it would need to be made compatible with the national industrial statistics. At this stage when a rapid expansion of the industrial sector is envisaged, it may be timely to have a project which would place that data relating to the small sector on a firm basis.

8.5. Each project need to be closely meshed in the Organisation (DJIK) with a senior member of the organisation designated as National Project Director. He will monitor the progress of the project and set for it tasks that are considered relavent to the needs of the needs of the organisation. In addition, middle echelon personnel of the organisation may be deputed to work in the project so that when it ends, they may carry it forward. Such continuity is essential if the impact made by any project is to be sustained.

9. Conclusion

The Project INS/78/078 which is now coming to a close marks the end of the first stage of development and the beginning of a new phase which would emphasise intensive development of selective sectors of small industry.

ANNEXURE I : List of Personnel (National and International) of the UNIDO Project Team (INS/78/078)

	Name	Post	Date of Joining the Project	Date of completion of the Mission (Actual or likely)
I.	International Experts			
1.	Vepa, Ram K. (India)	Small Industry Advisor (Team Leader)	August 1981	December 1984
2.	Eidsvig, Bjørn (Norway)	Industrial Engineer (Jakarta)	December 1982	December 1984
3.	Aavatsmark, Lennard (Norway)	Industrial Marketing (Jakarta)	August 1982	August 1983
4.	Mrs.Fajardo, Herminia (Philippines)	Industrial Training (Jakarta)	April 1982	December 1984
5.	Kohli, B.R. (India)	Industrial Information and Documentation (Jakarta)	February 1982	February 1984
6.	Marklund, F.G. (Sweden)	Industrial Engineer (Semarang)	August 1982	December 1984
7.	Humphreys, M.E.D. (U.K.)	Industrial Engineer (Yogyakarta)	August 1983	December 1984
8.	Ursberg, S.B. (Sweden)	Industrial Engineer (Surabaya)	October 1982	December 1984
9.	Sandell, P.K. (India)	Industrial Engineer (Bandung)	January 1984	December 1984
10.	(a) Verboom, A.T. (Netherlands)	Industrial Engineer (Medan)	August 1982	August 1983
	(b) Sheikh, A.H. (Pakistan)	Industrial Engineer (Medan)	October 1983	October 1984

List of Personnel (National and International) of the UNIDO Project Team (INS/78/078)

	Name	Post	Date of Joining the Project	Date of Completion of the Mission (Actual or Likely)
11.	Bishop, L.R. (U.K.)	Industrial Engineer (Ujung Pandang)	December 1983	December 1984
II.	National Experts			
12.	Sjorfai, A. (Indonesia)	Chief National Expert (Jakarta)	January 1982	December 1984
13.	Tampubolon, T.U.B. (Indonesia)	National Expert for Documentation (Jakarta)	April 1982	September 1984
14.	Imran, Usman (Indonesia)	National Expert for Marketing (Jakarta)	April 1982	September 1984
15.	Widodo, Saleh (Indonesia)	National Expert for Training (Jakarta)	May 1982	December 1984
16.	(a) Sudinarto (Indonesia)	National Expert for Industrial Engineer (Jakarta)	June 1982	June 1984
	(b) Tjokrokoesoemo, Soendoro (Indonesia)	National Expert for Industrial Engineer (Jakarta)	October 1983	December 1984
III.	Short Term Consultants			
17.	Catane, Benjamin M. (Philippines)	S.T.C.for Credit (Jakarta)	April 1983	July 1983
18.	Spijkermann, J.C. (Netherlands)	S.T.C. for Statistics (Jakarta)	July 1983	October 1983
19.	Chevallier, Guy (France)	S.T.C. for Packaging (Jakarta)	October 1983	January 1984

List of Personnel (National and International) of the UNIDO Project Team (INS/78/078)

	Name	Post	Date of Joining the Project	Date of completion of the Mission (Actual or Likely)
20.	El-Morsey, Abdou Seliet (Egypt)	S.T.C. for Standardisation (Jakarta)	January 1984	March 1984
IV.	Local Experts			
21.	Dibyo (Indonesia)	Local Expert (Semarang)	March 1983	December 1984
22.	Hoesodo (Indonesia)	Local Expert (Surabaya)	March 1983	December 1984
23.	Sjarlis Ilyas (Indonesia)	Local Expert (Ujung Pandang)	November 1983	December 1984
24.	Supoyo (Indonesia)	Local Expert (Yogyakarta)	April 1984	December 1984
V.	Junior Experts			
25.	Fauzy, A.S. (Indonesia)	National Junior Expert (Jakarta)	March 1983	September 1984
26.	Zamharir, Hari (Indonesia)	National Junior Expert (Jakarta)	March 1983	December 1984
27.	Soelaiman (Indonesia)	National Junior Expert (Jakarta)	May 1983	December 1984
28.	Yasin, Hasril (Indonesia)	National Junior Expert (Jakarta)	February 1984	December 1984
VI.	Secretary			
29.	Arifin, Eyreen A. (Indonesia)	Secretary to Team Leader (Jakarta)	April 1982	August 1984
30.	Sumual, Frieda (Indonesia)	Junior Secretary to Team Leader (Jakarta)	June 1983	December 1984

