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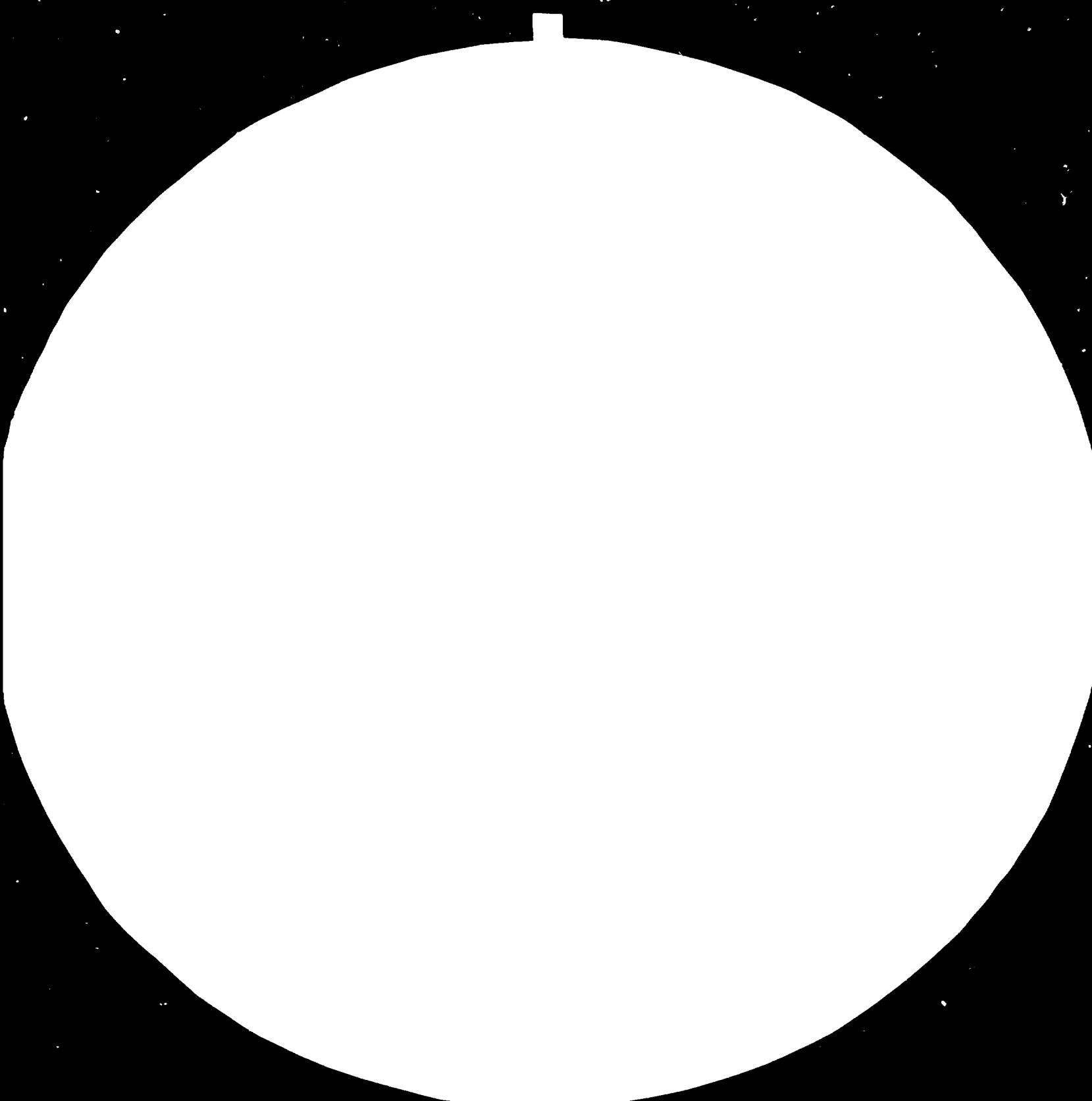

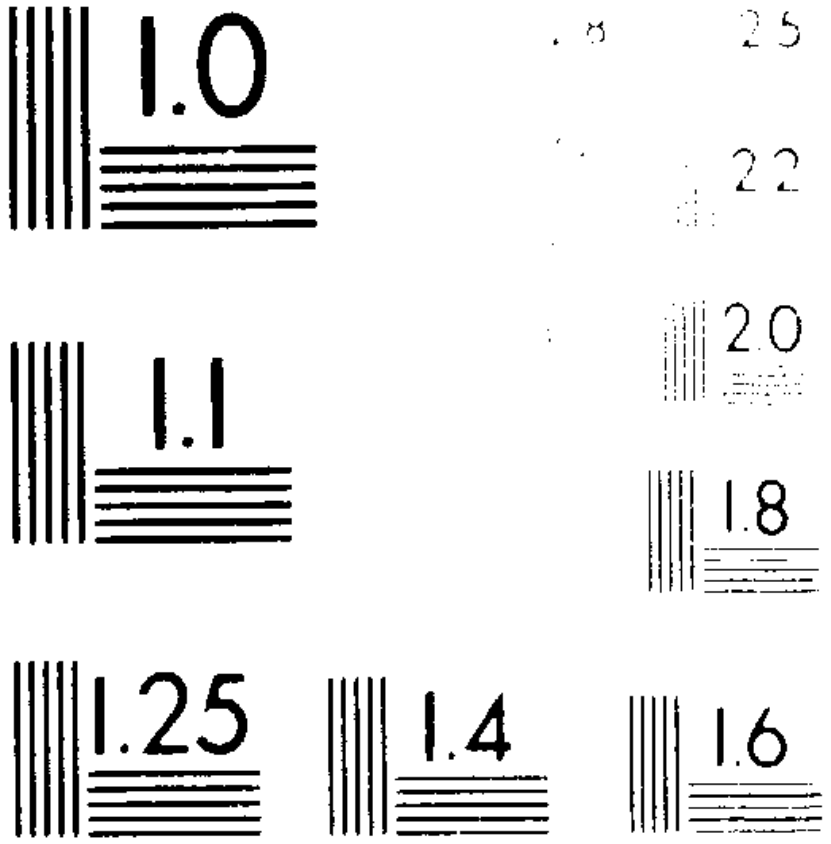
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UNIDO/UNDP

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FINAL REPORT 1983-84

DP/INS/78/078

BY

ASHIQ HUSSAIN SHEIKH
U N I D O
INDUSTRIAL ENGINEER
PROJECT INS / 78 / 078

KANTOR WILAYAH DEPARTELEN PERINDUSTRIAN
PROPINSI SUMATERA UTARA
JALAN SULTAN ISKANDAR MUDA 272
M E D A N.

I N D O N E S I A

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C O N T E N T S

1. INTRODUCTION

1.1 A Project Personnal appointment on a Technical Assistance Mission of the United Nations, was offered / accepted for a period of one year with effect from 9th Oct. 1983 to 8th Oct. 1984. The title of appointment was Industrial Engineer (Industrial Estates) with Medan as official duty station and provision of in country travel.

1.2 After necessary briefing at the UNIDO head quarters at Vienna, arrived at Jakarta and reported to S.I.D.F.A. and UNIDO Project Team Leader Project No. INS / 78 / 078. Further discussions specifically with reference to the assignment at Medan were held with them during brief stay at Jakarta.

1.3 Before leaving for Medan, I was also afforded an opportunity to attend Project Review Meeting (Project No. INS/78/078)at Semarang (Central Java). The meeting was presided by the Director General, Small Industries, Ministry of Industries, Republic of Indonesia. Besides UNIDO Team Leader, Central and Field Industrial Engineers, the meeting was also attended by all the Directors of Small Industries Directorate, National Experts, Counterparts, Coordinators and Heads of Provincial Industries Department from various provinces in Indonesia. Mr.CH. Zimmerman of UNIDO Vienna also participated.

1.4 During these deliberations,spread over a period of three days detailed review of the work program and progress to date was made. Over all it was observed that performance on the project had been satisfac - tory. It was also observed that close liaison between provincial chief of Industries Department designated as Kakanwil and Coordinator of UNIDO, Project INS/78/078 was necessary,to make efforts by the UNIDO Expert more effective because the former was to assign "Priorities " according to the requirements of his region and evaluate the recommen- dation made by the expert. The meeting was quite useful for a new comer as it provided necessary guidance and experience for working in this country.

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1.5 Finally arrived at Medan on 28th Oct.1983 and continued working till the expiry of the tenure, lay out plan of the office,where under signed was accomodated with the following staff enclosed. (Annex I)

- Drs. D.W. Siallagan : Local Counterpart
- Dra. Herawati Tarigan : Secretary (transfer w.e.f.31st August '84)
- Monalisa Pandiangan : Secretary (w.e.f. Sept. 1984)
- Elly Manurung : Typist
- Masda Hutapea : Staff (Resigned w.e.f. 2-2-84)
- Ferry Yanto : Staff (Resigned w.e.f. 2-2-84)
- Sonny Hutapea : Staff (Appointed w.e.f.5-4-84)
- Jabbal Sinurat : Staff (Appointed w.e.f.5-4-84)
- Yusuf S. : Driver
- National Expert : Vacant

1.6 According to contract, I was required to complete my assignment and proceed on annual leave sometimes in the end of August,1984 but in the mean time UNIDO Vienna as well as Mr.Buha Tambunan, Chief of Industries Department, Ministry of Industries, Republic of Indonesia,North Sumatera, Medan, expressed their desire that I should extend my stay for some more time. I am of-course gratefull for this gesture acknowledging my efforts and activities in the promotion and development of small scale Industries of North Sumatera. On account of my pressing family problems at home I could not afford to continue much longer but as a token of appreciation and respect for the respective authorities, I accepted to continue working till last date of my contract viz 8th October 1984 without availing any leave. In this context copy of letters No.050/PSP2-IK/IV/84 and 087/PSP2-IK/SU/IX/84 dated 12 June 1984 and 31 August,'84 respectively from Mr.Buha Tambunan addressed to UNIDO Vienna are enclosed for perusal.(Annex-IIA & II B)

1.7 In the end, I would again like to offer my gratitude to Mr.Buha Tambunan for his valuable guidance, cooperation and interest in the promotion and development of small scale industries of his region. I am also thankful to his staff officers for their cooperation :

- Drs.Adat Sembiring · (Secretary Kepala Dinas)
- Mr.S.P. Siregar : (Coordinator PSP2-IK)
- Mr. Masido : (Chief of BIPIK)
- Mr.H.Ramli Hasan : (Kasudis Industri Kecil)
- Mr.S. Silalahi : (Kepala Bidang Perencanaan)

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1.8 During the later part of my contract, the activities of the project were further boosted with the appointment of Drs. Parasian Hutauruk as a new Project Coordinator. He is a brilliant and energetic officer deserving such an appointment. He was always available to settle long awaited administrative problems, resulting progressive improvement in day to day working of the project.

1.9 Before concluding I would also offer my thanks to the project staff particularly the Secretary and the Local Counterpart for their cooperation and assistance.

1.10 I am grateful to UNIDO management for affording me an opportunity to serve the organization and I did that to the best of my ability and knowledge. After a short break if I could be of any service to the organization, it will be my great pleasure to serve again.

1.11 Finally, I wish and pray for the success of small scale industries in North Sumatera, where I had the honour and privilege to work with Departemen Perindustrian and serve the small scale industries for a period of one year w.c.f.9th Oct.1983 to 8th Oct.1984.

(Ashiq Hussain Sheikh)
Industrial Engineer
Departemen Perindustrian Propinsi
Sumatera Utara, Medan
(Republic of Indonesia)

Dated : October 1984

2. LOCATION

2.1 North Sumatera is located between 1^{o} and 4^{o} lat. toward North and 98^{o} - 100^{o} long. in east covering an area of approximately 70787 square kilometers. Its position being diagonal and parallel to Peninsula Malaysia and in the geographical proximity of Singapore. North Sumatera is strategically located from viewpoint of the International Communications network. Distance measured in terms of flight time, Medan the capital of North Sumatera can be reached in about thirty minutes from Penang (Malaysia), about one hour from Singapore, and two hours from Jakarta, the capital of the Republic of Indonesia. Total population of North Sumatera as per the census of 1980 was 8,3 million, comprising of native Indonesians and people of foreign origins such as Chinese, Indians, Pakistanis etc.

2.2 Project area has tropical climate with temperature and rainfall consistent with latitude and longitude and different heights of the areas between 0 - 1320 meters above sealevel. As to Medan and surroundings, in particular, the maximum temperature varies between 30^{o} - 40^{o} C and minimum averages between 22^{o} - 24^{o} C. Relative humidity is between 61 percent (lowest) and 96 percent (highest). Rainy season generally starts from September to February and dry season from March to August. Annual average rainfall is about 2100 millimeters but the average per month varies between 200 millimeters in February and 400 millimeters in October. North Sumatera comprises of higlands and lowlands.

2.3 Development of Industrial Sector as a whole deserved to be further improved with the pace of time to make significant contribution to export earnings. Apart from hydrocarbons, export earnings are generally derived from agricultural products both from large plantations / small holdings and forestry. Recently, the Industrial Sector started showing a noticeable share in export earnings. Principal items for export are rubber (crumb/rubber), palm oil, tobacco, tea, coffee and fresh shrimps. These characteristic signify that the economic structure of North Sumatera depends upon agricultural, trade and industrial sectors. The approximate contribution by these sectors

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ranges between 70-75 percent annually of gross domestic product.

2.4 In the industrial sector, Small Scale Industry is one of the subsectors. Growth in this subsector has been quite encouraging although it is labour-intensive and requires moderate capital assistance as compared with other sub-sectors. The prominent industries are among others, rattan plaiting, bamboo plaiting, pandan plaiting, shoes, bricks, tiles, traditional weaving, wooden & rattan furniture, utensiles, sanitary fittings etc.

2.5 The growth of the sub-sector of basic metal industries has also shown an increasing tendency although not in a very rapid manner for the reasons of being capital intensive. Some types of basic Metal industries prominent in this region are among others, Iron sheet, Rolling mills, Iron wire, Machinery, steel structures, Foundries, Spareyers etc.

2.6 The maps of North Sumatera and Medan are enclosed for ready reference. (Annex III & IV)

3. Role of Industrial Engineer

3.1 It may be pertinent to mention that duration of one year for an expert was found to be hardly sufficient to fullfil the goals laid down. Visits to number of units scattered all over the province in different sub-districts, for the purpose of survey, study, consultation etc was itself a time consuming exercise. It was most essential, to get acquainted with the prevailing situation and to diagnose the problems before offering any advice and before making proposals for the development and promotion of Small Scale Industries.

