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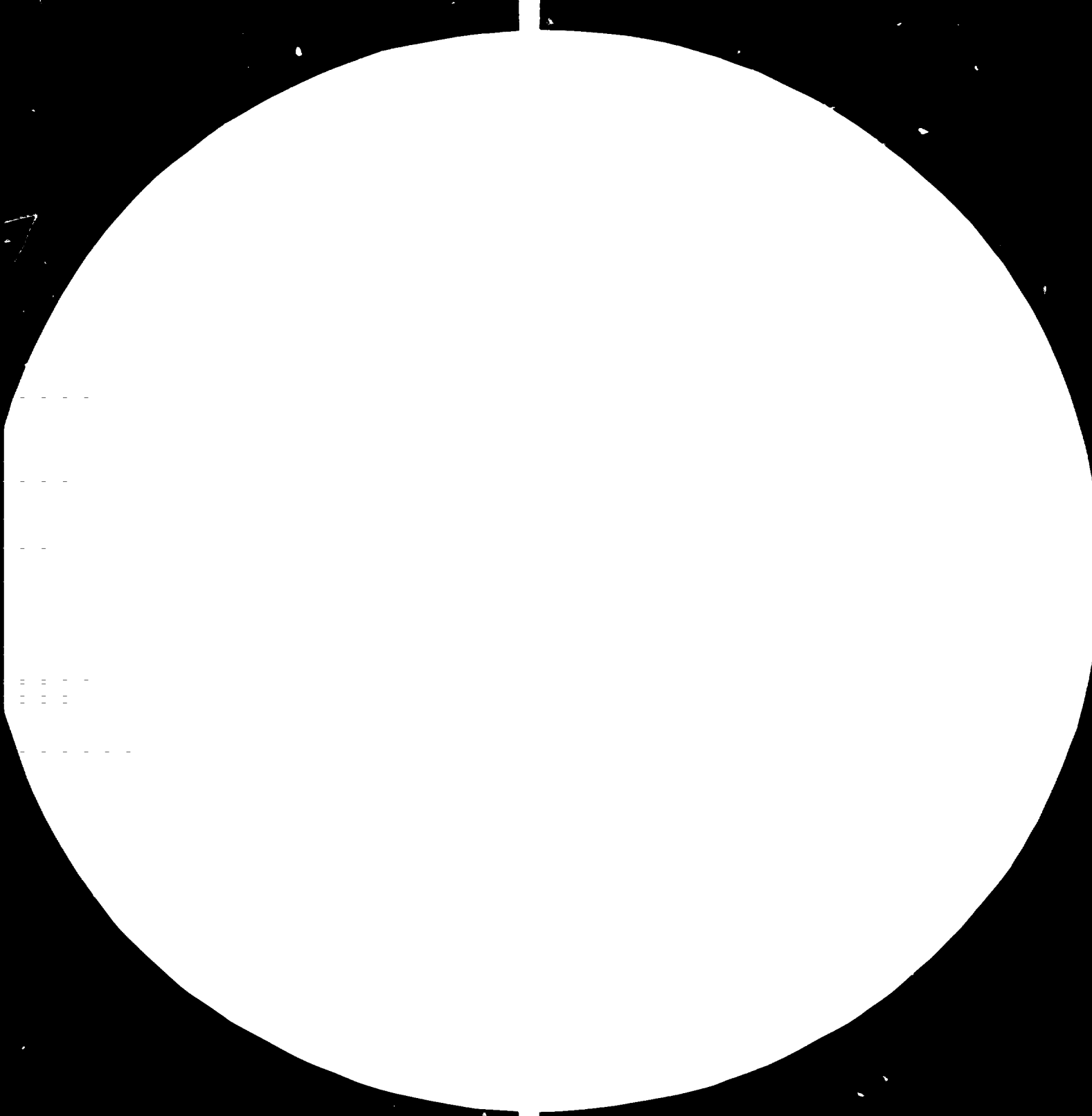
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REVIEW OF LOCAL MANUFACTURING CAPABILITIES FOR SPARE PARTS
AND EQUIPMENT FOR THE OILS AND FATS INDUSTRY
IN THE REPUBLIC OF INDONESIA

US/INT/78/073

Terminal report*

Prepared for the Government of the Republic of Indonesia
by the United Nations Industrial Development Organization

Based on the work of Maurilio Renoldi, oilseed and
vegetable oil processing engineer

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- 2 -

INTRODUCTION

In submitting the final report on his mission in Indonesia, the expert wishes to express his sincere gratitude to:

- (a) Senior officials of the Ministries of Agriculture and Industry of the Republic of Indonesia;
- (b) The Resident Representative and UNIDO colleagues in Indonesia;
- (c) The owners of the factories visited.

The data and statistics presented in the report were obtained from the Ministries of Agriculture and Industry of the Republic of Indonesia.