ANNEXURE II : List of Equipment Purchased from the Project Funds

No.	Name of the Equipment	Month of Purchase	Location of usage
1.	Peugeot 504 - Car	October 1981	Jakarta
2.	Toyota Diesel (Hi-Ace)	December 1982	Jakarta
3.	Photocopier (Sharp SF-781)	December 1982	Jakarta
4.	Electric Typewriter (IBM) - Selectric III	December 1982	Jakarta
5.	Plastic Binding Machine (IBICO - PB 21)	December 1982	Jakarta
6.	Electronic Calculator (Sharp - EL 2193)	December 1982	Jakarta
7.	Transcriber System (Philips - System 0304)	December 1982	Jakarta
8.	Toyota Diesel (Hi-Ace)	June 1983	Semarang
9.	Toyota Diesel (Hi-Ace)	June 1983	Surabaya
10.	Toyota Diesel (Hi-Ace)	June 1983	Medan
11.	Rotary Photocopier (Rex)	October 1983	Information Centre Jakarta
12.	Toyota Diesel (Hi-Ace)	March 1984	Bandung
13.	Toyota Diesel (Hi-Ace)	March 1984	Ujung Pandang

ANNEXURE III : List of Reports and Occasional Papers issued by The Project Team

No.	Title	Author	Month of issue
I.	Reports		
1.	Note on the Project Document relating to Assistance to the Development of Small Industry	Dr.Ram K.Vepa	November 1981
2.	Handbook for Project Staff	Dr.Ram K.Vepa	December 1981
3.	Interim Report on the Development of Small Industry in Indonesia	Dr.Ram K.Vepa	July 1982
4.	.. Draft Report & .. Final Report Manual on the use of fellowships for Foreign Training & Study Tours	Mrs.H.R.Fajardo	July 1982
5.	A Note on the Project INS/78/078 for discussion	Dr.Ram K.Vepa	August 1982
6.	Report on Seminar conference on 'The Human Resources Training & Development function for Small Industries Development'	Mrs.H.R.Fajardo	October 1982
7.	Identification of Training Needs	Mrs.H.R.Fajardo	January 1983
8.	Foster-father Programme in Indonesia	Dr.Ram K.Vepa	January 1983
9.	Report on Second Seminar conference on 'The Human Resources Training and Development function in Small Industries Development'	Mrs.H.R.Fajardo	January 1983
10.	Manual for Training workshop on Identification of Training Needs	Mrs.H.R.Fajardo	February 1983
11.	Training Manual Seminar conference on 'The Human Resources Training and Development function in Small Industries Development'	Mrs.H.R.Fajardo	March 1983
12.	A guide to information sources for Small Industry Development in Indonesia	Mr.B.R.Kohli	March 1983

List of Reports and Occasional Papers issued by the Project Team

No.	Title	Author	Month of issue
13.	Basic Law for the Development of Small Industry in Indonesia	Dr.Ram K.Vepa Ir.A.Sjorfai	March 1983
14.	Preliminary report for BIPIK, Denpasar - Bali in Bali Woodcraft	Mr.S.Ursberg	February 1983
15.	Proposal for the Award of Sub-contract on select topics	Dr.Ram K.Vepa	May 1983
16.	Manual for Training on Maintenance and Industrial Safety	Mrs.H.R.Fajardo	June 1983
17.	Manual for Training Workshop on Evaluation of Training	Mrs.H.R.Fajardo	June 1983
18.	Manual for course on Preparation and Monitoring of SIDAP	Dr.Ram K.Vepa	June 1983
19.	Report on Training Workshop on Identification of Training Needs	Mrs.H.R.Fajardo	July 1983
20.	Background Notes for Basic Marketing Workshop	Mr.L.Aavatsmark	July 1983
21.	Manual for Training Workshop on Curriculum Design & Preparation	Mrs.H.R.Fajardo	July 1983
22.	Report on conference on Identified Training Needs for Small Industry Development in Indonesia	Mrs.H.R.Fajardo	August 1983
23.	An Investigation of the Organisation & the Activities of the Institution (PPIK DKI Jakarta)	Mr.B.Eidsvig	July 1983
24.	Reading Material for Training Workshop in Management of Industrial Information & Documentation Centre	Mr.B.R.Kohli	August 1983

List of Reports and Occasional Papers issued by the Project Team

No.	Title	Author	Month of issue
25.	A Proposal for Establishment of National Industrial Information & Documentation Centre in DGSI and its units in the provinces for Development a Network	Mr.B.R.Kohli	August 1983
26.	Terminal Report - Industrial Marketing Expert	Mr. L. Aatvatsmark	August 1983
27.	ASPEP - Project Evaluation Industrial Engineer	Mr. B. Eidsvig	April 1983
28.	Project opportunities for consideration of	Mr. B. Eidsvig	May 1983
29.	First Training Workshop on 'Evaluation of Training'	Mrs. H.R.Fajardo	September 1983
30.	A Study of Small Scale Industries - Credit in Indonesia	Mr. B. Catane	July 1983
31.	Programme Workshop for the Identification	Mr.B. Eidsvig	October 1983
32.	Project Management Manual	Mrs. H.R.Fajardo	October 1983
33.	Report on the Waru Metal Cluster	Mr. S. Ursberg	September 1983
34.	Terminal Report of Mr.Spijkerman (Report on the Industrial Statistics Data Collection and Presentation for the Small Scale and Household industries)	Mr. Spijkerman	October 1983
35.	Manual for Training Programme on Product Costing and Pricing	Mr.H.R.Fajardo	October 1983