3.2 The details of Small Scale Industries in respect of seventeen sub-districts of North Sumatera are as below :

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S/N.	SUB - DISTRICT.	Units	Worker	Investment (Rp.000)	Production (Rp.000)	Material (Rp.000)
1.	Kotamadya Medan	1198	6571	2667835	5581654	27803641
2.	Kotamadya Binjai	33	110	30565	16013	92389
3.	Kabupaten Langkat	445	893	332049	755030	1349250
4.	Kabupaten Deli Serdang	892	1894	15415	1499004	1851988
5.	Kabupaten Karo	198	918	183271	619649	1443423
6.	Kotamadya Tebing Tinggi	69	335	198495	242473	870468
7.	Kabupaten Asahan	995	1775	199376	292927	1561749
8.	Kotamadya Tanjung Balai	67	237	102937	94523	198911
9.	Kabupaten Labuhan Batu	219	1530	973935	910349	1606208
10.	Kabupaten P. Siantar	51	326	291948	469766	587716
11.	Kabupaten Simalungun	175	594	428325	309115	610598
12.	Kabupaten Dairi	30	71	65363	627623	245903
13.	Kabupaten Tapanuli Utara	1516	2102	112291	613196	1461236
14.	Kabupaten Tapanuli Tengah	101	304	36779	227033	924617
15.	Kotamadya Sibolga	38	533	1080137	312287	1542013
16.	Kabupaten Tapanuli Selatan	190	5249	519119	1564828	2571987
17.	Kabupaten Nias	78	173	15950	815	30278

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3.3 The details of related Industries shown in the preceding table are as below :

- Wood Working : Furniture, Building materials, Doors,Windows, Boats etc.
- Metal Working : Ferrous and non ferrous castings, Auto Spare-parts, Tools for agricultural and rubber plantation, sanitary fittings, steel structure etc.
- Handi Craft : Wooden, Bamboo and Rottan Products etc.
- Ceramics : Utility and Decorative Products etc.
- Leather : Shoes, Belts, Hand Bags etc.

3.4 For all intent and purpose, the Industrial Engineer was required to work as an Advisor both to the entrepreneurs as well as to related agencies in the Promotion and Development of Small Scale Industries of the respective region. As a result, he was engaged in multi-ferrous activities as UNIDO-Advisor rather as an Industrial Engineer in the following manners :

3.5 Indirect Approach (Advisory - Service)

In certain cases where capital investment, working capital or policy decision were involved and these were considered beyond the capacity of small entrepreneurs, necessary advice in the form of proposals was offered to the concern agency for necessary consideration/implementation.

3.6 Direct Approach (Spot Advice)

During the course of visits to units of Industrial Sector in various sub-districts, it was a regular feature to suggest measures which could be practically applied (and shown on spot) in regard to production techniques resulting better quality products.

As a matter of fact this practical approach was better received by the entrepreneurs inspite of the fact that its scope was limited due to resources of individuals, such as machinery and equipment, raw materials, skills etc.

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4. Activities

4.1 Inspite of the facts discussed earlier, every effort was made to achieve the maximum results with the available time and sources. Immediately on arrival at Medan, a meeting was held with the Kakanwil where the coordinator and counterpart were also present. Kakanwil briefly explained the pace of work already carried out and future plans for the promotion and development of Small Scale Industries of his region. In this context, he desired to proceed with the following assignments :

- Setting up of a common service facility centre (CSF) at sub-district Siantar.
- Technical Assistance (Soft ware) to Small Scale Industries in different sub-districts of North Sumatera.

However, no time schedule or priority was fixed in this regard. Details are as follows :

5. C.S.F. Siantar

5.1 While the study in respect of the proposed CSF was in progress and visits to existing CSF in other provinces were under consideration, this project was declared a "Priority Project" and the proposal was thus required to be completed/submitted by the end of Dec. 1983.

5.2 As a result, a comprehensive "Project Proposal for CSF at Siantar" was prepared in consultation with local heads of Industries Department, Entrepreneurs, Mayor of the town and with the available data on Small Scale Industries at Siantar and Simalungun. As such it was submitted on schedule to all concerned. The salient feature of the proposal are as follows :

5.3 LOCATION

- Siantar is one of the sub-districts of North Sumatera and situated west of Medan at a distance of 128 Km. It is well connected by roads and all civic facilities are available viz Transport, Electricity, Water, Gas, Telephone, Hospitals, Schools, etc. Map of Siantar is enclosed. (Annex V)

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5.4 Type of Small Industries

1. Wood Works 2. Metal Works 3. Handi Crafts

5.5 Cost of the Project

- Land	37.240.000,-	Machinery & Equipment	80.000.000,-
- Buiding	186.000.000,-	Miscellaneus	55.750.000,-

5.6 Annual Recurring Expenditure

- Revenue 89.000.000,-

Major Section : Phase I (For existing requirements of target group).

- Wood Shop
- Machine Shop
- Welding Shop
- Design Shop

Phase II (For future consideration)

- Heat-treatment
- Physical Testing
- Seasoning of wood

5.7 Aims and Objects

I. Common Facilities
II. Extension Services
III. Training (Long and Short Term)
IV. Sub-contracting

5.8 Status

Purly promotional but to be self financed after 5-10 years

5.9 Management

By the management committee fully competent to administer the project.

5.10 Source of Financing

Grant-in-Aid

5.11 Impact of Project

Promotion and Development, quality control, transfer of technology, training, Sub-Contracting etc.

5.12 In this regard, a copy of letter No.040/PSP2-IK/IV/84 dated 9th April 1984 from Departemen Perindustrian Sumatera Utara is available for necessary perusal. (Annex VI)

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6. Credit Facilities to Small Scale Industry

6.1 During the visit of industry in the sub-districts, it was observed that small entrepreneurs were mostly confronted with techno-economic problems. As a result, the Small Scale Industry deserved both technical as well as financial assistance to continue their existance on sound footings necessary, for further improvement and development to meet the changing requirements of the time.

6.2 In order to improve the technology for quantitative and qualitative production, following important pre-requisits are essential:

- skill
- specified raw materials
- machinery and equipment
- working capital

Although in most of the cases necessary skill was available but it deserved to be supplemented and supported with essential machinery and equipment while using proper raw materials for uniform quality products. Although the advice given in such circumtance was readily accepted and well appreciated, it could not be implemented on account of remaining missing components such as Machinery and Equipment, Working capital etc.

6.3 Although arrangements for credit facilities do exist in the country, the fact remains that the small industries, which is the back-bone of industrial progress in labour intensive is hardly able to avail its benefits because it could not fulfill the requirements laid down by the banks which of-course could not be ignored either. It is a common problem in all the developing countries that the small entre - preneurs can not maintain proper accounts and production record to offer any guarantee etc to the satisfaction of the bank. In this context, detailed discussions were held with bankers, entrepreneurs and cooperative societies to find a way out for speedy financial assistance which is the primary need of the time in the promotion of small scale industry.

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6.4 During the project review meeting held on 27th February '84 at Jakarta, the problem of "Financial Assistance" to Small Scale Industry was also brought up with the Director General, Small Industry who was chairing this meeting. In this respect, some suggestions were put-forth and he asked for a detailed and workable proposal in this regard. A "Proposal for Credit Facilities to Small Scale Industries" was subsequently prepared and submitted to him and others concerned for consideration and implementation.

6.5 This proposal was submitted complete with all the proformas as required for implementation with provision for any amendment or change in the light of Govt. policy or specific requirements of a particular type of industry. The proposal is however coupled with extension services.

The proformas designed in this regard are as follows :

- Survey form for extension services
- Activity report extension services
- Summary of extension services
- Loan application for credit
- Project report

The Proposal deals with the following subjects :

- Objective of the proposal
- Objective of credit
- Financing of fund
- Prospective borrowers
- Limit of loan
- Target group
- Procedure
- Loan sponsoring committee
- Loan sanctioning committee
- Financing terms and conditions
- Operation of fund
- Repercussions of the proposal
- Benefits of proposal

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The proposal if accepted/implemented will be a right step towards promotion and development of Small Scale Industry. It could be introduced to medium scale industry in due course of time as well.

7 Development of Industrial Skill

7.1 The work plan and programme of activities was again revised. It was desired by BIPIK Perindustrian to conduct a trainning programme for the workers of Small Industries. This training was to cover both theoretical and practical training, so called on Job-Trainning in the fields of metal and wood technology. C.S.F. Mabar selected by the authorities for this purpose was not quite suitable due to lack of activities but there was no other alternative site. It was therefore imperative to plan the practical trainning in a manner that maximum operation and techniques are involved on different available machines. This was the best course to provide practical trainning and versatile experience to the participants. (C.S.F Mabar is a common service facility centre, Mabar, Medan)

7.2 In order to achieve these objectives, paramount consideration was exercised in selecting suitable jobs which could also be utilised by the industries. Details are as follows :

For Machinist (Metal)

- Needle holder (used for marking purpose).
- Square thread screw (used for bench fitter vice).

Both the jobs included various operations including sawing,turning, milling, grinding, threading etc.

For Carpenters (Wood)

I. Table (used for office)
II. Pen stand (used for office)

In this case too different operations and equipments were involved including final finishing.

7.3 To minimise expenditure, jobs for training production were designed in a manner to use the raw materials available in stock.

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This was a novel experiment to manufacture utility items during the course of trainning rather than production of exercises resulting in non-utilization and waste of materials.

7.4 In order to capture the existing and future needs of trainning and to up-grade knowledge and skill of workers as Wellas extension service staff from private and public sector, a comprehensine Trainning Manual was prepared which contained the following details :

Theory :

- Different kinds of work shop machinery and equipment
- Operations of different machines and equipment
- Selection of raw materials
- Reading of engineering drawings and blue prints
- Measuring instruments
- Heat treatment of metals
- Conversions tables
- Calculations
- Shop management/ safety rules
- Maintanance of machinery

Practical (as per drawing)

- Manufacturing of wooden office table
- Manufacturing of wooden pen-stand
- Manufacturing of M.S. Needle holder
- Manufacturing of M.SSq thread screw

The above facts and explanations would reveal that the so called trainning manual would be a guide for all future day to day production. As a result, it would be a "Technician Ready Recknor" for all intent and purposes.

The first group of participants for trainning consisted of :

- Wood working	15	nos
- Metal working	15	nos
T o t a l	30	nos

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The trainning programme / course was conducted directly under the supervision of UNIDO expert, being first venture of its kind to be taken up by local staff in future. In this respect, enclosed please find a copy of letter No.3001/BIPIK/SU/IV/84, dated 2-4-84 from Departemen Perindustrian Sumatera Utara for necessary perusal. (Annex VII)

8. Designing of Distiller

8.1 The chief of provincial industries department (Kakanwil) province of Aceh, requested a visit by UNIDO Industrial Engineer to Banda Aceh to discuss and assist him for the production of Nilam Oil.

8.2 Banda Aceh is the provincial capital of Aceh and situated North of Medan at a distance of about 600 km. Consequently, a visit along with Counterpart was arranged by the local management and a meeting was held with Kakanwil and his staff in his office at Banda Aceh.

8.3 The major problem deserving investigation and assistance was in connection with the Extraction of Oil without Impurities. According to these official, presently when the oil was extracted from leaves it contained iron particles resulting in poor quality product which was not quite suitable for its utility.

8.4 Investigation was made in this regard and in the light of details obtained, it revealed the following facts :

- The equipment consisted of the following major components :
  - Boiler : To produce steam,
  - Kettle : To store leaves,
  - Condensor : To cool the vapours
- Empty asphalt drums are used as kettle as well as condensor.
- Iron particles in oil were not visible.
- The oil exported and used for making perfumes.

8.5 Laboratory analysis report revealed that one of the constituent of the extracted solution from the leaves has acidic properties and thus effected the surface body of equipment upon contact.

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As a result, it was causing contamination and this was infact the real problem. It could however, be avoided by using the equipment particularly the kettle, pipes/joints, condensor made of non resistant stainless steel of the following specifications or similar.

AISI - 304 :
C. 0.08% (Max)
CH 18%
NI 9%

8.6 Accordingly a design of the equipment was developed and supplied to the enterprise. The capacity of the designed distiller was as follow :

- Input 50 Kg Leaves
- Output 2 Kg Oil @ 4%

A copy of the design available for perusal (Annex VIII)

9. Craft Development Centre

9.1 Like any other part of Indonesia, the province of North Sumatera is also proud of its cultural heritage. Handi-Crafts are produced out of rottan, bamboo, wood, textile (ulos) etc, both for the purpose of decoration and utility as the case may be. This industry is scattered all around the area. In some cases, entire families are engaged in production when free from domestic requirements while in other cases there are small unit carrying out normal full time production. Total number of workers engaged in this industry are about 14891 as per details available for the year 1982 - 1983.

9.2 During the visits and study at different locations, it was found that these crafts have been passed on from generation to the next. However it has now reached to the point where this tradition is being wiped out because the craftment men/women appeared to be no longer interested to follow the practise of their ancestors and rather prefer to diversify their activities to other sources ensuring better returns at better locations. Nevertheless it is important to mention

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that these workers deserve encouragement so as to preserve the glory of art possessed by their hands not so far substituted by machines. As a result, their problems as discussed below merits consideration :

- Marketing : Craftsmen/women are at the mercy of whole seller. Payment is made as and when goods are sold. Working capital thus remains blocked for indefinite period.

- Credit Facilities : Banks are reluctant to provided facilities as workers are not able to offer guarantees.

- Raw Material : Lack of working capital.Bulk purchase of desired quality at competetive price is not possible. Piecemeal purchases involve higher prices and difference in quality, resulting in non-uniformity of finished goods at higher costs.

- Designing : Lack of improvement to fulfill taste of domestic as well as foreign customers which may differ from place to place.

- Quality Control : Lack of facilities to ensure quality.

- Training Facilities : Lack of facilities to ensure availability of trained craftsmen/women.

- Packing and Delivery : Lack of presentable and moderately priced packing.

9.3. In order to alleviate such discrepencies and to ensure healthy growth and development of handi-craft Industry in North Sumatera, A Craft Development Centre was proposed. It was further suggested that this centre be set-up as a pilot project at one suitable but central location. If it is found suitable/feasible a chain of such centres may be established in other parts of the province in due course of time.

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9.4 The aims and objectives of the proposed centre :

Marketing : I. Due to lack of knowledge, funds, organisational and manegerial capabilities of craftmen/women, marketing through Handicraft shops, to be set-up in public sector at all important tourist towns and airports through out the country.

II. Through local and international fairs and exhibitions.

III. Through wide publicity and distribution of printing materials, catalogues in Indonesia and overseas through embassies.

Raw Material : I. Distribution of raw materials at the door steps of craftmen/women. Cost to be recovered against delivery of finished goods.

II. Collection of finished goods from the producer and against payment.

Designing : To develop new design in the light of Indonesian art and culture, projection of traditional indoor living comforts of locals as well as foreign customers. Proper color scheme to meet the taste of the people. Free distribution of designs to selected crafts men/women capable to undertake production accordingly. It would be important to mention that a product has no value unless it is accepted in the market at reasonable price.

Production/quality control : To arrange stage inspection to ensure quality as per specification, including quality of raw materials, color schemes etc.

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Such a step is necessary to avoid rejection at final stage and loss to the workers.

Training of Crafts : I. To preferably admit trainees from the family already in respective crafts.

II. To pay adequate stipends to generate interest for the completion of training course.

III. To provide financial incentive to successful trainees to set up production unit in their respective areas. This may discourage migration to big towns and cities and improve economic up-lift of the individuals as well as the respective locality.

