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TENTATIVE DATA ON MANUFACTURE OF
PLASTIC HOUSEHOLD GOODS AND CONTAINERS 1/

presented by

the Project Promoters

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NOTE

This document consists only of a bare summary of information on the project; it is designed to provide for potential foreign investors no more than a profile upon which to formulate a preliminary assessment of interest in principle. It does NOT pretend to be a complete description or to limit in any way productive discussion, investigation or negotiation between interested parties.

Once they have expressed positive interest, foreign partners normally prefer to be involved in the detailed investigation of the project. The Tunisian National Centre for Industrial Studies as well as UNIDO under its Industrial Investment Promotion Programme will also be pleased to assist both local sponsors and foreign contributors with further elaboration and additional studies as required.

I. NAME OF COMPANY OR PROJECT

MANUFACTURE OF PLASTIC OF VARIOUS GRADE AND CONTAINERS

The project is for the installation of an Injection Moulding Press capable of moulding such various-sized items as bottle necks, wine-bins, fish tanks, buckets, dustbins, accumulator covers, children's baths, etc. based on the following approximate figures:

1. Production

Capacity	200 tonnes of finished products
Labour force	20

2. Investment

Land (6,000 m ² at \$1 per m ²).....	\$ 6,000
Buildings (1,000 m ² at \$60 per m ²).....	\$ 60,000
Plant and Equipment:	
1 Injection Press and accessories	\$38,000
4 Moulds	84,000
Total FOB	\$172,000
C.I.F. charges, installation, technical assistance and customs duties	54,000
Contingencies	18,000
Working capital	50,000
Total cost of investment	<u>\$360,000</u>

3. *Capitalization proposed by Promoters:

Equity capital	\$180,000
Long and medium- term loans	\$180,000
	<u>\$360,000</u>

* To be discussed between the interested parties.

4. Profitability Calculated by Promoter

Annual Sales		
(200 tonnes of finished products)	\$430,000	
Cost of Sales: Fixed	\$0,000	
Variable	<u>290,000</u>	
		\$370,000
Tentative		<u>-----</u>
Gross Profit		<u>\$ 60,000</u>

II. FACTUAL DATA

1. Requested External Contribution

- (a) Financing: Loan finance required for approximately \$220,000.
- (b) Joint venture: Percentage of foreign equity to be negotiated.
- (c) Know-how: Foreign partner to supply know-how.

2. Tunisian Contribution

The promoter of the project is Société Nationale d'Investissement (S.N.I.), the principal investment bank in the country with a capital of \$3,000,000 and more than 30,000 shareholders. S.N.I. retains the option of bringing in a private local investor.

This is a matter for discussion with interested parties.

III. MARKET DATA

1. Present annual consumption of plastic products

(based on imports) 6.15 Kg. per inhabitant 700,000 Kg

(This is only 1/120 of the European consumption of 13 Kg. per inhabitant).

2. The results of a market research amongst the principal importers of plastic containers indicated a consumption of 100,000 articles made up as follows:

Coca-Cola bottle cases	30,000
Wine and mineral water bottle cases	40,000
Fish tanks	10,000
Containers	20,000
	<hr/>
	100,000
	<hr/>

This figure does not represent the total requirement of consumption which is continually rising due to growth both in the industrial and agricultural sectors.