Wishing a fruitful follow up to the research carried out.

My comments are based on visits in three different locations, namely, (a) Jakarta, (b) Surabaya and (c) Medan, on the two main islands of Java and Sumatra.

The country's situation

Indonesia, with its 150 million inhabitants, has immense food problems, but at the same time enormous potential in the whole field of oilseeds and fruits.

It is rare to find problems of this magnitude paired with potential for solution by the country in the agricultural sphere.

Hitherto, the food supply for the people has been based exclusively on use of coconut and palm oils. There is a complete absence of cultivation of oilseeds (sesame and safflower), for which growing conditions are favourable in the country.

In this connexion, the attention of the authorities should be drawn to the need for a food supply which is more adequate, both quantitatively and qualitatively.

I am attaching statistics on coconut, palm and palm kernel production.

Coconut production

	Small producers	Private sector	State sector	Total
1975	1,380,929	5,545	3,169	1,389,643
1976	1,389,488	4,811	3,253	1,397,552
1977	1,541,996	21,231	3,230	1,566,457
1978	1,577,573	20,952	3,527	1,602,052
1979	1,577,537	20,952	3,527	1,602,016

The data for 1979 are approximate.

Palm production

	Private sector	State sector	Total
1975	126,082	271,171	397,253
1976	144,910	286,096	431,006
1977	120,716	336,224	456,940
1978	165,080	366,871	531,951
1979	165,080	436,720	601,800

The data for 1979 are approximate.

Palm kernel production

	Private sector	State sector	Total
1975	24,058	57,058	81,116
1976	27,071	55,750	82,821
1977	29,351	63,633	92,984
1978	22,357	72,254	94,611
1979	22,357	84,039	106,396

The data for 1979 are approximate.

The figures are given in thousands of tonnes.

The statistics indicate two important facts:

- (a) Coconut production is in the hands of small owners.
- (b) Palm and palm kernel production is in the hands of the State.

Production of crude and refined coconut oil

	Crude oil	Refined oil
1973/74	264,500	28,700
1974/75	265,000	29,400
1975/76	268,400	30,600
1976/77	276,200	32,600
1977/78	276,300	31,300
1978/79	319,100	37,800
1979/80	452,050	47,100

All the islands of the far-flung archipelago are naturally rich in vast coconut and palm groves.

The statistics show what huge amounts are produced, but the oils obtained are of mediocre quality.

If oilseed cultivation were introduced into the country, better oils would be produced and useful exports could be considered.

The climate and soil in the country are favourable for such an undertaking.

LIST OF OIL MILLS IN INDONESIA

SURVEY ON THE INSTALLED CAPACITIES

Province: DKI Jaya

No.	Name of factory	Rated installed capacity	Actual production (tonnes)		Planned production (tonnes)	
			1979	I/80	1979	I/80
A. <u>Factories producing cooking oil, margarine and shortening</u>						
1.	Unilever Indonesia	40,700	23,100	5,240	35,700	8,700
2.	PT. Uvocrine	5,616	680	480	4,640	1,300
3.	PT. Fraksindo Almira	30,000	-	-	-	-
4.	PT. Hasil Kesatuan	19,200	22,850	-	4,050	1,050
5.	PT. Sinar Ancol	18,000	4,690	2,440	12,245	6,000
6.	CV. Cahaya Kalbar	24,000	13,700	5,000	10,800	6,000
7.	PT. Cengkareng Jaya	30,000	-	-	1,575	-
8.	PT. Sumber Deras	3,240	2,400	470	1,700	350
9.	PT. Kedaung Raya	1,800	-	-	3,350	-
10.	PT. Madjuan	24,000	6,036	1,442	2,350	650
11.	PT. Tri Gold Indah	2,160	4,450	1,500	1,450	300
12.	PT. Sanital	2,520	8,400	2,400	1,240	300
13.	PT. Sariwangi	1,080	1,200	300	1,200	300
14.	PT. Barco	3,600	779	294	650	150
15.	PT. Manga Dua	3,240	7,000	1,700	1,240	300
16.	PT. Bambu Mas Indah	2,700	9,000	2,700	1,450	450
17.	PT. Sayang Reulang	86,400	-	-	-	10,500
18.	PT. Unifractum	60,000	-	-	-	-
B. <u>Soap factory</u>						
1.	Unilever Indonesia	33,185	46,886	14,334	-	-

Province: West Java

No.	Name of factory	Rated installed capacity
A.	<u>Factories producing cooking oil, margarine and shortening</u>	
1.	PT. Priscolin Bekasi	30,000
2.	PT. Perwira Muda	10,800
3.	PT. Indosco Utama	9,000
4.	PMK. Samudra	3,600
5.	PT. Cisadane Raya	6,480
B.	<u>Soap factory</u>	
1.	PT. Jaya Makmur Raya	2,220