9.5 The centre will have multi-farious activities and to achieve the target, it would be essential to staff the project with motivated personal. In the regional office a marketing wing exclusively for Small Industry would be a pre-requisite to obtain local as well export orders, purchase of raw materials in bulk, sales through handi-craft shops etc. This wing would on the advice of C.D.C., register such units or craftsmen/women who possess necessary skill and know how for production as per given sample or specifications. This list should be reviewed after reasonable interval to include additional producers or other wise as the case may be. (C.D.C. is for Craft Development Centre)

9.6 Under these circumtances, regional office would assist C.D.C. in all its activities, through the district chief, who may be the administrative head of the project.

9.7 Since this approach involves participation by various Ministries such as industries, trade, banks, cooperative society, import and export, it may be necessary to form an "Advisory Committee"

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consisting of representatives of all these institutions under the Minister of Industries. This committee would make policy decisions and offer incentives which may be essential for promotion and development of small scale industry. It may also help increase in exports.

10. Seminar on Rottan Products

10.1 On the specific request of Mr.P. Heimburger, UNIDO Industrial and Marketing Expert of Project No.INS/78/002, associated/participated in a three day seminar held at BIPIK Rottan Training Centre, Medan. Altogether twenty persons attended the seminar. A lecture was also delivered by me on the designing, standardization, quality control and marketing. The importance of such facts were further substantiated when two separate news items regarding Quality of Rottan Furniture later on appeared in the press "Jakarta Post" dated June 13th and 23rd 1984 respectively. Copies of the press clipping are attached for reference. (Annex. IX A & IX B)

10.2 It is all the more important, that the facilities of designing, specification, quality control are offered to rottan furniture makers by craft development centre, as discussed earlier.

11. Seminars on Forging and Heat-Treatment of Metals

11.1 Seminars on "Improvement of Traditional Production Methods" were held at different blacksmith clusters at Siborong-borong, Tana-Jawa and other locations of sub-districts. Mechanised forging with different types of machinery was also explained to some extent. The details are as follows :

- Various kinds of forging
  - i Hot forging
  - ii Cold Forging
  - iii Welding, Soldering, Brazing and its Equipment
- Different Methods of Forging
  - i Traditional
  - ii Mechanical
- Forging Tools and Dies

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- Different Types of Raw Materials and Their Selection
  - i For sharp tools
  - ii For blunt tools
- Method of Heat-Treatment, Carburizing
- Thermo-couples and Pyrometers
- Method of Hardness Testing
  - i Conventional / Traditional
  - ii Mechanical
- Questions and Answers

11.2 Similarly, practical demonstration were conducted which covered proper use of tools and dies, temperature control of the furnance, minimum forging steps to avoid repeated heating of metal and there by adversely affecting inner structure, causing invisible cracks, etc. Heat-treatment of metals including case-hardening was also covered. For this purpose two separate charts were prepared, displayed and distributed.

For guidance : I. Heat-Treatment Temperature Chart (Coloured)
II. A Guide for Use of Various Steels.

(Annex X-XI)

11.3 There was good and encouraging response at all the clusters in terms of full participation of entrepreneurs, workers, extension service field staff and officials of industries department of respective sub-districts.

12. Artisan - Village

12.1 During the visits to various sub-districts of North Sumatera, besides techno-economic problems it was observed that Small Scall Industry is mostly scattered in populated areas of the town/city. As a result, the prevailing situation is not favourable for the industry particularly for the purpose of further expansion. Similarly it may be the cause of the hindrance in flow of raw materials and finished goods as well as traffic jams and civic nuisance for residental area.

12.2 As a matter of fact, this was one of the urgent problem put forth by the Koperasi Serba Usaha, Dalihan Na Tolu, Kisaran, during

...21/

the course of a meeting held with their office bearers. The fact was further substantiated when number of units were visited. According to one office bearer of the Koperasi, there was constant pressure from local authorities to move out of city but the small entrepreneurs found it hard on account of financial problems and thus continues to remain in existing premesis.

12.3 The demand was apparantly quite genuine but subject to further investigation by the local industries department in terms of

- Type of Industry
- No of units in Industry
- Existing area of each unit (built-up/open)
- Proposed area of each unit (built-up/open)
- Price of Land
- Total Cost of Land
- Total Cost of Artisan Shop
- Contribution by Individual or Koperasi.

12.4 On the basis of the above fact a feasibility report could be prepared. There appears to be bright chance for an artisan, village which would be helpful for the future promotion and development of Small Scale Industry. Some of the details in this regard may be as belows :

- Artisan Shop :

Built-up	:	1200 s'q
Open	:	2400 s'q
T o t a l	:	3600 s'q

- Terms and Conditions :

Against full payment	Rebate @ 10%
Against Installments	Advance @ 20%
	Balance @ twenty equal annual installments

Grace period : 3 years from the date of 20% advance

...22/

Arrangements for roads, electricity, water supply, sewerage, telephone etc to be provided by the public sector besides built-up and readily available artisan shops.

- Sectors : The village may be divided into various sectors for each industry viz metal, wood, handi-craft etc.
- Display Shop : A display cum sales shop for marketing products.
- Technology : Production Methods are traditional and obsolete. Individuals are not capable of improving and mechanising on account of shortage of funds for investment unless credit on short terms are available (Proposal for credit facilities) is referred. As such a mini-service centre within the village would be an approriate step in providing necessary services and training facilities.

12.5 In case the proposal is found feasible, the Mini Service Centre could be equiped with necessary machinery and equipment for rendering such services which could improve the quality of the products. As far as product designing is concerned proposed craft development centre would be a source of guidance in this regard.

12.6 A copy of letter No.022/KOP-SU-DNT/1984 dated Kisaran 23 Feb. 1984 from Koperasi Serba Usaha, Kisaran is enclosed for perusal.

(Annex XII)

13. Fair and Exhibitions

13.1 During the period under reference, following fairs/exhibitions were held in North Sumatera :

- Medan Fair at Medan
- Parapat Festival at Parapat

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13.2 In both cases Departemen Perindustrian arranged Industrial Exhibitions. Products manufactured by public and private sector of North Sumatera were displayed. It covered textile, rubber, light engineering, handi crafts etc. These are annual functions and attract both dignitaries and public from all over the country. Advisor assisted the staff of Perindustrian in proper display of products. The needful was done in a manner that it could catch the eyes of visitors. In this context, a copy of letter No. 053/PSP2-IK/VI/84 is available for reference. (Annex XIII)

14. Commodity Development

14.1 On the express request of the Kakanwil, efforts were made to develop and produce the following important items mostly used by the agricultural, plantation and forest departments.

- Cangkul (Hoe)
- Garpu (Fork)
- Kampak (Axe)

14.2 Existing method of production of such items, consisted of different parts which are welded and finally forged together to make it as one piece. Although it is an easy production method, it involves repeated heating for forging before and after welding, there by adversely affecting the inner structure of metal besides risk of invisible cracks, making them hazarous to the users.

14.3 In view of above, these items were developed and produced in one solid piece by forging only. The welding process was discarded altogether. As a result, it avoided all risks and increased the strength of the product,while using almost the same quantity of raw material.

14.4 The samples thus produced were displayed for the benefit of manufacturers in other areas. The method of production involving number of punches and dies were introduced for their guidance.

(Annex XIV,XV,XVI)

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15. Utilization of LIK

15.1 The Small Scale Industry Estate as locally called LIK (Lingkungan Industrial Kecil) is situated at 10,5 Km on the high way towards "Belawan Sea Port " of Medan at a place called Mabar. The details of the estate are as follows:

- Total Area : 7,5 hectars
- Total Capital Cost : Rp. 194,873,000,-
- No of Plots : Ninety
- Built up Shops : Thirty
- Shops Occupied : Eighteen
- Shops Un-Occupied : Twelve
- Reasons for Non- Utilization :

I. Lack of Credit Facilities by Banks
II. Situation of LIK Far-off from Business and commercial area
III. Lack of transport facilities for workers
IV. Additional expenditure for transporting raw materials/ finished goods
V. Lack of other facilities

15.2 UNIDO Expert, due to these circumtances, was requested to assist the Departmen in early occupation of remaining vacant shops by the allottees. In this context, it was suggested that the case with respective banks should be persued to provide credit facilities to the entrepreneurs. In certain cases, where the bankers may not be satisfied with the existing technical justification, the Expert may look into it and do the need full to meet their requirements.

15.3 Consequently, meetings were held and matters were sorted out, with the result that LIK now stands fully colonized with 16 metal units and 14 wood working units.

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16. C.S.F. MABAR

16.1 In the LIK Mabar, a C.S.F. (Common Service Facility Centre) is available. The primary object of this project is to offer necessary services to the Small Industry in and out side the LIK. It has two major shops :

a. Machine Shop

b. Wood Working Shop

The Common Service Facility was not able to meet the desired needs for the following reasons :

- Lack of Administrative Control
- Lack of Qualified/skilled staff
- Lack of Target
- Lack of Funds

Purely on personal initiative, following steps were taken to reactive its activities as far as possible under the existing circumtances:

I. Proper storage of raw materials,scattered all around the shops

II. Cleaning and proper maintenance of machinery and equipment, tools,measuring instruments etc.

III. Training of Operators

IV. Introduction of C.S.F. among the units in LIK to avail facilities for better quality production

16.2 Although, these steps did create some life, the fact remains that this project deserves immediate and complete reorganization to make it effective in the service of industry in North Sumatera and nearby provinces.

16.3 As a result, it has been proposed to develop it as light engineering Development Centre(LEDC),as a regional centre for North Sumatera. There is no such facility in this area which could render the facilities in the field of two basic mother industries viz foundry (ferrous and non Ferrous) and tool and die making, manufacturing of jig and fixtures,moulds etc. For qualitative and quantitative improvement of production by industrial sector, availability of these

... 26/

facilities deserve paramount importance without delay. Proposed centre could also undertake training to ensure regular flow of skilled manpower for the industry which is already facing shortage of personal with these skills. As a matter of fact, local industry has been approaching Bandung in these matters rather than looking upon the nearby C.S.F. because the later is not capable to render necessary facilities/services. A team of foreign experts would be necessary for its re-organization.

17. Hand Tools Development Centre

17.1 Indonesia is primarily an agricultural country which is being rapidly developed not only to become self sufficient but to export its surplus in due course of time. However, it is being achieved with the support of Industrial Sector responsible for the supply of various products such as fertilizers, tractors and their spares, tube well etc. In this context, the sub-sector of Small Scale Industries is also equally contributing to boost-up agro-products by the continuous supply of various tools and implements for day to day use by the farmers. Some of these items are given as follows :

I. All Kinds of Knives
II. All Kind of Axes
III. Different Types of Forks
IV. Different Types of Hoes
V. Different Parts of Tractors, Tube wells
VI. Miscellaneous tools and implements

17.2 However, the fact remains that this sector in itself is still under developed. The methods of production are primitive resulting in sub-standard products. As a result, the public sector prefers to import rather than to use local products. Besides, the quality, the prices of imported items are also said to be competetive.

17.3 In the circumtances, it would be imperative to develop this part of the sector by affording necessary facilities and services besides supply of needed raw materials. It was therefore proposed to

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set-up a development and promotional project under the name and style: Hand Tools Development Centre. It will cater to the requirements of training of the new comers to this field as well as workers presently engaged in this field, to up-grade their knowledge and skill. This centre will thus be equipped with the following equipment :

I. Pneumatic Hammer
II. Eccentric Press
III. Welding Unit
IV. Rivetting Machine
V. Lathes
VI. Shaper
VII. Drilling Machine
VIII. Pedestal Double Ended Grinder
IX. Portable Drill and Grinder
X. Gillotene
XI. Hardening and Tempering Furnace
XII. Forging Furnace with Blower
XIII. Hardness Testing Machine

17.4 As fas as the site of the proposed centre is concerned, it may be important to point out that almost all the sub-districts and their surrounding areas have black smith clusters which are engaged in the production of these items. In the circumstances, it was proposed to set up a pilot project at one of the following locations :

- Siborong-borong (Sub-district - Tarutung Kab. Tapanuli Utara)
- Tana Jawa (Sub-district Simalungun)

17.5 It was also proposed to establish the centre preferably in a rented buiding for the following reasons :

- To avoid capital investment
- To shift the project to other sub-districs after need full has been achieved at a particular location.

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18. Identification of New Products

18.1 There were two major areas which could be assisted in undertaking production of new items :

- Light Engineering Indudtry
- Foundries (Ferrous and non ferrous)

In this context, the capability of the entrepreneurs, available skill and equipment were the main deciding factors. Besides, import substitution was major consideration for identification or selection of new items. Consequently following items were introduced :

- Different Kind/size of Screw Drivers
- Different Kind/size of Pliers
- Different Kind/size of Spanners
- Different Kind/size of Hammers
- Leg Vice for Forgers
- Bench Vice for Fitters
- Tool Grinder
- Power Hack Saw

18.2 Such a step would open new channels of marketing as well as help to gradually restrict imports and save foreign exchange.

19. Transfer of Technology Through Spot Advice

19.1 As earlier discussed, the advice rendered on spot during repeated visits to various units located in sub-districts of North Sumatera, was itself a step towards transfer of technology. This advice simultaneously covered explanation of possible improvements with the available sources as well as by modernization etc. aiming toward improvement of productivity both in quality and quantity. However Details of different steps adopted in this regard have shown desired impact as below :

- Demonstration : In the field of forging, use of dies to ensure uniformity of standard in end products and to avoid excess consumption of raw materials and repeated heating which causes invisible cracks.

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Different processes of heat-treatment of metal viz annealing, normalizing,hardening and tempering, case hardening and carburising, hardness testing-temperature control, quenching medias etc.

To avoid blow holes in ferrous and non-ferrous castings by proper mixture of sand, ramming of moulds, flow of molten materials, ventilation etc.

Designing and manufacturing of jigs for various operations used very often to maintain accuracy and to improve quality. Also to minimize the production cost. Use of tools and dies for regular production.

Seasoning of wood through natural means or otherwise, to avoid warping of furniture as observed in some cases. Proper designing to meet the taste and comforts of the users.

Use of equipment to maximum capacity, to reduce labour cost by proper tools,to avoid vibration and un-necessary load on machinery.

Use of measuring instruments, to maintain accuracy of sizes, such as micrometer,vernier caliper and other gauges.

- Selection of Raw Materials :

A guide for use of various steels in the form of a chart was prepared and distributed among the clusters. It indicated type of steel, analysis, temperatures for forging, annealing hardening,tempering etc, quenching media and its application for various products.

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Mostly scrap odd sizes used and manually reduced (by hammering) to required sizes which still remain un-evan. Rerolling of scrap suggested for better surface and sizes and to reduce labour cost to some extent.

Heat Treatment Chart : A guide in the form of a coloured chart showing different colors at various temperatures both for hardening and tempering of steel was prepared and provided to the entrepreneurs.

Seminars : To up grade the knowledge of the participants both from public and private sectors.

Training : Theoretical and practical training to up grade knowledge and skill of the workers from industry and extension service field staff of Industries Department. The latter are designated as T.P.L.(Tenaga Penyuluhan Lapangan)

Maintenance : Regular repair and maintenance necessary to keep-up the efficiency of the machinery and equipment. Proper record in this regard necessary for guidance.