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No.	Title	Author	Month of Issue
36.	A Note on the UNIDO Project INS/78/078 an Assistance to S.I.Development in Indonesia	Dr. Ram K.Vepa	November 1983
37.	PPIK - Design Centre & Evaluation of Present activities	Mr. B. Eidsvig	November 1983
38.	Product Reservation Scheme in Indonesia A Study	Dr.Ram K. Vepa	December 1983
39.	Final/Terminal Report of Packaging Consultant	Mr.G.Chevallier	December 1983
40.	Report on PPIK - Yogyakarta	Mr.M.E.D.Humphreys	December 1983
41.	Manual of Training Workshops Applied Research Techniques	Mrs.H.R.Fajardo	January 1984
42.	PPIK in Indonesia - A Study -	Dr. Ram K.Vepa	January 1984
43.	Proposal for Setting-up of a CSF at Pematang Siantar	Mr. A.H.Sheikh	December 1983
44.	Report on the SUIK Estate for Small Industry	Mr.B.Eidsvig	February 1984
45.	Manual for the preparation of feasibility study for Small Scale Industrial Project in Indonesia	Mr.B.Eidsvig	February 1984
46.	Final Report of Information + Documentation Expert	Mr.B.R.Kohli	February 1984
47.	Report on the Meeting of the Project Team (February 27th - 29th, 1984)	Dr.Ram K.Vepa	March 1984

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No.	Title	Author	Month of issue
48.	A Plan for introducing updating exercises for Small Scale Industries in the Electrotechnic area of West Java	Mr.P.K.Sandell	March 1984
49.	Sub-contract Exchanges in Indonesia - A Proposal -	Dr.Ram K.Vepa	March 1984
50.	General feasibility study for a Industrial Project to manufacture wheelbarrows	Mr.B.Eidsvig	March 1984
51.	Terminal Report of STC for Standardisation & Quality Control	Mr. El Morsey	March 1984
52.	Results of the Proceedings of the Promotion and Marketing Centre Workshop (August 8-16, 1983) Jakarta	Mr. Usman Imran	March 1984
53.	Personnel for UPT,SUIK, and Jakarta Sub-contracting Exchange	Mr.B.Edisvig	March 1984
54.	Bibliography on Human Resources, Training and Development, and Entrepreneurship	Mr.T.U.B.Tampubolon Mrs.H.R.Fajardo Mr.Saleh Widodo Mr.Fauzy A.S.	April 1984
55.	Institutional Infrastructure for Small Industry Development	Dr. Ram K. Vepa	April 1984
56.	ASPEP, the Machine manufacturers Organisation Development Planning of Organisation and member companies	Mr. B.Eidsvig	April 1984

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No.	Title	Author	Month of issue
57.	Training Workshop on Curriculum Design and Preparation	Mrs.H.R.Fajardo	May 1984
58.	The Sectoral Approach to Development of Small Industry in Indonesia	Dr. Ram K. Vepa	May 1984
59.	On the Job Training on Identification of Training Needs	Mrs.H.R.Fajardo	May 1984
60.	Tahu Manafacturing in Jakarta and in Indonesia - A Proposals for Development and Improvements -	Mr. Bjorn Eidsvig	June 1984
61.	Report on the Meeting of the UNIDO Project Team INS/78/078 - June 4th - 5th, 1984	Dr. Ram K. Vepa	June 1984
62.	Draft Terminal Report on the Project	Dr. Ram K. Vepa	October 1984
63.	Brief Report on the IIDC - Pulogadung	Mr.T.U.B.Tampubolon	May 1984
64.	Manual for Training Workshop on Market Research	Mrs.H.R. Fajardo	August 1984
65.	Manual for Training on Management for Supervisors	Mrs.H.R. Fajardo	August 1984
66.	Manual for Training on Accounting and Book-Keeping for Small Industries	Mrs. H.R.Fajardo	August 1984
67.	Pressing and Drying of Ampas Proposal for Development procedure and Construction of Equipment	Mr. Bjorn Eidsvig	August 1984
68.	Food Production Machines, Design and Explainations	Mr. Bjorn Eidsvig	September 1984

List of Reports and Occasional Papers issued by the Project Team

No.	Title	Author	Month of issue
69.	Selection of Technology A Guide in Methodology	Mr. Bjorn Eidsvig	September 1984
70.	Training Manual Selection of Machinery & Equipment	Mrs.H.R.Fajardo	September 1984
71.	Training Manual on Technology Transfer	Mrs.H.R.Fajardo	September 1984
72.	Training Manual on Product Diversification	Mrs.H.R.Fajardo	September 1984
73.	Training Manual for Advance Course for Extension Workers	Mrs.H.R.Fajardo	September 1984
74.	A Proposal for Four Projects for Development	Dr. Ram K. Vepa	October 1984
75.	Summary of Work Done		October 1984
76.	End - of Mission Report Of Industrial Training Expert	Mrs.H.R.Fajardo	November 1984
77.	Plan for a Pilot Plant for Tahu Production	Mr. Bjorn Eidsvig	November 1984
78.	End - of Mission Report of Policy Advisor	Dr. Ram K. Vepa	November 1984
79.	End - of Mission Report of Industrial Engineer	Mr. Bjorn Eidsvig	November 1984