Actual production
(tonnes)

Planned production
(tonnes)

1979

I/80

1979

I/80

- 1,684
10,800 2,700
21,272 5,542
3,500 900
7,200 2,100

4,950 2,300
1,500 650
12,850 1,750
800 -
5,200 2,400

1,320

330

925

300

1
-1
1

Province: East Java

No.	Name of factory	Rated installed capacity	Actual production (tonnes)		Planned production (tonnes)	
			1979	1980	1979	1980
A. <u>Factories producing cooking oil, margarine and shortening</u>						
1.	PT. Filma	3,000	4,287	920	3,095	1,050
2.	PT. Priscolin, Surabaya	3,240	18,000	4,500	2,900	450
3.	PT. Mulyoredjo Tra d Coy.	108,000	-	-	-	1,000
4.	PT. Kusum Product	15,000	-	-	2,900	1,200
5.	CV. Palma	530	3,000	1,500	2,800	600
B. <u>Soap factory</u>						
1.	PT. Filma Soap	3,120	3,000	830	1,980	495

Province: Middle Java

No.	Name of factory	Rated installed capacity
A.	<u>Factories producing cooking oil, margarine and shortening</u>	
1.	PT. Bonanza Mega	3,000
2.	Kf. Kimia Farma	3,840
3.	PT. Orbo Megar	900
B.	<u>Soap factories</u>	
1.	PT. Pulau Perak	4,500
2.	PT. Bukit Perak	2,750
3.	PT. Hadikusumo Bross	2,063

Actual production
(tonnes)

Planned production
(tonnes)

1979

1980

1979

1980

2,453

437

2,890

750

470

182

950

150

355

-

450

130

420

105

750

150

-

-

1,175

750

565

282

1,600

-

Province: North Sumatra

No.	Name of factory	Rated installed capacity	Actual production (tonnes)		Planned production (tonnes)	
			1979	1980	1979	1980
A. <u>Factories producing cooking margarine and shortening</u>						
1.	PMN. PTP-VI	36,000	12,406	1,240	30,250	6,750
2.	PFR. PNP-VII	60,000	14,188	5,600	51,150	14,400
3.	PT. Sawit Malinda	30,000	14,615	4,150	29,100	7,500
4.	PT. Sumatera Oil	14,000	6,641	1,691	11,950	3,000
5.	PT. Musim Mas	43,200	6,025	2,096	11,870	4,000
6.	PT. Bintang Tenera	18,000	-	-	-	-
7.	PT. Bendungan Jaya	36,000	-	-	3,750	-
8.	PT. Sari Nabati	1,200	325	195	2,500	300
9.	PT. Putri Naga Sakti	24,000	-	-	-	-
10.	CV. Usaha Pembangunan	940	-	-	-	-
B. <u>Soap factories</u>						
1.	KS. Musim Mas	2,400	2,498	1,119	1,625	525
2.	KS. Juli Subur	1,000	1,449	371	640	180
3.	KS. Kunci Mas	3,600	2,520	630	430	120
4.	KS. Deli	160	121	26	65	18
5.	KS. Fajar	720	2,400	600	480	90
6.	PT. Lambang Utama	2,880	-	-	135	300
7.	KS. Irian	1,080	-	-	200	45
8.	KS. Karmas	288	-	-	170	50
9.	KS. Bantan	792	-	-	175	20
10.	KS. Selatan	468	-	-	215	60
11.	KS. Bandung Stabat	288	-	-	120	30
12.	Puskopad I/II BB	2,880	-	-	1,500	505
13.	Puskopol SU	-	-	-	1,190	150
14.	Puskopal Daerah I	-	-	-	565	110
15.	KS. Sinuan Tunas	240	-	-	230	30
16.	KS. Sempurna	-	-	-	150	90
17.	KS. Jampalan Baru	-	-	-	-	30

Province: West Sumatra

No.	Name of factory	Rated installed capacity	Actual production (tonnes)		Planned production (tonnes)	
			1979	1980	1979	1980
A.	<u>Factories producing cooking oil, margarine and shortening</u>	-	-	-	-	-
B.	<u>Soap factories</u>					
1.	PT. Lembah Krya	2,200	998	900	1,000	300
2.	PT. Hadis Didong	550	420	130	380	85

Province: Jambi

B.	<u>Soap factory</u>					
	Misako	144	-	-	-	-

Province: South Sumatra

B.	<u>Soap factories</u>					
1.	Sindang Laut	540	-	-	240	60
2.	Maju	720	-	-	240	60
3.	Himalaya	360	-	-	240	60

Province: Lampung

No.	Name of factory	Rated installed capacity
A	<u>Factories producing cooking oil, margarine and shortening</u>	
1.	CV. Sinar Laut	7,000
2.	PT. Budi Sari Bumi	10,800
B.	<u>Soap factories</u>	
1.	CV. Sinar Laut	7,200
2.	CV. Bumi Waras	7,200
3.	PT. Central	7,800

Actual production (tonnes)		Planned production (tonnes)	
1979	1980	1979	1980
4,800	1,500	1,200	200
-	-	-	-
4,500	1,500	2,400	300
3,240	1,800	2,400	600
4,974	1,950	2,880	720

VISITS TO OIL MILLS

(1) P.T. Sinar Ancol in Jakarta

A good plant which processes 80 tonnes of coconut pulp per 24-hour period.