Service Facilities : All thirty units located in the estate and engaged in metal or wood working were encouraged to avail facilities from the service centre. Similarly the centre was upgraded to an extent it could undertake jobs and serve the industry.

Safety Rules : I. Use of aprons/overalls, gloves, goggles etc necessary for personnal safety resulting in better efficiency.

II. Proper installation of machinery including electrification which is very vital to avoid damage to the equipment and any mishap to the operators.

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19.2 Although there has been encouraging response and appreciation of such activities, this should not end, it must be continued and followed up by local staff.

20. Sub-Contracting

20.1 Number of units were visited in this regard but the response was not favourable. Most of the medium scale units were found to be completely equipped and thereby fully independent in fulfilling their requirements. In some cases, sub-contractors were engaged within the premises, perhaps for direct supervision. From the discussion, it was revealed that sub-contracting is considered to lead to creation of additional competetitors in due course of time, when the industry is already facing tough competition. However, efforts continued in this respect and an entrepreneur could be convinced about the advantages of sub-contracting. There was a scope to start with the manufacturing of the following items which could, of course, be increased in quantity as well as variety if this system proves satisfactory.

Name of the units : M/S P.T. Hari Subur and Sons Medan
Name of the items for sub-contracting :

I. Coupling (4" to 12 Dia) 20 sets/Month
II. Flanges (2" to 10 Dia) 200 nos/Month
III. Keys (¼ to 1"long) 50 nos/Month

The total value of the such items amounted to about Rp. 8900,000 / ($ 8900,00) per month.

20.2 This was of course the first phase of the exercise and it was now important to undertake IInd phase and to find out a suitable small entrepreneurs, capable of sub-contracting work.

20.3 In this context, a meeting was held with Koperasi Pengusaha Pengrajin Industri Logam Medan (Cooperative Society of Metal Working Industry of Medan) and the purpose of sub-contracting was explained with a view to select a suitably equipped unit to manufacture and supply such products.

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20.4 As a result, M/S UD. Industri Bahari Medan was found suitable and selected as a prospective sub-contractor. This unit has the required skilled workers and machinery such as different kinds and sizes of lathes, drilling machines, shaper, power hacksaw, eccentric presses, welding units etc. Besides, the owner M.Bahari Lubis was quite enthusiastic about undertaking of such jobs. As a matter of fact, this unit had already been engaged in the manufacturing of similar items and thereby had enough experience to undertake sub-contracting for works in this line.

20.5 The assignment was accomplished in the last month of experts' contract. As a result, it would be important to continue the follow up by local staff. It is expected that this venture would be successful and in due course of time expand to its maximum capacity. Moreover it would provide guidance for similar cooperation in future between two different sub-sectors viz larger, medium and small industries.

20.6 Besides, activities on sub-contracting, expert visited various sub-districts on explicit request of the department again during the last leg of his stay. Although it was understandable that the department could derive maximum advantage of his presence, it limited the time available for the preparation of this report. In view of above, the advisor had to continue working till the last date of the contract i.e. 8th Oct. 1984. The objectives of these visits were successfully achieved. Visits covered monitoring of advisory services and practical demonstration for manufacturing of plantation tools and their heat treatment etc.

30. EVALUATION

30.1 Although, respectives authorities mentioned below were regularly informed about the activities, through monthly reports, number of meetings were held at Jakarta, to evaluate the work carried out by the Expert.

- Team leader INS/78/078, Jakarta
- CH.Zimmerman, UNIDO-Vienna
- Kakanwil Departemen Perindustrian
- Coordinator PSP2 - IK, Medan

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30.1 Such meetings were held in the month of Feb. and June. 1984 with Director General, Small Industries and his senior staff. All the Experts had an opportunity to give details of their achievements and explain future course of actions. These meetings lasted for a number of days (2 Sessions Daily) and were well attended by the field officers of Department of Industries, directly concerned with the project as well as S.I.D.F.A.- UNDP and team leader of the project INS/78/078. One of the sessions was also presided by Resident Representative, UNDP- Jakarta. Face to face discussions and explanations turned out to be the most appropriate approach to evaluate the activities of the foreign Experts in the field.

30.2 A team consisting of the following visited Medan in July,1984 to evaluate the activities of the Expert. Besides discussion in Medan they visited various units in Medan and in the small industries estate to verify the progress as listed here by the Expert.

- Bernado Jamilla Chief, Evaluation Unit, UNIDO-Vienna
- Akira Uriu Ind.Dev.Officer/PDEB/DPC,UNIDO

30.3 Finally another team visited Medan for a similar purpose during the month of September,1984. The Expert briefed the team about the activities and achievements. The team also visited various units, assisted by the Expert. Following were the members of this team :

- Team Leader INS/78/078, Jakarta
- Project Coordinator, Jakarta
- Chief National Expert, Jakarta

31. CONCLUSION / RECOMMENDATIONS

31.1 The proposals as summarized below need to be implemented at an early opportunity. This would be a very useful step in the development and promotion of small scale industries of this province.

31.2 It is needless to say that to improve productivity both in terms of quality and quantity,certain essential facilities and know-how are important pre-requisites. For instance, in order to maintain

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good quality control, in the field of forging, heat-treatment, designing and manufacturing of tools and dies, jigs/fixture,machining operations both in the case of Metal and wood working, hardness testing etc. Besides service facilities, necessary equipment would also be required. Entrepreneurs are neither capable of equiping their plants with such equipment not it is practicable to make it available to every individual. The answer lies in setting up of Services Centre. In this regard proposal for C.S.F. Siantar is referred.

31.3 Besides the servicing of machinery / equipment, availability of technical know how and use of the right type of raw material is very important for quality production. Lack of working capital is also an obstacle in this regard. The solution lies on the availability of Credit Facilities to the Small Entrepreneurs on easy terms. Proposal for Credit Facilities is referred.

31.4 An other important component is the regular flow of skilled manpower to the industry. In order to over come shortage of such personal, it could be captured by implementing regular training program. In this case training manual is referred.

31.5 Similarly, setting-up of the following projects merits early consideration :

- Craft Development Centre
- Hand Tools Development Centre
- Re-organization of existing C.S.F. Mabar. A team of experts would be needed for the centre as well as the private sector to be posted at Medan.
  - I. Team leader
  - II. Expert for tool designing
  - III. Expert for forging and heat-Treatment
  - IV. Expert for foundry (ferrous / non ferrous)
  - V. Expert for manufacturing tools and dies (Hot and Cold) jigs and fixture, moulds etc.

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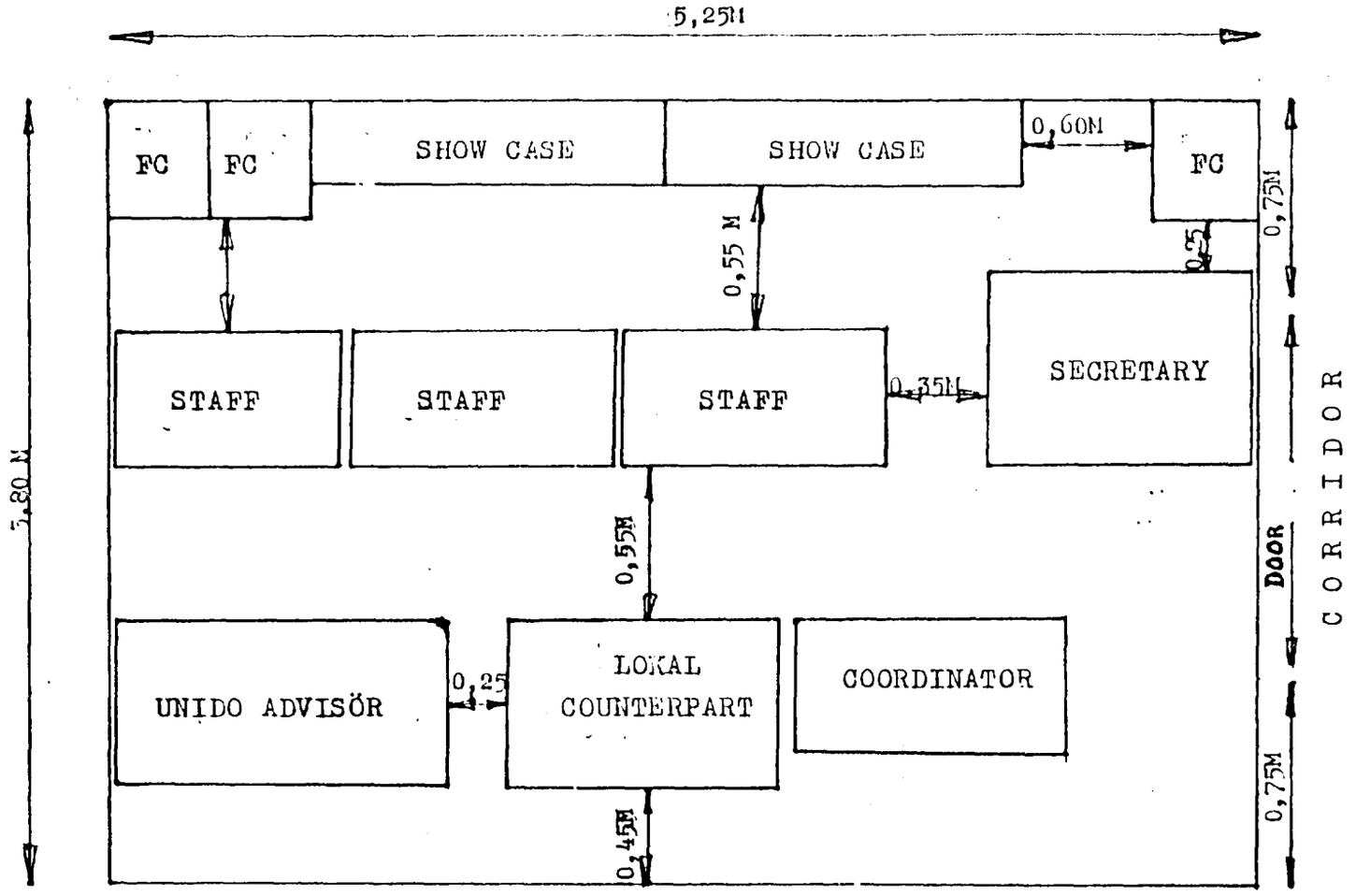
31.6 In the end, it may be pointed out that advisory services (soft-ware) without Capital Assistance, can hardly result in desired impact to achieve the objectives and targets. Necessary sources are needed to be tapped to offer such assistance as Grant-in-Aid for the promotion of Small Scale Industries of North Sumatera.

LAY - OUT PLAN OF PROJECT OFFICE (INS/78/078)



FC = FILE CABINET

DEPARTEMEN PERINDUSTRIAN R.I.

KANTOR WILAYAH PROPINSI
SUMATERA UTARA

Jln. Sultan Iskandar Muda No. 272, Telp. 23536 – 23184 – 515060 Kotak Pos 197

MEDAN

A

Medan, 12th June 1984,

No :050/PSP2-IK/VI/84
Subject. : Annual Leave.-

To :
The Expert Administration,
Personnel Services Section,
UNIDO Vienna International Centre,
P.O. Box 300 A,1400 Vienna,
A U S T R I A.-

Mr. Ashiq Hussain Sheikh, UNIDO Industrial Engineer at Medan has informed me about the expiry of his Contract w.e.f 8th Oct 84. He has further informed that he is required to avail his annual leave with-in contract period, thus leaving Medan for good some-time in the last week of august 84. Mr.Ashiq Hussain Sheikh, has been working very hard for the promotion end development of Small Industries of this province. He has so far visited number of sub-district but he has yet to cover some of the remaining sub-district and offer necessary suggestions.

I am fully satisfied with his performance and therefore request you to extend his contract up to the maximum possible time. In the mean time, he may however be allowed to continue working up to the last date of the present contract (8th Oct 84) and to avail leave there after as we still need him, for his valuable contribution.

Early decision is requested.

Thanking you.-

Your Sincerely,
THE CHIEF OF REGIONAL OFFICE MINISTRY
OF INDUSTRY FOR NORTH SUMATERA PROVINCE,

(DRS. BUHA TAMBUNAN.-)
NIP. 090003116.-

Copy forwarded to the following for information and Necessary action :
1. Mr.Ashiq Hussain Sheikh (UNIDO Industrial Engineer) with ref to his letter dated 9th June 84.
2. Dr.Ram K.Vepa (Team Leader Project INS/78/078) Jakarta.
3. Mr.F.M Iqbal (UNDP) Jl.Thamrin 14,Jakarta.
4. Mr.Zimmerman (UNIDO Vienna International Centre, P.O. Box 300 A 1400 Vienna, Austria.
5. S.P. Siregar Koordinator Project PSP2-IK

DEPARTEMEN PERINDUSTRIAN R.I.

KANTOR WILAYAH PROPINSI
SUMATERA UTARA

Jln. Sultan Iskandar Muda No. 272, Telp. 23536 – 23184 – 515060 Kotak Pos 197

M E D A N

Medan, 31st August, 1984.

No. : 089/PSP2-IK/SU/IX/84

Subject : Annual Leave .-

To :

The Expert Administration
Personnal Services Section
UNIDO Vienna International Centre
P.O. Box 300 A-1400 Vienna
A u s t r i a

Please refer to your cable No. : 60217 in favour of Mr. A.H. Sheikh, UNIDO-Industrial Engineer. As mentioned in my previous letter No.: 050/PSP2-IK/VI/84, The Department would like the Expert to continue his assignment till 8th October, 1984 to finish certain tasks.

I am pleased to inform that Mr. Sheikh continues to work hard on his assignment with motivation and interest, to my entire satisfaction.

Although, Mr. Sheikh had already agreed to remain here fully engaged till last date of his contract i.e. 8th October, 1984, without availing any leave but I wish he could stay longer and further assist the dept in the completion of these tasks where he has already contributed.

He has established his image in the Small Industries sub-sector of this region by rendering usefull services through practical demontration to great appreciation of respective entrepreneurs.

I wish him all success in future and do hope that we may meet again and work together.