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the Project Team

No.	Title	Author	Month of issue
.	Reports from Medan		
1.	Proposal for Setting-up CSF at Pematang Siantar	Mr.A.H.Sheikh	December 1983
2.	Training Manual for Small Entrepreneurs and TPI.S	Mr.A.H.Sheikh	March 1984
3.	Proposal for Credit facilities to Small Scale	Mr. A.H.Sheikh	May 1984
4.	End - of Mission Report of Industrial Engineer, Medan	Mr. A.H.Sheikh	October 1984
	Reports from Bandung		
1.	Initial Note on the position of Electronics and Light Electrical Industries in Indonesia	Mr.P.K.Sandell	February 1984
2.	Preliminary Report of Project Activities in Indonesia	Mr.P.K.Sandell	February 1984
3.	Plan for Introducing updating exercises for Small Scale Industries in Electro-Technics Area in West Java.	Mr.P.K.Sandell	February 1984

List of Reports and Occasional Papers issued by

the Project Team

No.	Title	Author	Month of issue
4.	Technology consideration for Design and Manufacturing Electronic Transformers by Small Scale Entrepreneurs (3volumes)	Mr.P.K.Sandell	March 1984
5.	Inputs for upgradation Exercises on Total Business Dynamics (3 volumes)	Mr.P.K.Sandell	April 1984
6.	Report on the Training Programmes Development of Electronics in the Small Sector	Mr.P.K.Sandell	
7.	Proposal for a Frame work and Mechanism for Increased interaction with R & D Technology Institutes for Industrial Development	Mr. P.K.Sandell	
8.	Plan for Development of Model Entrepreneurial activities in specific new product and Technologies	Mr.P.K.Sandell	
9.	Conceptual and Design Formulation for Electronics Kits for Indonesian Market	Mr.P.K.Sandell	July 1984
10.	Techno-Economic Study on Small Scale Manufacture and Marekting of Voltage Stabilisers in Indonesia	Mr.P.K.Sandell	August 1984
11.	Teknologi (Vol.1 No.1)	Mr.P.K.Sandell	September 1984
12.	Proceeding of the Seminar on self reliance for manufacture trafoos in Indonesia	Mr.P.K.Sandell	October 1984

List of Reports and Occasioanl Papers issued by the Project Team

No.	Title	Author	Month of issue
	Occasional Papers		
1.	Role of Cottage Industries in Export of Developing Countries	Dr. Ram K. Vepa	October 1981
2.	Work Plan for 1982	Dr. Ram K. Vepa	December 1981
3.	Some important issues in the development of Small Industry in Indonesia	Dr. Ram K. Vepa	December 1981
4.	A Note on the Assistance Programmes in the field Small Industry Development in Indonesia	Dr. Ram K. Vepa	December 1981
5.	A Note on the Optimisation of Economic Growth with a special feference to India	Dr. Ram K. Vepa	December 1981
6.	A Strategy for the Development of Small Industry in Indonesia	Dr. Ram K. Vepa	March 1982
7.	A Note on the Evaluation of the Mini-Industrial Estates Programme	Dr. Ram K. Vepa	August 1982
8.	A Note on the UNIDO Project	Dr. Ram K. Vepa	September 1982
9.	Methodology for Identification on New Industrial possibilities	Dr. Ram K. Vepa	September 1982
10.	Methodology for Study of Product Reservation Scheme	Dr. Ram K. Vepa	September 1982
11.	Questionnaire on the Foster-Father Programme	Dr. Ram K. Vepa	October 1982
12.	Steps to be taken to improve the Operational efficiency of LIK Semarang	Dr. Ram K. Vepa	November 1984
13.	A Note on the Preparation of an 'Action Plan' for the province	Dr. Ram K. Vepa	November 1982
14.	Note on Purchase Reservation Scheme	Dr. Ram K. Vepa	December 1982
15.	Note on Monitoring and Evaluation of the Performance of Regional BIPIK Office	Dr. Ram K. Vepa	January 1983
16.	Note on Training Programmes for UNIDO Project	Dr. Ram K. Vepa	January 1983

List of Reports and Occasional Papers issued by the Project Team

No.	Title	Author	Month of issue
17.	Strategies for Small Industry Development in Japan, China, and India; A Comparative Study (for ESCAP Bulletin No.19)	Dr. Ram K. Vepa	February 1983
18.	Financial Support System in Japan, India and Philippines	Dr. Ram K. Vepa	April 1983
19.	A Note on the Action Programme for Small Industry Development in REPELITA IV	Dr. Ram K. Vepa	April 1983
20.	A Note on the Definition of Cottage, Small and Medium Industry	Dr. Ram K. Vepa	July 1984
21.	UNIDO Project (INS/78/078) for Development of Small Industry in REPELITA IV	Dr. Ram K. Vepa	July 1984
22.	Discussion with KAKANWIL & KAPKO BIPIK DKI	Mr. Bjorn Eidsvig	March 1983
23.	Report to Batu (East-Java) - Meeting January 1983 - Translation -	Mr. Bjorn Eidsvig	January 1983
24.	Agrobased SSI	Mr. Bjorn Eidsvig	March 1983
25.	List of Indonesian Industrial Machinery - mfg	Mr. Bjorn Eidsvig	June 1983
26.	Project Preparation Workplan	Mr. Bjorn Eidsvig	December 1983