It comprises:

- (a) Ten small Dutch presses for first and second pressing;
- (b) Bernardini physical refining;
- (c) Bernardini fractionation.

The presses are old, but the refinery is very modern.

The technical management is efficient.

(2) P.T. Sayang Heulang in Jakarta

- (a) Lurgi-Krupp refinery with a capacity of 200 tonnes of oil per 24-hour period. Still in the testing stage.

- (b) Tartiaux fractionation.

Impressive and modern factory.

(3) P.T. Barco in Jakarta

Old Alfa Laval continuous-operation refinery, still in use.

Should be transferred to another location with new machinery.

(4) Ibnoe Hasan in Surabaya

Batch refinery with a capacity of 200 tonnes of oil per 24-hour period.

Good activity, but with a high waste level.

(5) P.T. Kusum Products in Surabaya

New refinery with Indian and Italian (Bernardini) machinery.

Optimum management and good activity.

(6) Sudibio Tanwir in Medan (Sumatra)

Very primitive cocnut pulp mill using no technology.

Capacity: 100 tonnes/24 hours.

Should be completely replaced with new machinery.

(7) P.F.R. P.N.P. in Medan (Sumatra)

Composition:

- (a) De-Smet patented physical refinery;
- (b) Tartiaux fractionation.

Production capacity of 200 tonnes of palm oil per 24-hour period.

Extremely modern equipment representative of splendid patents in the field of palm-oil processing.

(8) P.F.R. P.N.P. in Medan (Sumatra)

Crude oil plant with De-Smet solvent extraction, having a capacity of 200 tonnes of palm pulp per 24-hour period.

Very modern equipment, well managed and efficient - an example in Indonesia for future crude oil plants.

COMMENTS

The vegetable oil (coconut and palm oil) mills in Indonesia have serious shortcomings in connexion with crude oils. A technical and financial effort is required to concentrate the processing of crude oils in modern, comprehensive and efficient industrial units.

It is essential that pre-pressing presses and also modern solvent-extraction plants should be introduced immediately. The reason for this is the ultimate future aim of increasing yields of the products processed.

In the area of refining and fractionation, Indonesia is well equipped, with German, Italian and Belgian installations of real importance.

The Government is making great efforts to meet the requirements of the population with palm oil. In my opinion, however, it would be important to establish cultivation of oilseeds (sesame and safflower), which can be useful and profitable both inside and outside the country. Mexico can serve as an example of such diversification.

Sesame and safflower are crops native to tropical Asia and are already known in the country. Cultivation needs only to be gradually organized.

VISITS TO MECHANICAL WORKSHOPS SPECIALIZING IN
INSTALLATION AND REPAIR WORK

(1) Barata Co. in Surabaya

A mechanical engineering enterprise of Dutch origin, old, with some machines from the Federal Republic of Germany.

Requires financial and technical assistance to enable it to co-operate in future projects.

Also lacks specific experience with respect to new installations.

(2) P.T. Kumala Geni in Surabaya

Obsolete plant with no possibility of co-operating in future installation work.

(3) P.T. Gruno Nasional in Surabaya

Foundry and machine-building shop.

Plant requiring much technical and financial assistance to enable it to co-operate in future.

(4) P.T. Hri Subur in Medan (Sumatra)

Obsolete plant of no interest for our purposes.

(5) P.T. Amindo in Medan (Sumatra)

Plant with optimum technical management, adequately prepared and equipped for our programme. This is the best engineering plant in the whole of Indonesia.

CONSIDERATIONS REGARDING WORKSHOPS IN INDONESIA

The engineering workshops in Indonesia are all lacking in machinery and experience. Only three can be expected to be of use in the distant future:

- (a) Barata Co.: with considerable technical and financial assistance;
- (b) Gruno Nasional: with considerable technical and financial assistance;
- (c) P.T. Amindo: affords more favourable technical conditions, but not yet adequate and complete.

In this connexion, I would suggest the possibility of fruitful collaboration between workshops in Korea and Indonesia. At present, only the Korean workshops have the ability to cope with important engineering tasks. As a first step in southern Asia, Korean workshops should be used. Later on, when the necessary new machinery has been acquired and experience gained, it will be the turn of the Indonesian workshops.