Your Sincerely,
THE CHIEF OF REGIONAL OFFICE MINISTRY
OF INDUSTRY FOR NORTH SUMATRA, PROVINCE,

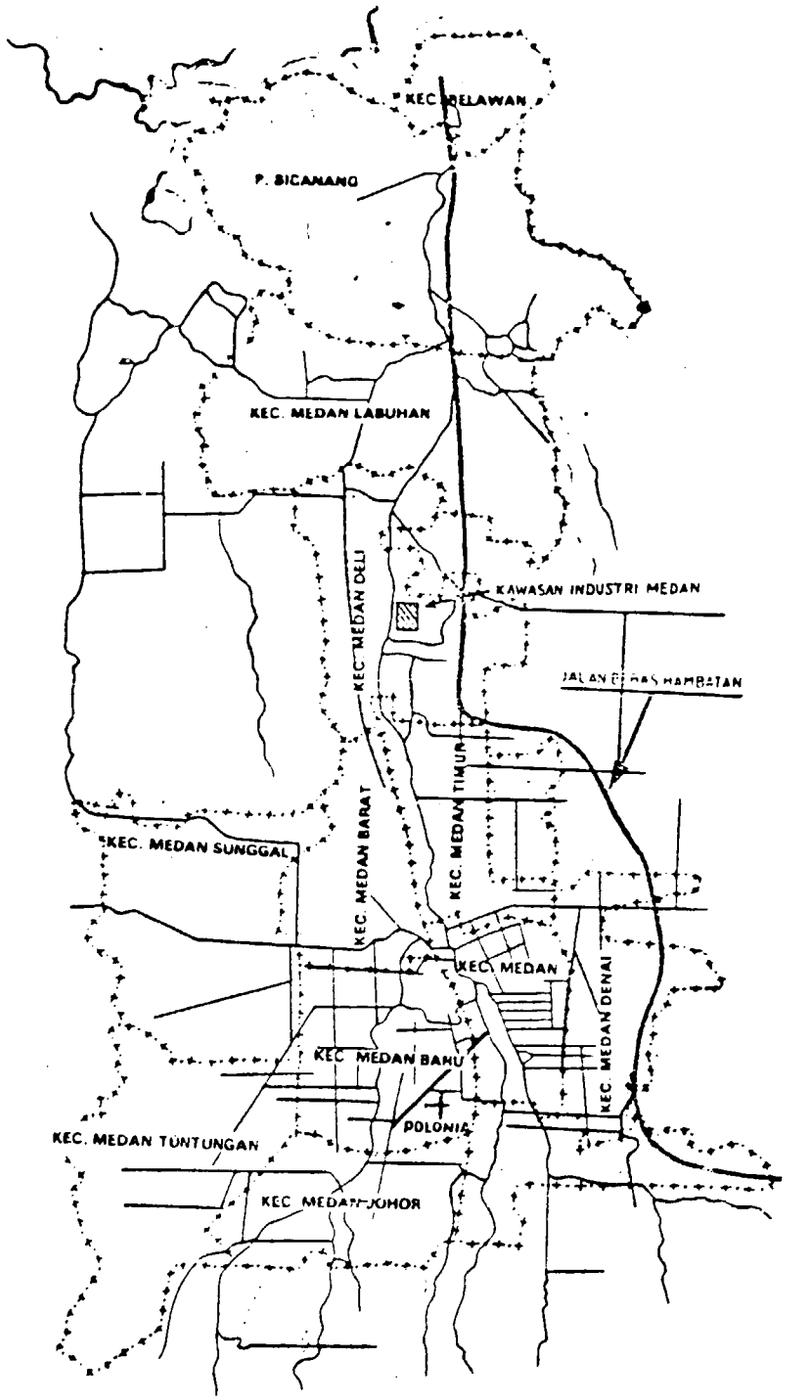
(DRS. BUHA TAMBUNAN)
NIP. : 090003116 .-

Copy forwarded to the following :

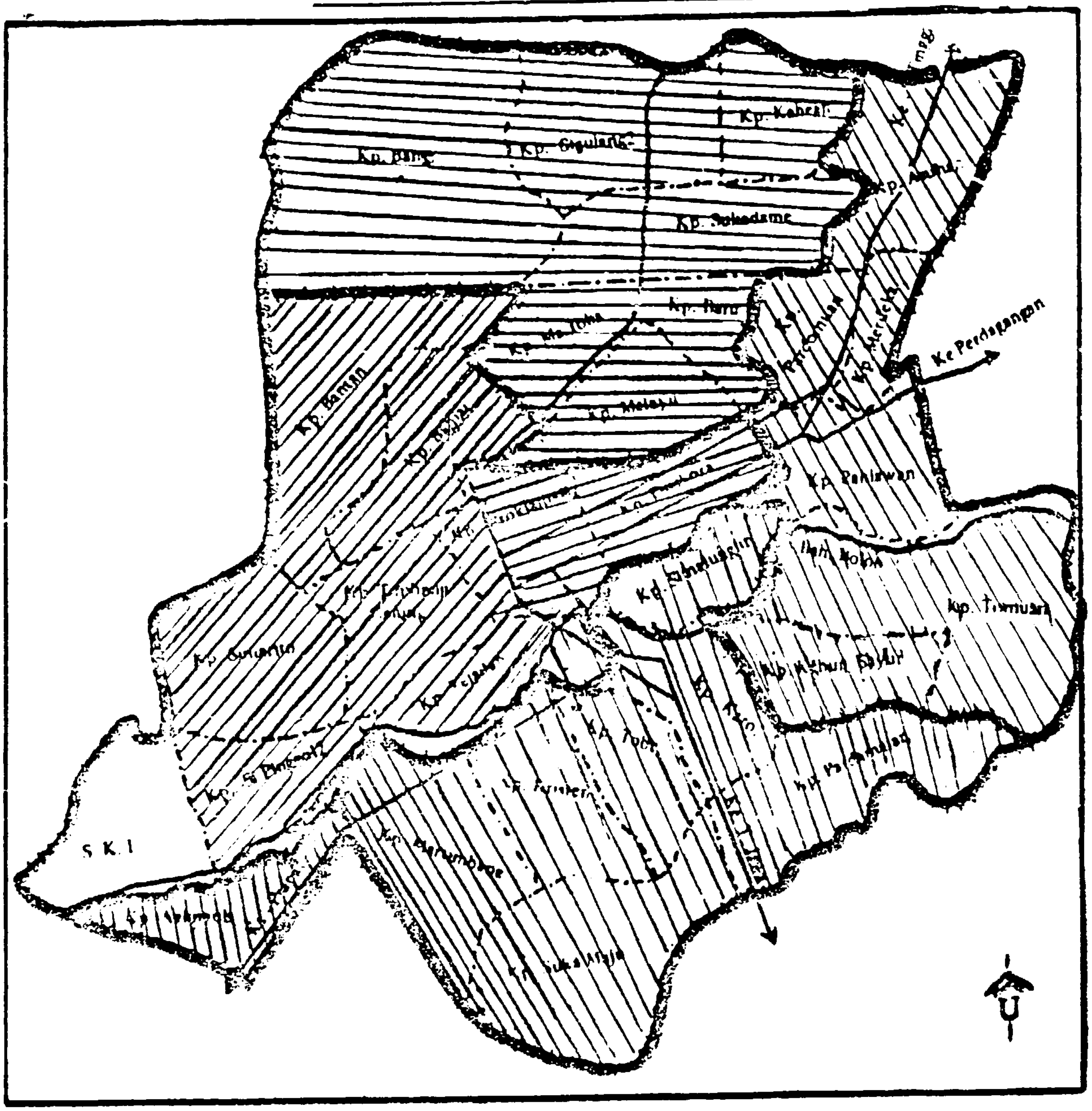
1. Resident Represent-UNDP, Jakarta.
2. Dr. Ram K.Vepa, UNIDO Team Leader, Jakarta.
3. CH. Zimmerman, UNIDO Vienna.
4. A.H. Sheikh, UNIDO Advisor, Medan.
5. Coordinator Project PSP2-IK, North Sumatra.
6. F i l e ..


U
LANGKAT
SELAT SUMATERA
TANAH
DAIRI
SAMUDERA
INDONESIA
GUNUNG SITOLI
TAPANULI SELATAN
SUMATERA BARAT
PULAU PULAU BATU

KOTA MADYA MEDAN



PETA KOTAMADYA PEMATANG SIANTAR.-



Keterangan

Batas Kota
Batas Desa
Jalan Raya
Sungai
: Batas Kecamatan
: Kec. Siantar Barat
: Kec. Siantar Timur
: Kec. Siantar Utara
: Kec. Siantar Selatan

DEPARTEMEN PERINDUSTRIAN R.I.

ANNEX : VI.

DIREKTORAT JENDERAL INDUSTRI KECIL

PROYEK PENINGKATAN SARANA PEMBINAAN DAN

PENGEMBANGAN INDUSTRI KECIL KHUSUS GOLONGAN EKONOMI LEMAH

WILAYAH PROPINSI SUMATERA UTARA DAN DAERAH ISTIMEWA ACEH

Jln. Sultan Iskandar Muda 272 Telp. 515060

MEDAN

Nomor : 040/PSP2-IK/IV/84.

Lamp. :

Perihal :

Medan, 9 April 19..

Kepada Yth. :

Dear Mr. Sheikh,

Ever since your assignment as UNIDO-ADVISOR to Departemen Perindustrian Propinsi Sumatera Utara, Medan, I have the pleasure to closly study your proposals and recommendations in regard to the Small Industries of this region.

I am indeed quite happy and satisfied with your activities and advice for the development and promotion of Small Industries of different sub-districts so for visited by you. Similarly your proposal for C.S.F Siantar is commendable. Let me assure you that when this project is on the ground, it will be a pride for Departemen Perindustrian Sumatera Utara and ever-lasting memory for your valuable contribution in this country.

Your cooperation with the under signed and Staff is also highly appreciated. We look forward to continue with the same spirit in future.

With best regards.

Your Sincerely,

(S.P. Siregar)

NIP. 090001322.

Mr.Ashiq Hussain Sheikh
(UNIDO-ADVISOR)
Project INS/78/078, Medan.-

DEPARTEMEN PERINDUSTRIAN R. I.
DIREKTORAT JENDERAL INDUSTRI KECIL
PROYEK BIMBINGAN DAN PENGEMBANGAN INDUSTRI KECIL
KHUSUS GOLONGAN EKONOMI LEMAH (BIPIK)
PROPINSI SUMATERA UTARA
Jln. Sultan Iskandar Muda 272 Telp. 23537 – Medan

Type :

Nomor : 3001/BIPIK/SU/IV/84

Lamp :

Perihal :

Medan, 9

Kepada Yth. :

Dear Mr. Sheikh,

I am pleased to offer my most sincere gratitudes for the preparation and precentation of Training Manual " For the Training of Small Intrepreneurs as well as TPL's" to the Departemen Perindustrian, Republik Indonesia Propinsi Sumatera Utara.

It is indeed a most comprehensive document and guide with all details as may be required in day to day production. You have therefore rightly named it as " Technicians Ready - Reckner".

Your personal Supervision and interest for conducting the Job-Training at UST Labar is also highly appreciated.

Please accept my hearty-congratulations in this regard as well as appreciation for your proposals in regard to the development of Small Industry of this Region-received from time to time which are also being well considered.

With kind regards.

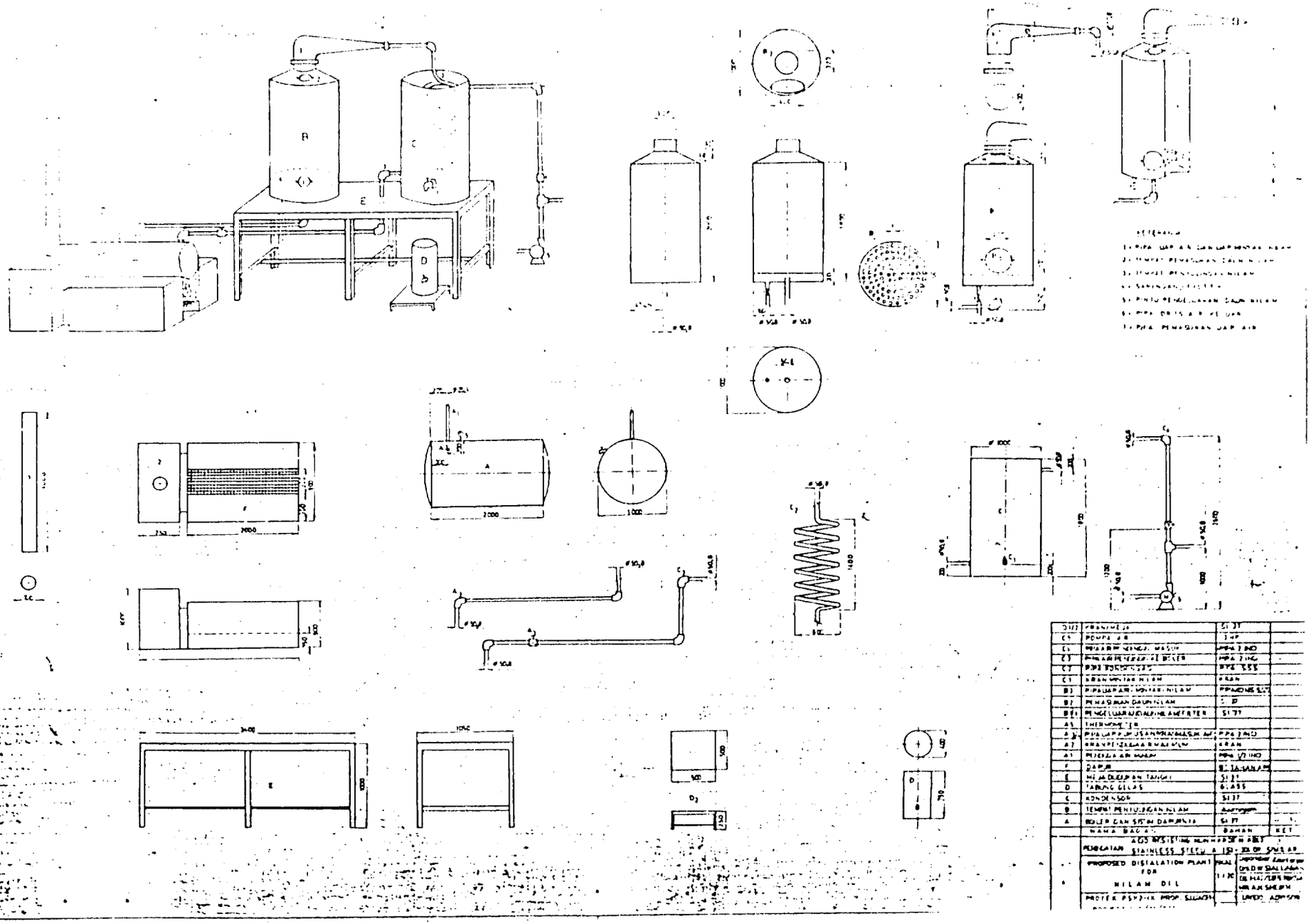
Yours Sincerely,
Kimpro BIPIK Sumatera Utara