List of Reports and Occasional Papers issued by

the Project Team

No.	Title	Author	month of issue
27.	Industrial Utilization of town Waste Translation	Mr. B. EIdsvig	February 1983
28.	Efficient Capital Utilization	Mr. B. Eidsvig	March 1983
29.	REPELITA IV, Comments on Draft of content for Sub-sector Small Industry & Kerajinan	Mr. B. Eidsvig	September 1983
30.	Development of Small Industry through Sectoral priorities	Dr. Ram K. Vepa	October 1983
31.	REPELITA IV Small Scale Industry Activity Plan Proposal for Promotion	Mr. Bjorn Eidsvig	November 1983
32.	Report from Journey to Banda Aceh and Medan dated 25th September + 9th September 1983	Mr. Bjorn Eidsvig	November 1983
33.	A Note on the Project for an Assistance to the Development of Small Industry in Indonesia	Dr. Ram K. Vepa	December 1983
34.	Notes of Industrial Engineer	Mr. Bjorn Eidsvig	January 1984
35.	Sub-Contracting - Proposal for a Technical Plan	Mr. Bjorn Eidsvig	January 1984
36.	A Note on the Project INS/78/078 (for Evaluation Purposes)	Dr. Ram K. Vepa	January 1984
37.	A Note on the Second Phase of the UNIDO Project INS/78/078	Dr. Ram K. Vepa	February 1984
38.	A Note on Development of Small Industry in non-Metropolitan Areas in Indonesia	Dr. Ram K. Vepa	August 1984
39.	Proposals for Admittance Procedures for SUIK, Jakarta and other Indusrrial for SSI	Mr. Bjorn Eidsvig	October 1984

ANNEXURE IV

I. List of MIEs with which the Project had Interacted

1. Medan : Assist Units to get loans from banks; train CSF personnel in Metal and Wood working.

2. Bandung : Identify new products and entrepreneurs for expansion.

3. Jakarta : Assisted 11 units at Pulo Gadung in process and management;

   Studied the operation of Technical Design Centre;

   CSF - Advise on Machinery and Personnel.

4. Central Java :
   - . Tegal - Machinery for CSF and Training of personnel;
   - . Ceper - Machinery for CSF;
   - . Semarang - Assist Units;
   - . Cilacap - Study of the Units.

5. East Java :
   - . Magetan - Bamboo Splitting Machine;
   - . Sidoarjo - Machinery for the CSF.

6. Yogyakarta : Craft Centre - Training of Personnel.

7. South Sulawesi :
   - . Ujung Pandang - CSF Machinery;
     - Identification of products and entrepreneurs.
   - . Pare-pare - CSF Machinery; Installation and Training of personnel.

ANNEXURE IV

II. List of Clusters which the Project has assisted

1. Medan :
   - CSF at Pematang Siantar;
   - Siborong-borong (Black-Smithy);
   - Desa Sibuntanan (Rattan);
   - Lumban Siagan (Handloom and Handicraft).

2. West Java :
   - 4 Technical upgradation exercises in Total Business, Dynamics, Sheet Metal fabrication, Surface Finishing, and Design of Electronic transformers and extension personnel; About 50 entrepreneurs participated.

3. Jakarta : UPT (Technical Service Centres) at :
   - Kalibata (Garments);
   - Sukabumi (Garments);
   - Kuningan (Foot-wear).

4. Central Java :
   - . Kudus (Blacksmithy);
   - . Juwana (Brass Casting);
   - . Purwodadi (Food/Soyabean Cake);
   - . Ceper (Metal);
   - . Klaten (Foundry);
   - . Purwokerto (Automotive Unit);
   - . Sokaraja (Construction and Machinery).