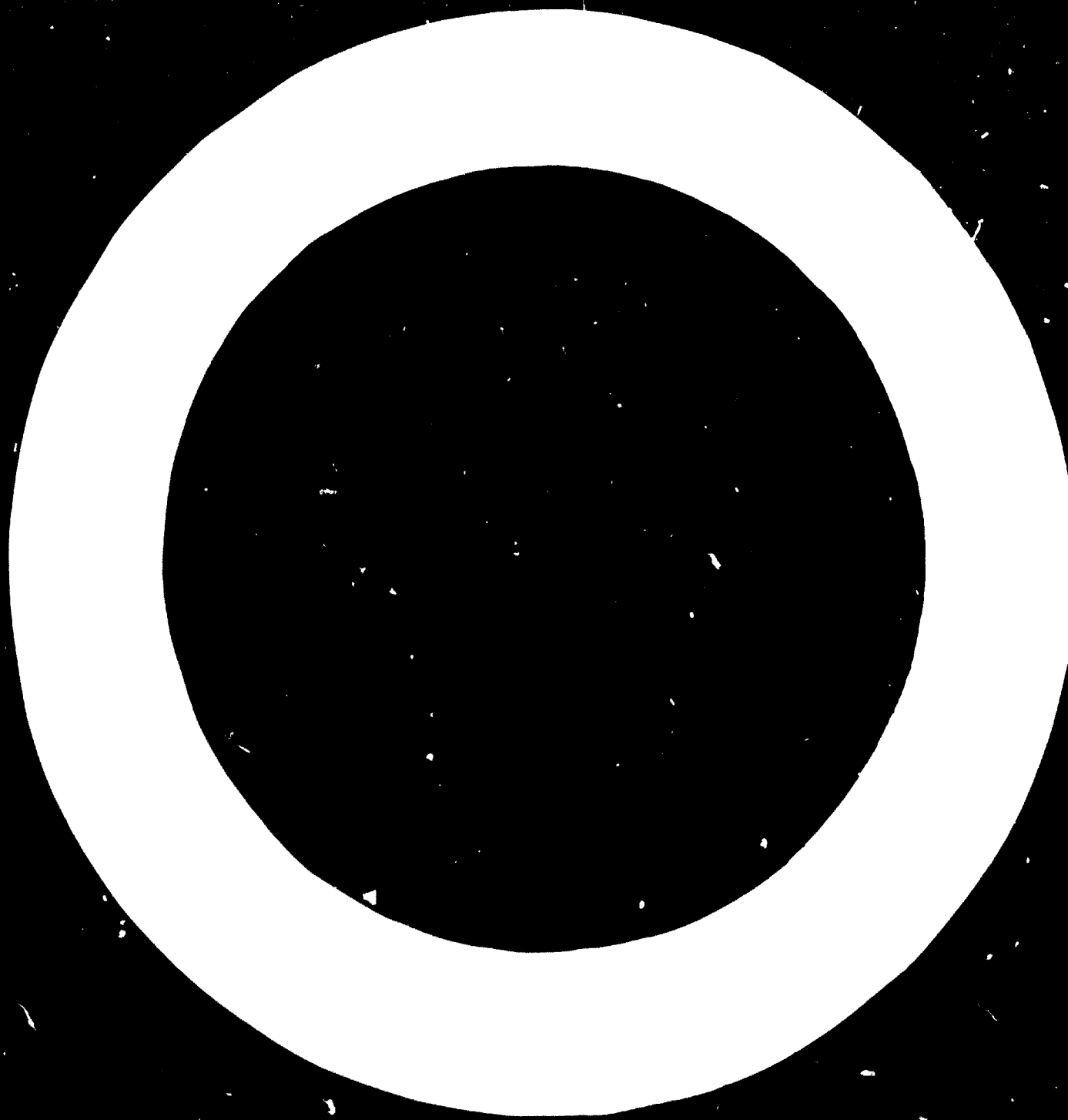
3. Users of wooden containers reckon on a 20 per cent. renewal rate.

This would produce for example a requirement of 20,000 cases for canners based on a population of 220,000 cases, without taking account of the needs of fruit growers, winegrowers and others.

4. In general, plastic articles will gradually replace articles currently produced in imported raw materials (wood, zinc, etc.).

IV. ADDITIONAL INFORMATION

See Note attached.



NOTE ON THE

MANUFACTURE OF PLASTIC ARTICLES AND GOODS AND CONTAINERS
BASED ON INFORMATION PROVIDED BY THE PRODUCER

I. Preamble

1.1 The transformation of plastic material is at the present time handled on an industrial scale by the three following firms:

1. Comptoir National de Plastique handles the injection moulding of various household articles and extrusion in P.V.C. (pipes and polyethylene bags). This firm is limited in injection moulding to a volume in the order of 500 cm³.
2. Plastic - Tunisie. This firm produces essentially footwear (slippers, boots) and household articles of a higher volume than that of the Comptoir National de Plastique (volume injected 1,000 cm³). It has in hand at the present time a programme of equipment for the production of boots which will lead to an eventual production of household articles of 2,000 cm³.
3. Coplacel. This firm produces essentially cases in polyethylene and also possesses an air pressure injection press for the manufacture of feeding bottles.