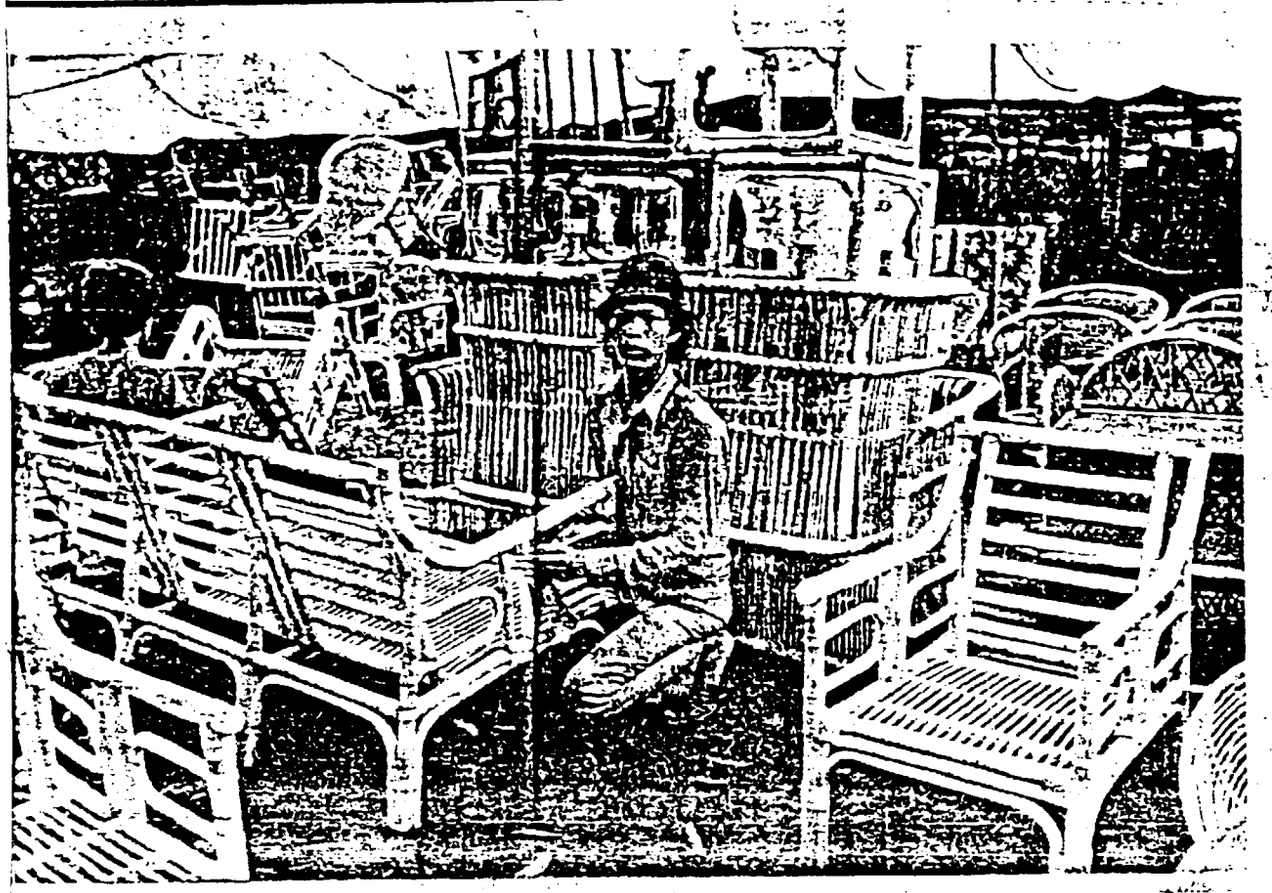
(M a s i d o)
NIP. 060002121.-

Mr. Abhiq Hussain Sheikh
(UNIDO-ADVISOR)
Project INS/78/078
Medan. Sumatera Utara.

NILAM OIL PLANT

ANNEX VIII





RATTAN WORKING: Indonesia has still to learn much of making good-quality and well-designed rattan furniture to cater for the upper and of the market. *(JP/Syahrir Wahab)*

RI imports rattan goods from the Philippines

JAKARTA (JP): An industry official considers it ironic that major hotels in the country still import rattan furniture from the Philippines, while Indonesia supplies over 85% of the world's rattan.

"This is a challenge for local producers to make good-quality rattan wares," Director General for Small Industries Gito Soewojo said when visiting an exhibition of handicraft in Denpasar, Bali, Monday night.

Mr. Soewojo did not mention the volume of Indonesian imports of rattan furniture but he added that the mere existence of rattan imports was ironic because Indonesia is the world's largest producer of rattan.

The official was quoted by the *Antara* news agency as saying that producers of rattan furniture and wares should always improve the quality of their products and keep up-to-date of market preferences for designs.

Meanwhile, the trade ministry reported that Indonesian exports of rattan goods, including furniture, last year amounted only to 1,792 tons or a mere 2% of the country's total rattan export of 82,967 tons.

About 82% of Indonesia's rattan exports last year consisted of raw and semi-processed materials. Washeed and sulphurized rattan canes, for example, accounted for 46,921 tons or 57% of the total volume, rattan pitch for 22,582 tons (27%) and rattan bark for 11,674 tons (14%).

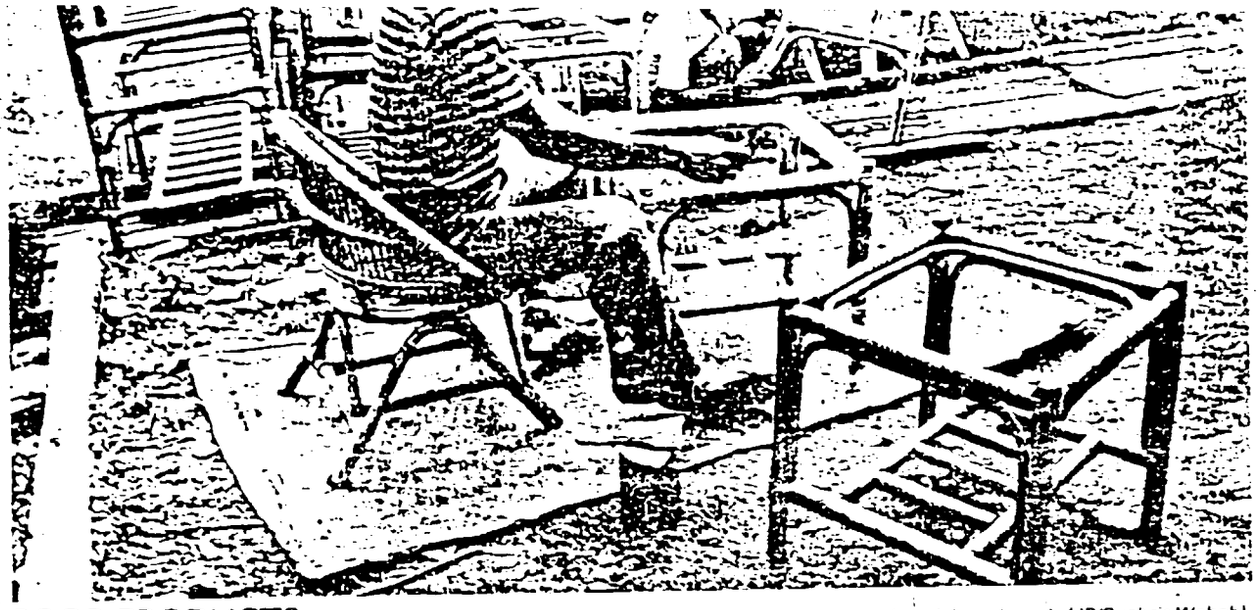
Rattan exports in 1982 totaled 77,266 tons, up from 68,657 tons in 1981.

In a bid to gain more foreign exchange from rattan, the government plans to phase out the export of washed and sulphurized rattan canes within the next three to four years.

Exports this year will be limited to the 1983 level and will be reduced to one-third of the 1984 export volume in 1985, and will be stopped altogether in 1987.

The trade ministry has ruled that rattan can be exported only by registered exporters and that the number of rattan-cane exporters will not be increased.

JAKARTA POST
13Th JUNE 1984



POOR PRODUCTS: These sloppily-designed rattan furniture certainly have no market niches abroad. *(JP/Syahrir Wahab)*

Old problems still hinder Indonesian export drive

JAKARTA (JP): Several members of the recent Indonesian sales mission to the United States generally are optimistic of fulfilling the export contracts concluded during the visit.

What they worry about, though, is their ability to secure more export orders and to meet these contracts properly on a long-term basis, the exporters told the *Kompas* daily.

Fahmy Chatib, manager of PT Mulia Knitting Factory Ltd., said that Indonesian textile companies would face no problems in fulfilling the US$125 million of export contracts signed during the mission's visit to several American cities.

"The problem now is how Indonesia will increase or at least maintain its textile exports at the volume secured under the contracts signed during the recent visit," Mr. Chatib said.

According to this garment manufacturer, Indonesia's textile industry needs retooling to adjust their products to market preferences.

"If our textile companies are not restructured, it will be difficult for them to fulfill domestic orders, let alone export orders," Mr. Chatib observed.

In addition, he added, the perennial problems of high transportation costs and arduous processing of documents at government agencies still hindered exports.

He recalled his bitter experience whereby he had to send T-shirts to the United States by air to catch the summer season sales.

"But when my exports arrived in the United States, the consignment," he complained.

So what is the point of speeding up the export if the goods can not be sold in the importing country due to delays in the issuance of Certificate of Origin, he said.

Unreliable

Sutan Bakrie, director of PT Merawa, a rubber exporter, said that American importers actually are greatly interested in Indonesia's rubber, notably the SIR-20 grade.

"However, they still doubt our ability to be a reliable supplier on a continuous basis," Mr. Bakri added.

He recalled that before the recent mission left for the United States, rubber exporters participating in the mission were asked by local Goodyear executives to supply them with comprehensive data about rubber production potentials, replanting, expansion of rubber estates and other information related to the industry.

"We simply provided them with the meagre data we had. Indeed, we are quite poor with regard to reliable and comprehensive data," he added.

If the U.S. importers' doubts about Indonesia's performance as a reliable rubber supplier are not resolved "we will eventually be edged out from the American markets," the rubber exporter said.

Actually, he said, the Indonesian Rubber Association (*Gapkindo*) should be able to supply comprehensive data about the industry.

"But how could *Gapkindo* function effectively if this organization itself encounters big problem in collecting data from the relevant ministries

He also complained about the high shipping cost from Indonesia to the United States which, according to him, may be 50% more expensive than that from Singapore and 30% higher than that from Malaysia.

Technical services

Gapkindo's Chairman Harry Tanugraha observed that Indonesia lags far behind Malaysia with regard to the promotion of rubber exports.

Malaysia, for example, operates rubber technical advisory service agencies in six cities in the United States alone to provide consumers with up to date technical information about its rubber products. Indonesia does not provide such services at all.

Malaysia, Mr. Tanugraha added, also provides free information about its rubber products to research institutes and universities in the United States.

"This information campaign is quite effective. For example, university graduates who eventually work in rubber-products companies will always remember Malaysian rubber," Mr. Tanugraha said.

Rattan

Sebastian Tanamas, director of CV Tanamas Industry, a rattan-furniture company, told *Kompas* that not much is known in the US about Indonesian as a supplier of rattan furniture.

"Indonesia used to export mostly raw rattan canes to Singapore and Hong Kong which re-export them to the United States as rattan furniture and various other finished goods.

American businessmen, therefore, associated rattan-furniture exports with Singapore, Hong Kong, Taiwan and the Philippines, even though Indonesia is the world's largest supplier of raw rattan.

The government, Mr. Sebastian said, should be consistent with regard to the development of the rattan industry.

"If necessary, we could stop the raw rattan exports."

Mr. Sebastian estimates that Indonesia will be able to earn 300% more foreign exchange from exports of rattan furniture and other finished goods.

HEAT TREATMENT - TEMPERATURE CHART

Lampiran X

F°	HEAT COLORS (warna-warna perlakuan panas)	C°
2500		1371
2400		1316
2300		1260
2200		1204
2100		1149
2000		1098
1900		1038
1800		982
1700		927
1600		871
1500		816
1400		760
1300		704
1200		649
1100		593
1000		538

F°	TEMPER COLORS (Warna-warna temper)	C°
700		371
660		349
620		327
580		304
540		282
500		260
460		238
420		216
380		193

GUIDE FOR USE OF VARIOUS

S.No.	TYPE	ANALYSIS									Forging °C	Annealing °C	Preheat for Hardening °C	Hardening °C
		C	W	Cr	V	Co	Mo	Si	Ni	Mn				
1	HIGH SPEED STEELS	65	14.25	5.25	50	—	—	—	—	—	1200/900	850/900	850/900	1270/1290
		75	18.0	4.25	1.25	—	—	—	—	—	1200/900	850/900	850/900	1280/1300
		78	22.5	4.25	1.0	—	—	—	—	—	1200/900	850/900	850/900	1280/1300
		80	18.25	4.8	1.25	5.0	75	—	—	—	1200/900	850/900	850/900	1290/1310
		82	21.75	4.4	1.5	12.0	—	—	—	—	1200/900	850/900	850/900	1300/1320
		83	6.5	4.2	1.9	—	5.0	—	—	—	1140/850	850/900	800/850	1220/1240
		1.50	6.5	4.75	5.0	8.0	3.0	—	—	—	1120/900	850/900	800/850	1200/1220
2	HOT-WORK STEELS	40	4.25	4.25	2.25	4.25	4.0	—	—	—	1140/900	850/900	800/850	1200
		30	8.5	3.25	2.5	—	—	—	—	—	1140/850	850/900	850/900	1150/1200
		25	8.5	3.0	2.5	—	—	—	2.25	—	1140/850	850/900	850/900	1130/1170
		35	1.55	5.0	2.5	—	1.65	1.0	—	—	1100/900	850/900	750/800	1030
		40	—	5.0	4.5	—	1.4	1.0	—	—	1100/900	850/900	750/800	1000/1020
		50	2.0	1.4	2.0	—	—	8.5	—	—	1100/900	760/780	650/700	900/920
		30	—	1.25	—	—	3.0	—	4.1	—	1100/800	620	650/700	830/850
3	HIGH-CARBON HIGH CHROMIUM STEELS	2.3	—	11.75	2.5	—	—	—	—	—	1100/900	850/900	800/850	960 / 1020
		1.9	—	12.5	2.5	—	—	—	—	—	1100/900	850/900	800/850	1000 / 1020
4	NON SHRINKING TOOL STEELS	90	0.50	0.60	0.20	—	—	—	—	1.25	950/750	760/780,	750/700	780/810
		1.0	—	1.5	2.5	—	—	—	—	—	1000/800	760/780	650/700	820/840
5	SHOCK RESISTING STEELS	50	2.0	1.4	2.0	—	—	8.5	—	—	1100/900	760/780	650/700	900/920
		45	—	5.0	—	—	—	1.2	3.0	7.0	950/800	650	650/700	800/820 / 850/870
6	MOULD STEEL	30	—	1.25	—	—	3.0	—	4.1	—	1100/800	620	650/700	830/850
7	WATER HARDENING CARBON TOOL STEELS	70	—	—	—	—	—	—	—	—	950/700	760	650/700	780/790
		90	—	—	—	—	—	—	—	—	880/700	760	650/700	760/770

SECTION 1

FOR USE OF VARIOUS STEELS

...ging	Annealing	Preheat for Hardening °C	Hardening	Quenching °C	Tempering °C	Hardness	TYPICAL APPLICATION
/900	850/900	850/900	1270/1290	Oil or Salt Bath at 540 560	560	62— 64	Cutting tools, Chasers, Formtools, trimming tools, gear and hob cutters, Drills and taps, milling cutters, lathe tools etc.
900	850/900	850/900	1280/1300	"	560	63— 65	
900	850/900	850/900	1280/1300	"	560	64 66	
900	850/900	850/900	1290/1310	"	560/580	64—66	
/900	850/900	850/900	1300/1320	"	560/580	65— 67	
0 850	850/900	800/850	1220/1240	"	550/560	63—65	
/900	850/900	800/850	1200/1220	"	540	66— 68	
900	850/900	800/850	1200	Oil or Air	550/650	57 45	Die casting dies, hot working dies, hot heading dies, forging dies, drawing dies, blanking dies etc.
850	850/900	850/900	1150/1200	Oil	520/650	48 42	
850	850/900	850/900	1130/1170	"	620/650	48 40	
900	850/900	750/800	1020	Air	550/620	55 62	
900	850/900	750/800	1000/1020	"	550/620	52 40	
900	760/780	650/700	900/920	Oil	450/630	52 40	
800	620	650/700	830/850	Oil or Air	210/620	53 26	
/900	850/900	800/850	960 / 1020	Oil / Air	250/480	61 57	Brick dies, deep drawing dies, pressing dies, die hobs etc.
900	850/900	800/850	1000 / 1020	Oil / Air	250/450	62 60	
/850	760/780,	750/700	780/810	Oil	180/220	64 60	Drill jigs and bushes, drill sockets and sleeves, gauges, knives, cold and hot punches, moulds, cutting dies etc.
800	760/780	650/700	820/840	"		64 60	
900	760/780	650/700	900/920	Oil	230/650	58 38	Black smith tools, centre punches, vice and chuck jaws, wood working tools
800	650	650/700	900/950 / 850/870	Air / Oil	200/220	55 57	
800	620	650/700	830/850	Oil or Air	210/620	53 26	Pressure pads, drop stamping, die holders, mandrels, wedge block etc.
/700	760	650/700	780/790	Water	160°/180° C light straw for C 65 63 or according to purpose		Axes, centre punches, riveting, spoon and fork, hammers, pliers, screw drivers, etc
/700	760	650/700	760/770	Water			

SECTION 2

Zabal Simmat
15 Aug 1984

KOPERASI SERBA USAHA
"DALIHAN NA-TOLU"

BADAN HUKUM : 2844.A. BH/III TGL. 4 - 9 - 1982.