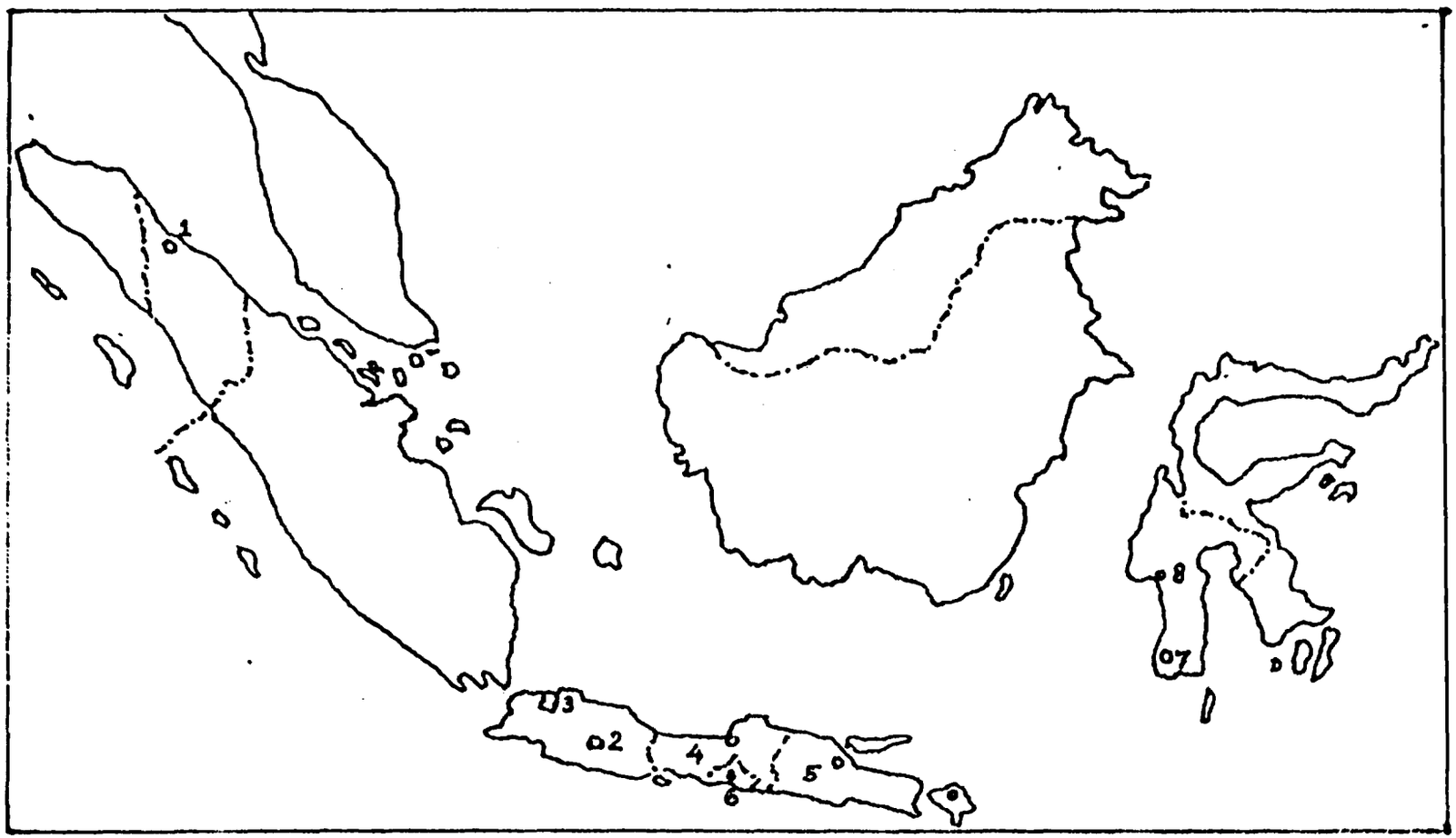
5. East Java
   - . Waru Ngingas (Metal)
   - . Tangulangin (Suit Cases)
   - . Malang (Ceramics Furniture)
   - . Pasuruan (Brass and Aluminium Castings)
   - . Madiun (Blacksmithy)
   - . Magetan (Leather)
   - . Morjosari (Kerosine Stoves)
   - . Jombang (Bronze)

. Mojokerto (Bronze);
. Bondowoso (Brass & Aluminium Castings);
. Denpasar (Wood Carving).

6. Yogyakarta : . Godean (Tiles);
. Kulon Progo Wates (Basket Weaving);
. Sleman (Agricultural Tools);
. Manding (Leather);
. Sekarsuli (Metal);
. Wonosari (Foundry);
. Kasongan (Pottery).