The production of these three firms is around 500 tonnes.

1.2 The consumption of plastic products on the basis of imports is 0.15 kg per inhabitant per annum.

In European countries the present consumption of plastic products is 18 kg per inhabitant per annum.

1.3 Plastic materials are taking a more and more important place in modern life. The level of consumption of plastic materials being ridiculously small, is bound to develop with the tendency leading to the replacement of traditional materials (wood, metal, etc.) by plastic materials.

- 1.4 The universal tendency towards the use of elastic materials is due to its important characteristics, such as resistance, rigidity and elasticity.
- 1.5 It appears that the existing firms at present are limited by their equipment to specialized production which does not conform to potential needs. Thus, injection is limited to small volumes and extrusion is limited to flexible materials (high-pressure polyethylene and flexible P.V.C.) while the fields of forming and air pressure have not been touched except with rare exceptions (S.F.L.L. - Conlacol).

II. The Project

- 2.1 This project has as its object the manufacture by injection of plastic articles of large dimensions.
- 2.2 The articles planned in the programme of manufacture, that is to say, cases for bottles, fish tanks and packing cases for fruits and vegetables, continue to be imported from abroad.
- 2.3 The idea of creating such a facility corresponds with the development of this sector which continues to grow in industrialized countries.
- 2.4 Furthermore the advantages of plastic articles consist in their extreme lightness, their absence of maintenance, their easy manipulation and their presentation.
- 2.5 It goes without saying that the equipment to be acquired will be suitable for the production of other articles of similar dimensions such as dustbins of 50-75 litres, canvas lined baskets, etc.
- 2.6 The proposed machine is an automatic injection moulding press comprising an injection pot with a piston (or a screw) and a nozzle. The latter communicates with a mould to one or more cavities.

- 2.7 The proposed press can also be adapted to articles produced from the injection of rigid P.V.C. as well as the moulding of rubber mixtures.
- 2.8 It should be pointed out that each article necessitates a mould made of hard stainless or chrome steel and can weigh up to 10 tonnes. The quality of the article depends greatly on that of the mould so that only very accurate tolerances and careful adjustment permit the high quality production.
- 2.9 The purchase of moulds involves heavy investment. However it is proposed in the suggested programme to rent moulds which will permit at the same time a reduction in investment and the manufacture of a wide range of more diversified articles (accumulator tanks, children's baths, buckets, etc.).

III. The Market

- 3.1 It should be noted that most containers and household articles are to a greater and greater extent manufactured out of plastic.
- 3.2 The results of a market research amongst the principal importers of plastic containers indicated a consumption of 100,000 articles made up as follows:

Coca-Cola bottle cases	30,000
Wine and mineral water bottle cases	40,000
Fish tanks	10,000
Containers	20,000
	100,000

This figure does not represent the total requirement of consumption which is continually rising due to growth both in the industrial and agricultural sectors.

3.3 Some of these articles depend on the gradual renewal of their existing output at the rate of 20 per cent. per annum which involves a certain increase in production. For example, canners should have a population of 220,000 cases produced on a renewal programme of 22,000 and this without taking into account the needs of fruit growers, wine growers and others.

3.4 In addition it is planned to put into production other articles such as dustbins, bins, linen buckets, children's baths, sinks, etc., which are more and more in demand.

The use of dustbins is now insisted on by municipal authorities for the maintenance of cleanliness and hygiene. This being so, the marketing of these articles presents no difficulty if the municipalities of the towns pass bye-laws making obligatory the use of elastic dustbins.

3.5 From the point of view of the overall economy, plastic articles will in all cases replace articles at present being produced from imported raw materials (wood, zinc, etc.).





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