Alamat Kantor : Jalan Imam Bonjol No. 145 Telp. Kisaran

BANKIR : BPDSU Cab. Kisaran

Nomor : 022/Kop.SU-DNT/2.c/II/1984.-
Sifat : -
Lampiran : -
Ikhwal : Mohon bantuan.

Kisaran, 23 Pebruari 1984.-

Kepada yth:-
Bapak ASHIQ HUSSAIN SHEIKH
Unido-Advisor Project For Assistance
To Small Industry Development
d/p.Kanwil/Dinas Perindusterian Prop.
Sumatera Utara
di-
M e d a n.

UNIT-UNIT USAHA

1. Simpan Pinjam
2. Perkreditan Candak Kulak
3. Pertokoan Alat tulis kantor
4. Boring Air Bersih
5. Sablon/Reklame
6. Stensil
7. Konfeksi
8. Penyapu Ijuk
9. Bengkel Motor
10. P a s i r
11. Pandai Besi
12. Tahu & Tempe
13. Pertukangan Kaleng
14. Instalator P.L.N.
15. Biro Administrasi & Jasa
16. Konsumsi
17. Kontraktor
18. Leveransir

Dengan hormat,

Menyambung pembicaraan kita sewaktu Bapak datang berkunjung kekantor Koperasi kami pada tanggal 22 Pebruari 1984 yang didampingi oleh Bapak Drs.D.W.Siallagan dari UNDP/UNIDO PROJECT FOR ASSISTANCE TO SMALL INDUSTRY DEVELOPMENT (INS/78/078) dan Dinas Perindusterian Dati-I Asahan, kami banyak mendapat pengarahan dan bimbingan secara teknis modern dibidang pertukangan besi dikaitkan dengan pembuatan setiap jenis alat2 buatan luar negeri dengan buatan kami sendiri seperti pisau deres, parang babat, enggrek sawit, pisau, gergaji kayu, cangkol,tajak dll yang juga sekaligus menyangkut pemasarannya.-

Dalam kesempatan itu juga kami sangat menghargakan kesediaan Bapak bersama rombongan berkenan turun langsung kelapangan kepertukangan besi kami dimana Bapak dapat melihat langsung pengrajin2 besi kami tersebut mengolah bahan baku besi dijadikan berbagai alat2 keperluan masyarakat, petani dan perkebunan secara tradisionil berbeda dengan yang Bapak harapkan yaitu secara teknologi modern untuk dapat bersaing dengan buatan luar negeri baik tentang mutu maupun harga.-

Sesuai apa yang telah kami sampaikan kepada Bapak baik mengenai hambatan utamanya ialah modal, kemudian lokasi tempat yang tidak terpisah-pisah (tanah seluas ± 1000.M2) dan pemasarannya, yang tidak kurang pentingnya lagi ialah alat2 modern seperti mesin pengukur keras,mesin pelobang (mal), mesin press dll dan kalau mungkin segala jenis mesin2 yang dipergunakan pertukangan besi bagi negara2 maju dalam pengolahan bahan baku besi.-

Kemudian sebagai mengimbangi peranan alat2 yang serba modern kiranya juga dapat dibimbing secara berkesinambungan apakah pendidikannya kepada setiap mereka para pengrajin pandai besi kami tersebut.-

Demikian kami sampaikan kepada Bapak untuk dapat dimaklumi seperlunya yang sebelumnya dalam hal ini atas perhatian dan bantuan Bapak sebelumnya kami haturkan ribuan terima kasih.-

KOPERASI SERBA USAHA "DALIHAN NA-TOLU"

KETUA-I,

(A.HAMID MS)

SEKRETARIS-I,

(ABDUL KHIEF LOEBIS)

Tembusan:-

DEPARTEMEN PERINDUSTRIAN R.I.

DIREKTORAT JENDERAL INDUSTRI KECIL

PROYEK PENINGKATAN SARANA PEMBINAAN DAN

PENGEMBANGAN INDUSTRI KECIL KHUSUS GOLONGAN EKONOMI LEMAH

WILAYAH PROPINSI SUMATERA UTARA DAN DAERAH ISTIMEWA ACEH

Jln. Sultan Iskandar Muda 272 Telp. 515060

M E D A N

Nomor : 053/PSP2-IK/VI/84.

Lamp. : -

Perihal : Exhibits.

Medan,

Kepada Yth. :

Dear Mr. Sheikh,

Departmen Perindustrian, Propinsi Sumatera Utara is arranging an exhibition at Parapat w.e.f 8th to 10th July 1984. I would there fore request you to please assist the staff for proper display of the exhibits as you earlier helped us on the occasion of Medan Fair at Medan. Your presence during these days at Parapat will be highly appreciated.

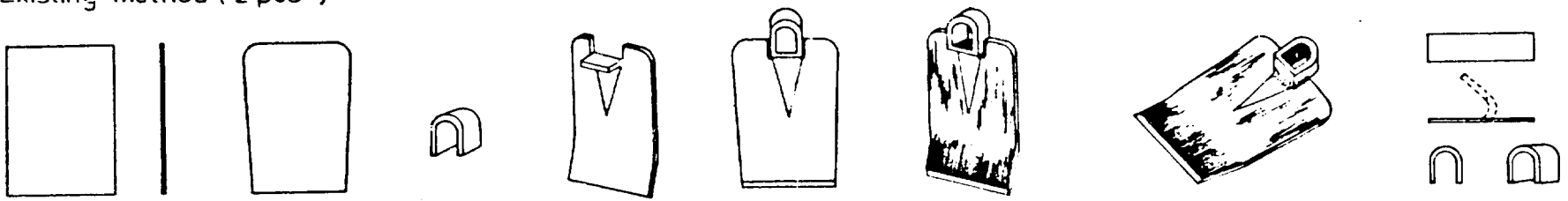
Yours Sincerely,
Proyek PSP2-IK Wil.Propinsi
Sumatera Utara/D.I.Aceh
Koordinator,

(S.P. Siregar).-
NIP. 090007322.-

(Ashiq Hussain Sheikh).-
UNIDO-ADVISOR
Project INS/78/078,Medan.
c/o Departemen Perindustrian
Jl.Sultan Iskandar Muda No.272

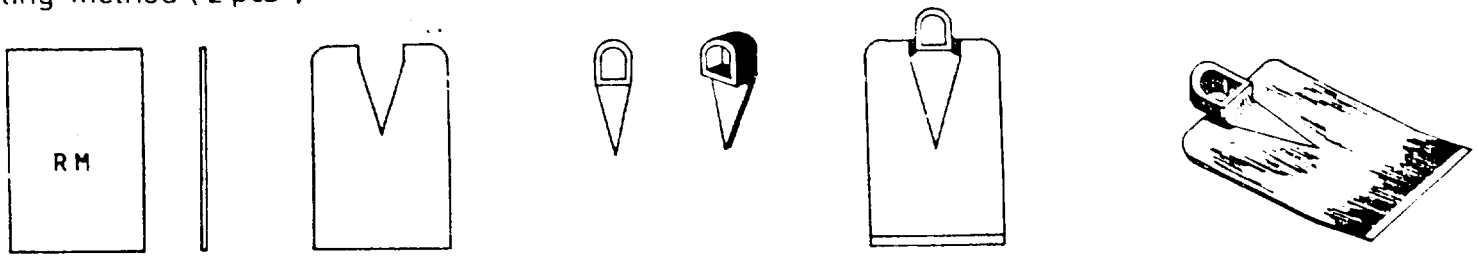
Commodity - Development

1. Existing method (2 pcs)



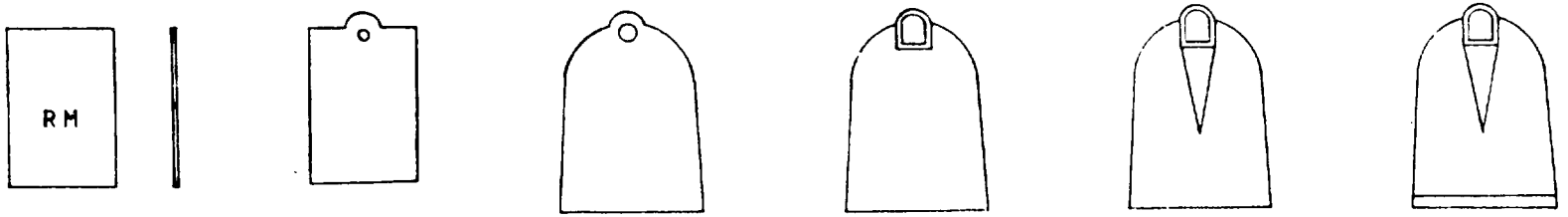
Production steps :
- Forging
- Welding
- Finishing

2. Existing method (2 pcs)



Production steps :
- Forging
- Welding
- Finishing

Developed (One p...e)



Production steps :
- Forging

WITHOUT WELDING

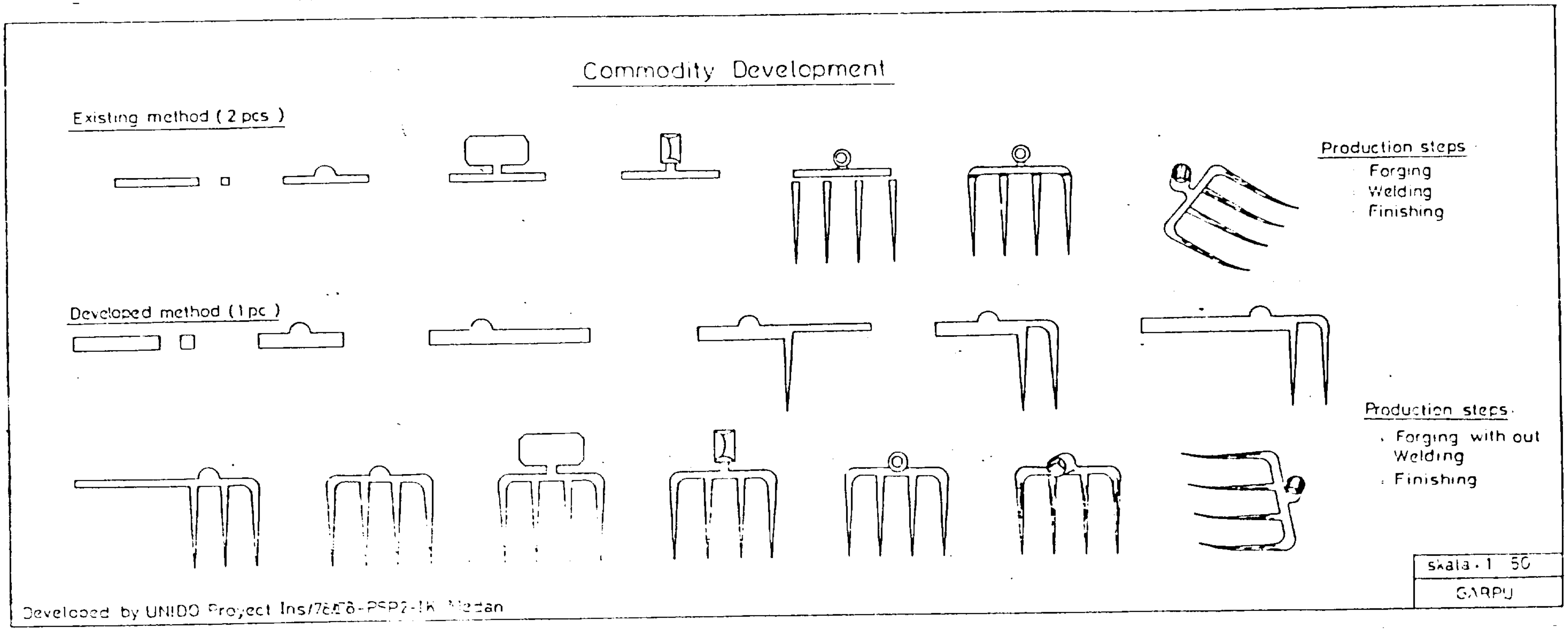
RM : Raw material

skala = 1 : 50

DEVELOPED BY UNIDO PROJECT INS/78/078 - PSP2-IK MEDAN

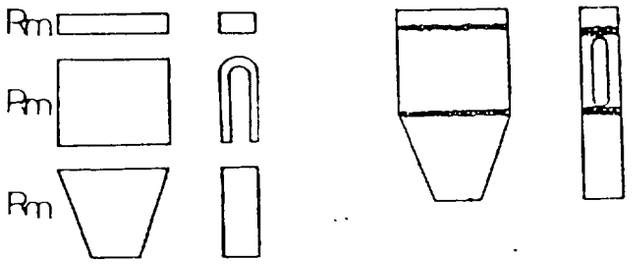
CANGKUL

ANNEX : XV

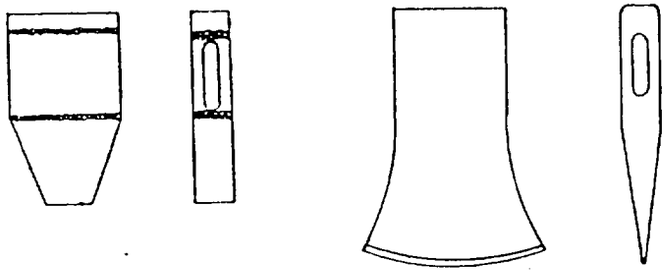

Commodity Development
Existing method (2 pcs)
Production steps
Forging
Welding
Finishing
Developed method (1 pc)
Production steps
Forging with out Welding
Finishing
skala : 1 50
GARPU
Developed by UNIDO Project Ins/78/ô-PSP2-IK Medan