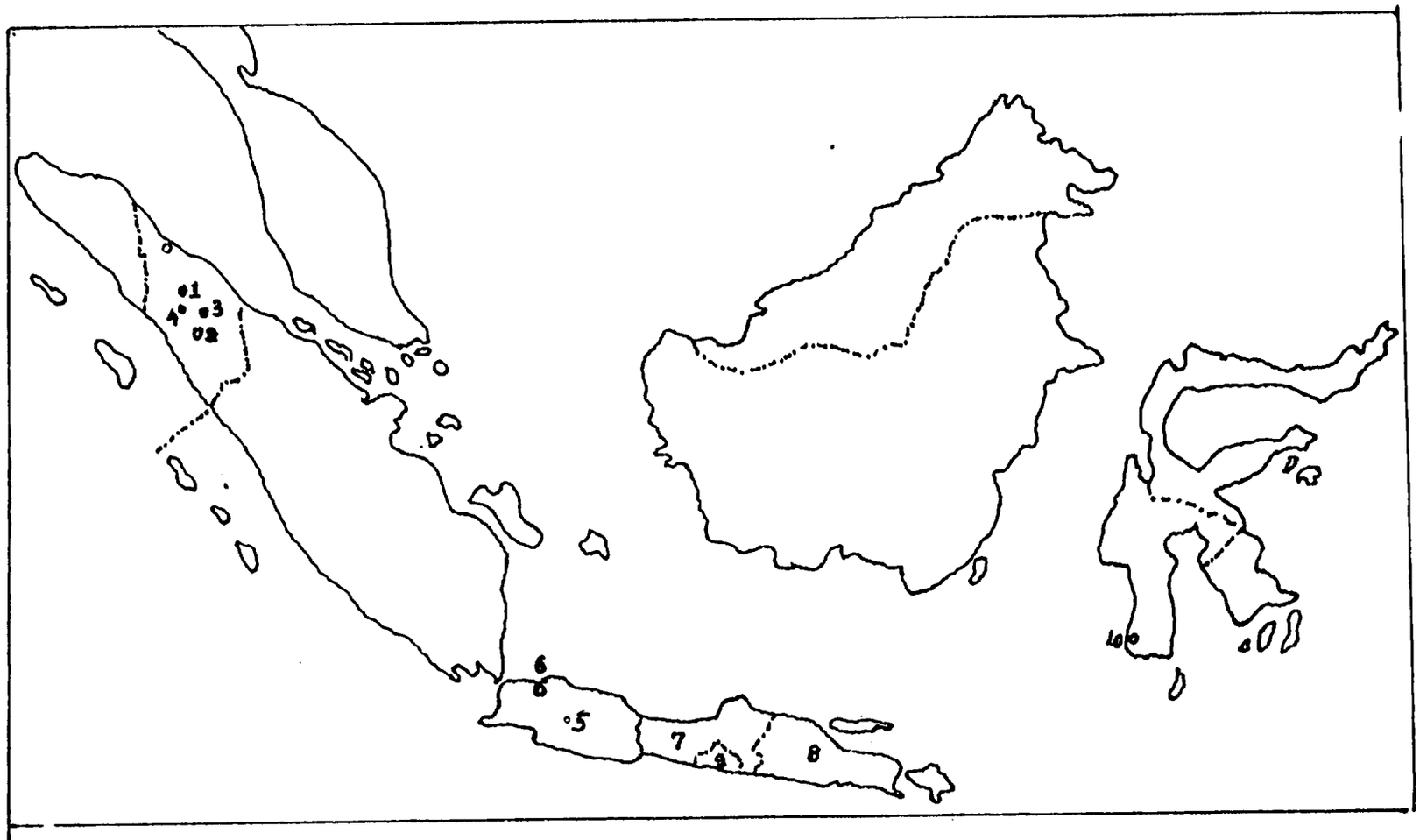
7. Ujung Pandang : Massepe (Semithy) - Set-up a foundry.

LOCATION OF MIE'S WHICH THE PROJECT HAD INTERACTED MAP.I[a].



1. MEDAN
2. BANDUNG
3. JAKARTA
4. CENTRAL JAVA (SEE ALSO MAP II)
5. EAST JAVA (SEE ALSO MAP II)
6. YOGYAKARTA
7. UJUNG PANDANG
8. PARE PARE

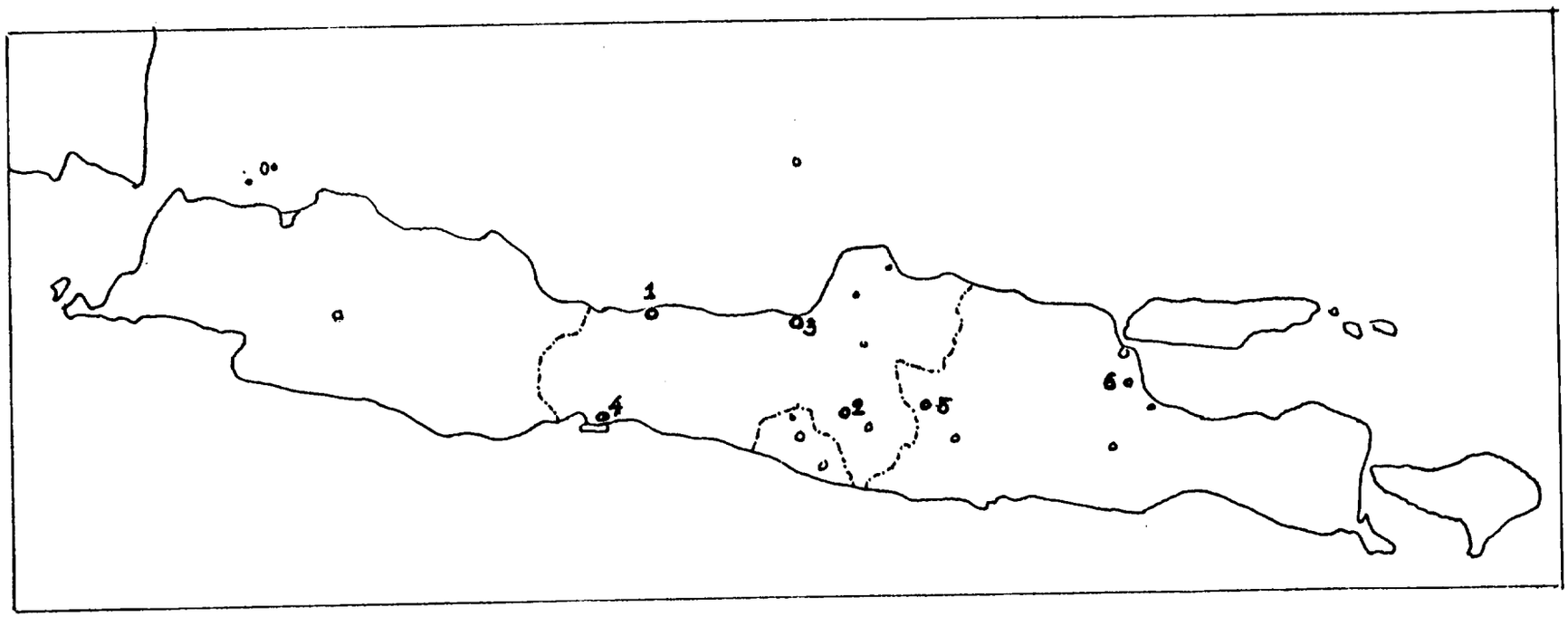
LOCATION OF CLUSTERS WHICH THE PROJECT HAD ASSISTED MAP. I[b]