Commodity Development

Existing method (3 pcs)

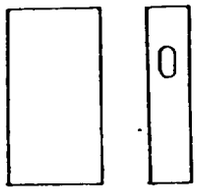


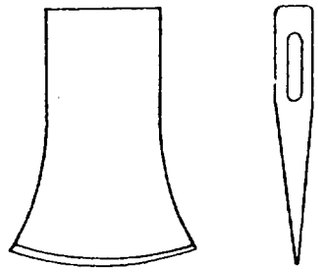
Rm = Raw material



Production steps :
- Forging
- Welding
- Finishing

Developed cone (One pc)





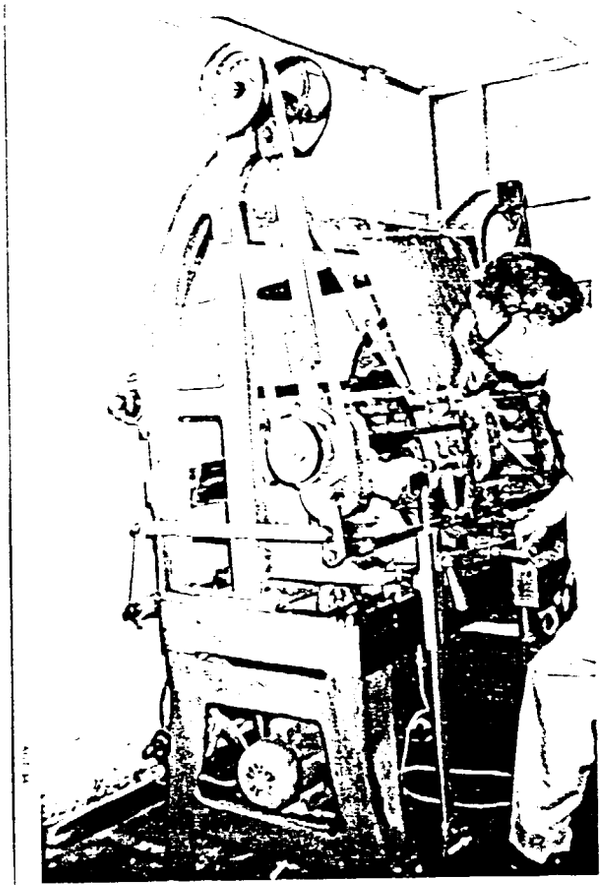
Production steps :
- Forging with out
- Welding

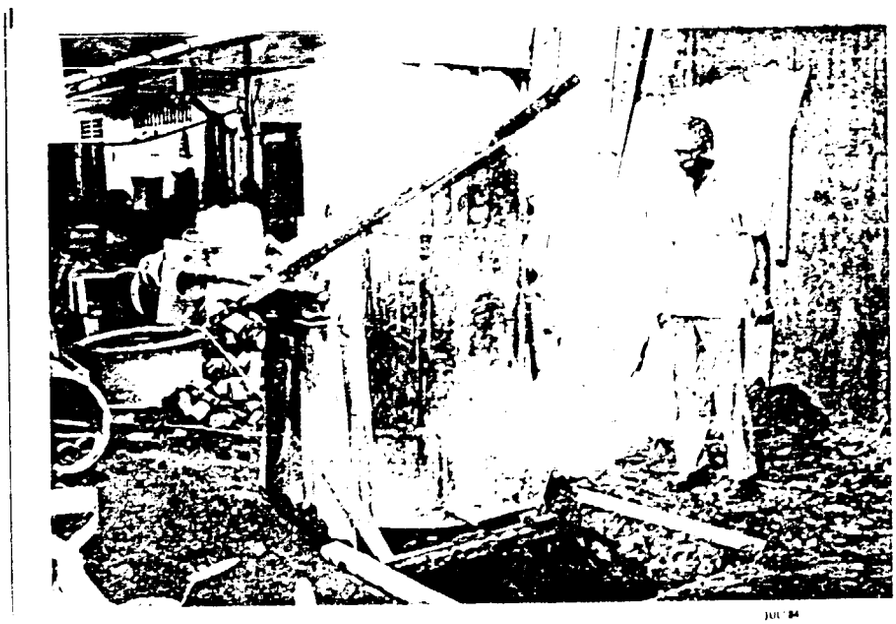
Skala : 1 : 25

KAMPAK

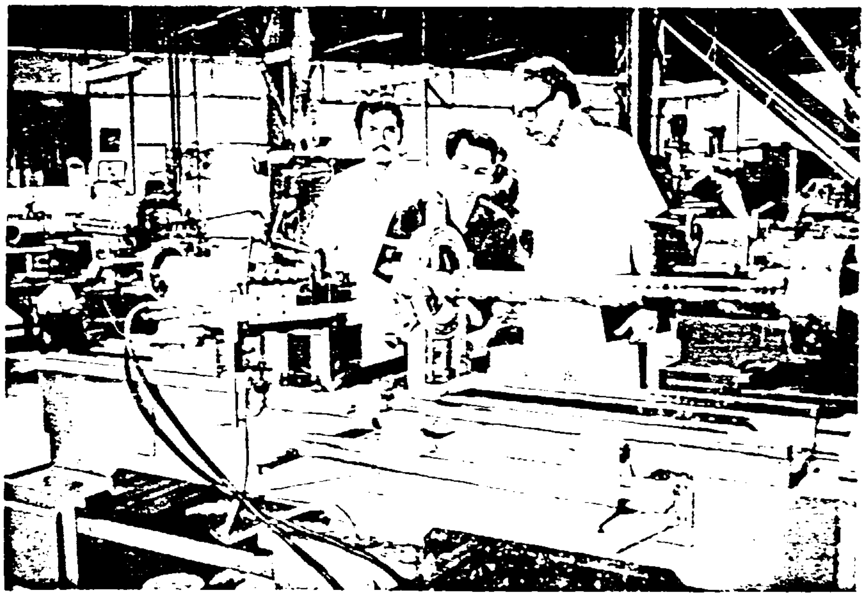
Developed by UNIDO Proyect Ins/78/078-PSP2-IK Medan

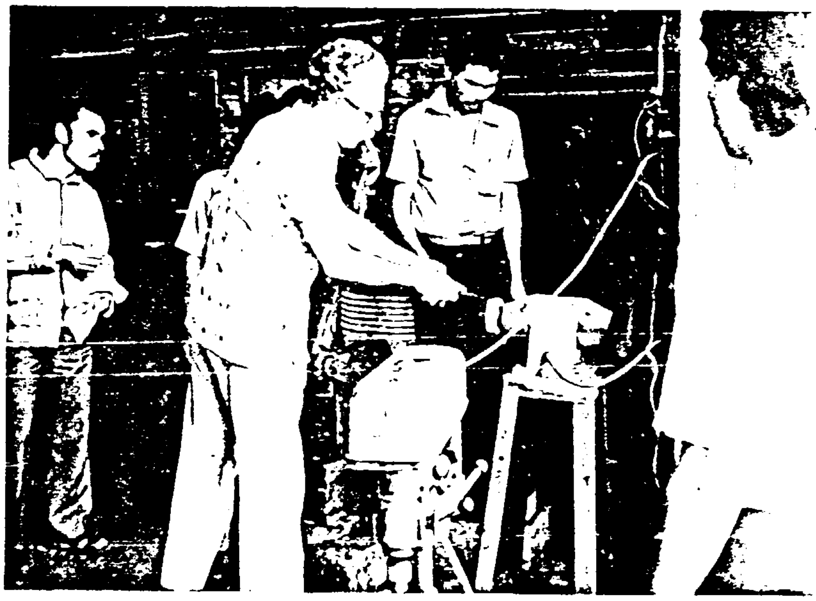
"LIDG-EXIERT ENGAGED IN TRADITIONAL DECORATION AT DIFFERENT
PLACES IN VARIOUS SUB-DISTRICTS OF NORTH SUMATERA.

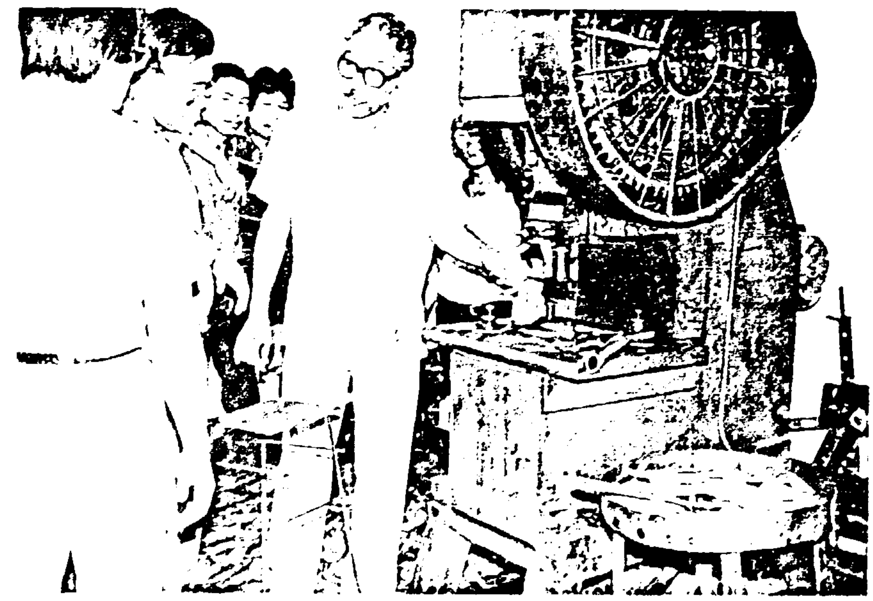




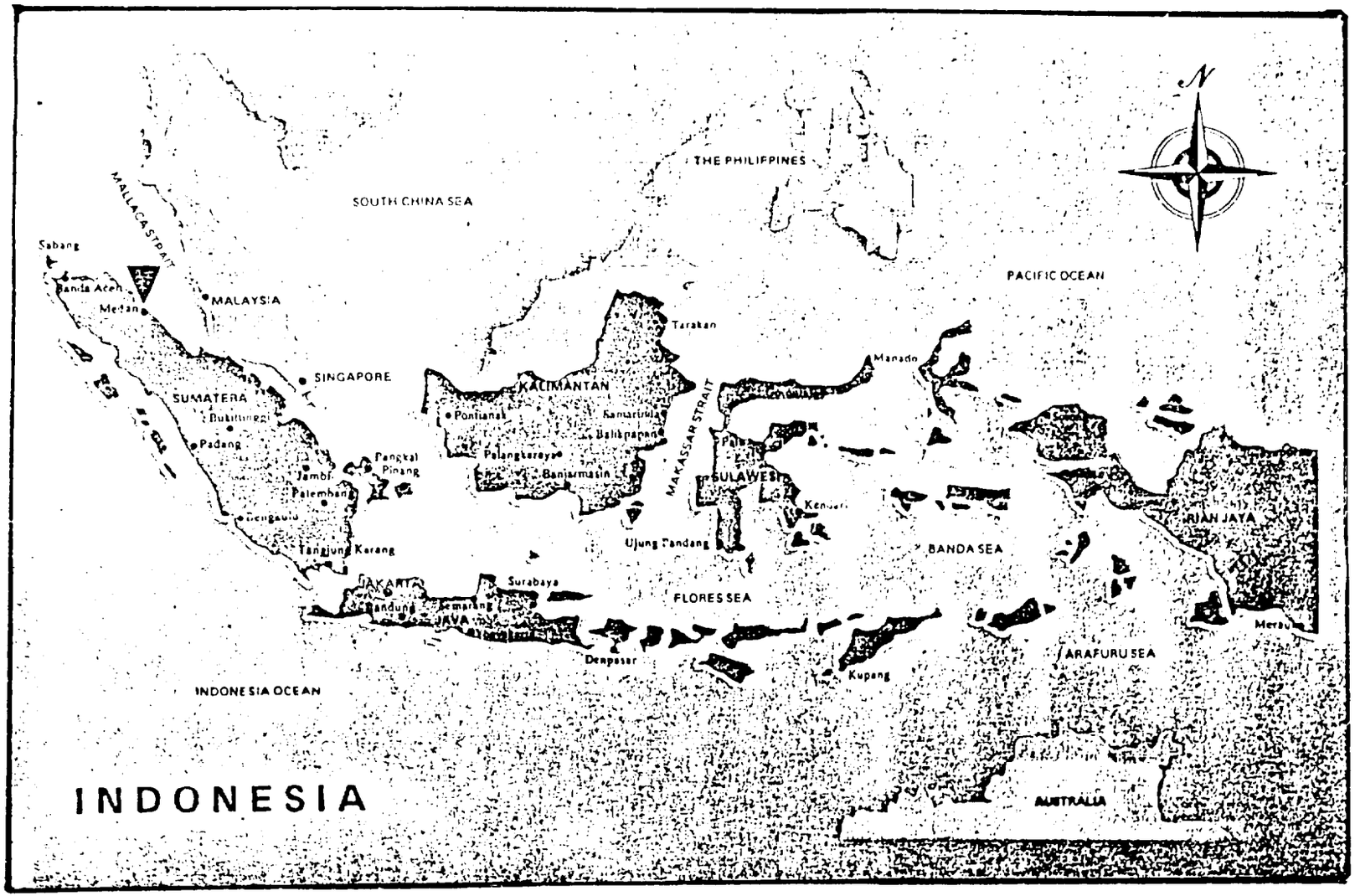
UNIDO-EXPERT ENGAGED IN PRACTICAL DEMONSTRATION AT DIFFERENT UNITS IN VARIOUS SUB-DISTRICTS OF NORTH SUMATERA.







UNIDO-EXPERT ENGAGED IN PRACTICAL DEMONSTRATION AT DIFFERENT [illegible] IN VARIOUS SUB-DISTRICTS OF NORTH SUMATERA.


N
SOUTH CHINA SEA
THE PHILIPPINES
PACIFIC OCEAN
MALLACA STRAIT
Sabang
Banda Aceh
Medan
MALAYSIA
SINGAPORE
SUMATERA
Bukittinggi
Padang
Jambi
Palembang
Pangkal Pinang
Bengkulu
Tanjung Karang
KALIMANTAN
Tarakan
Pontianak
Samarinda
Balikpapan
Palangkaraya
Banjarmasin
MAKASSAR STRAIT
Manado
SULAWESI
Kendari
Ujung Pandang
BANDA SEA
IRIAN JAYA
JAKARTA
Surabaya
Bandung
Semarang
JAVA
FLORES SEA
Denpasar
Kupang
ARAFURU SEA
Merauke
INDONESIA OCEAN
AUSTRALIA
INDONESIA