NORTH SUMATRA

1. PEMATANG SIANTAR
2. SIBORONG-BORONG
3. DESA SIBUNTUON
4. LUMBAN SIAGIAN
5. WEST JAVA
6. JAKARTA
7. CENTRAL JAVA (SEE ALSO MAP II[b])
8. EAST JAVA (SEE ALSO MAP II[b])
9. YOGYAKARTA (SEE ALSO MAP II b)
10. UJUNG PANDANG

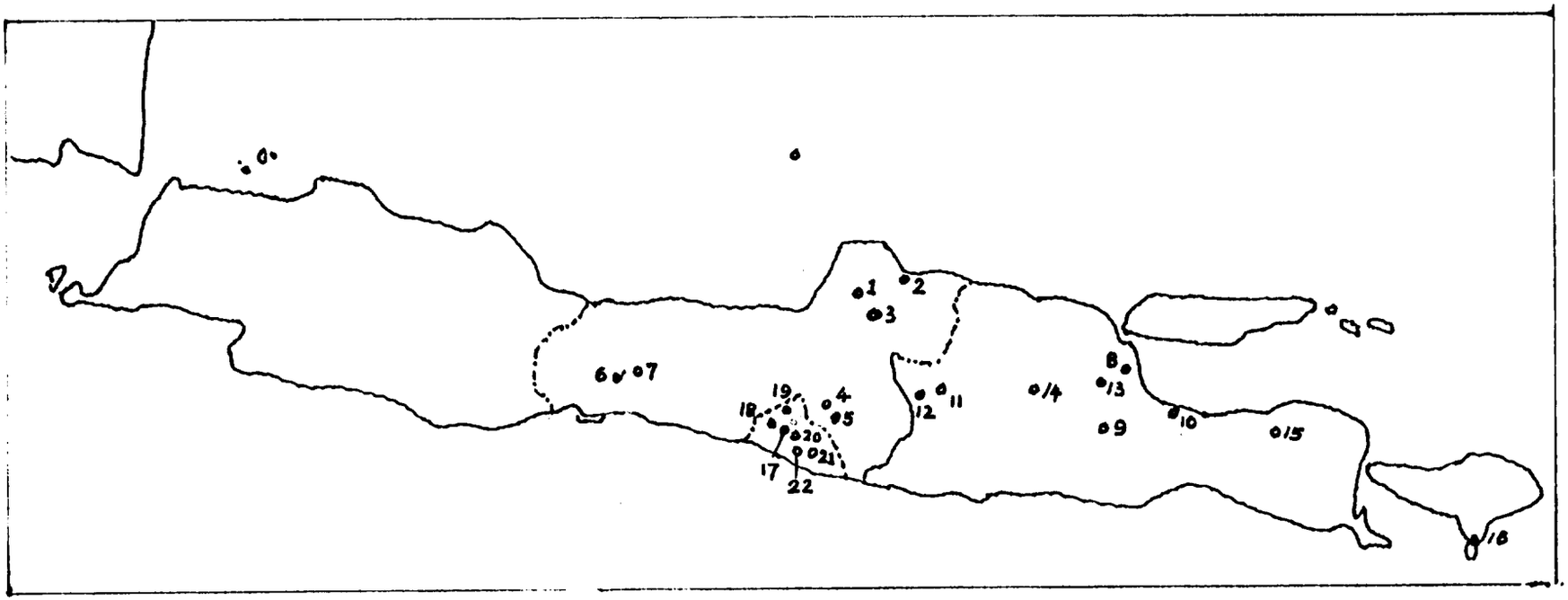
LOCATION OF MIE'S WHICH THE PROJECT HAD INTERACTED MAP.II[a]



CENTRAL JAVA
1. T E G A L
2. C E P E R
3. SEMARANG
4. CILACAP

EAST JAVA
5. MAGETAN
6. SIDOARJO

LOCATION OF CLUSTERS WHICH THE PROJECT HAS ASSISTED MAP II[b]



CENTRAL JAVA

1. KUDUS
2. JUWANA
3. PURWODADI
4. CEPER
5. KLATEN
6. PURWOKERTO
7. SUKARAJA

EAST JAVA

8. WARU-NGINGAS
9. MALANG
10. PANARUKAN
11. MADIUN
12. MAGETAN
13. MOJOSARI
14. JOMBANG
15. BONDOWOSO
16. DENPASAR

YOGYAKARTA.

17. GODEAN
18. WATES
19. SLEMAN
20. MANDING
21. WONOSARI
22. KASONGAN
23. SEKARSULI