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THE PRESENT STATUS AND FUTURE PLANS  
FOR DEVELOPMENT OF THE PLASTICS INDUSTRY IN THE SUDAN  
AND TECHNICAL ASSISTANCE REQUIRED <sup>1/</sup>

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## Introduction

The plastic industry is the one of the most rapidly growing and promising industries in nearly all countries of the world. It is also true for the D.R. of the Sudan where the plastic processing industry is a new development. Plastic articles like, buckets, cups, trays, plates, wash-basin, hollow containers and others which can be produced for domestic and commercial purposes are the main products at present. Moreover, the production of these kinds of articles in the present market very likely proceeds the sale of other products and in general participates in the overall development of the country.

In the other fields such as perfumes, draps, and foodstuff packing, plastic materials are intensively being used to replace the traditional materials of packing. It has also been used in manufacturing the different household utensils, underground pipes for cold water services ( treated with carbon black to reduce heating), strips, shoes, soles for canvas, soles for leather footwear and in many other aspects.

Nature and characteristics of plastic industry in the Sudan like in other developing countries plastic industry had established a good reputation, and the sales power has rising tremendously since the early sixties.

The major plastic raw materials used in the D.R. of the Sudan are:-

HDPE  
LDPE  
PVC  
PP

All of this plastic raw materials are imported and manufactured for the different usages in our daily life. For examples:-

1. HDPE used for the production of the most domestic articles like buckets, cups, trays, wash-basin and hollow containers.
2. LDPE used for production of PE tubular film, underground pipes for use in cold water services, and some of domestic and commercial articles.
3. PVC used for the production of some kinds of shoes, strips, soles for canvas, soles for leather footwear and for some plastic containers.
4. PP used for the production of sacks, soles.

## Methods of Manufacture

In the D.R. of the Sudan there are three methods for the manufacturing of the plastic items:

1. Extension methods
2. Injection moulding methods
3. Blow moulding methods

Each of these manufacturing methods require different type of machines which cannot be utilized in the other types. For example:-

1. Extrusion method is used to produce
  - 1.1. PE tubular films
  - 1.2. Plastic hollow pipes

- 1.3. Underground pipes for cold water services and others.
2. Injection moulding machine for the production of domestic and commercial articles like:
  - 2.1. Buckets ( different volumes )
  - 2.2. Cups
  - 2.3. Trays
  - 2.4. Plates
  - 2.5. Jugs
  - 2.6. Wash-basin, and other similar articles
3. Blow moulding machine is mainly used for the production of hollow containers like

Feeding bottles  
Jerry cans

Mills specialised in converting plastics materials are:-

1. Bata Corporation
2. Blue Nile Plastic Corporation
3. Larco Company for Shoes
4. United Plastic Industry
5. African Company for domestic articles and other small mills for plastic Industry
6. Plastic sakes Company

The imports of PP in the last five years was as follows:-

	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>
PP	-	-	-	-	2500
HDPE	400	1100	1500	1910	2200

The consumption of PVC in the last five years was as follows:

	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>
PVC in tons	120	200	400	1981	2104

(PVC used in slippers production is excluded)

The amount of PVC used in the production of slippers:-

	<u>1970</u>	<u>1971</u>
Foamed PVC in 1000 sheets	1860	2780
Moulded PVC in 1000 sheets	5791	6067

The demand forecast for the forthcoming two years is as follows

	1972	1973
PVC in tons	5326	5859

( Slippers are excluded )

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## Production

The value of local production is reflected by the following table:-

	<u>1968</u>	<u>1969</u>	<u>1970</u>
Production in LS.1000 ( Slippers excluded )	274.1	304.1	303.6
	<u>1970</u>	<u>1981</u>	
Slippers in 1000 pairs	3148	3947	

To indicate potential for expanding indigenous production, statistics for imports of footwear are appended.

The increase in demand for plastic products and their use in the Sudan has encouraged the establishment of new plastic processing factories. This also required an annual increase in the import of plastic raw material from outside of the Sudan. In the near future the converting mills will find it difficult to have a regular supply of raw material. To meet their increasing need for such raw material and I suggest that the big processing factories study the possibility of establishing a factory to produce the plastic raw material itself. This suggestion arises from the fact that there is no such factory in either the Arab or African countries. Government help could be asked in this respect since such a factory requires a big capital and highly technical personnel which can't be supplied by the private sector alone.

The Government will also be interested in sharing the expenses as the plastic material is also considered a strategic material. The raw material for this factory can easily be obtained from the by-products of the refinery in Port Sudan or imported from the Arab oil producing countries.

A new development in plastic industries is the production of mechanical spare-parts to replace the metal parts. Sudan and other African countries is importing many of these spare parts. The climate in the Sudan like many other African countries is hot, which renders the use of such parts highly questionable.

I suggest that a serious study be undertaken to prove the suitability of such spare parts in hot climates.

I believe that the Sudan Industrial Research Institute is competent to carry out this study if UN gives help. The Institute has started a modest study for a limited capacity in this respect.

### Measures for the future development of the plastic Converting Industry

The development of plastic industry in Sudan involves a number of other factors, however, firstly, the industry needs some ancillary materials which are not readily available in the major plastic producing countries and need to be imported. This to some extent vitiates the advantage of the availability of plastic at cheaper prices.

However, as nearly all these material PP, HDPE, LDPE, PVC, and so forth are produced within Europe region, it is suggested that the economic supply of these materials may be arranged by suitable regional cooperative arrangements.

While it is true that in most under-developed countries man-power is generally no problem. There is a great scarcity of trained or skilled personnel. For industrial development, the productivity of labour is important as it affects the ultimate labour cost.

The status and size of the plastic industry in the country has to be assessed in terms of its new plastic consumption in order to conform to the world pattern. In this connexion, it should be pointed out that the present statistical information regarding plastic industries in the various aspects is far from uniform. Consideration should be given to the standardization of nomenclature and terms.

### Conclusion and Recommendation

1. The plastic converting industry in Sudan is relatively under-developed.
2. Concerned measures for the development of this manufacturing industry on a regional basis should be put in hand without delay.
3. For speedy effectiveness, these measures should involve joint venture with industrialised countries.
4. Personnel training especially in technical skills, must form a key part of these ventures.
5. As modernisation involves from technical progress, greater and more co-ordinated efforts in research and the application of research results are imperative.

APPENDIX - Footwear Imports

<u>1967</u>	<u>Quantity</u>	<u>Value</u>
COMMODITY/COUNTRY	Pair	L.S.
Shoes, sandals, boots wholly rubber or plastic or combination		
ITALY	10050	3109
UNITED KINGDOM	658	319
CZECHOSLOVAKIA	795	358
HUNGRY	2800	2377
U.S.A.		147
CHINA PEOPLE REPUBLIC	47340	3080
JAPAN	<u>5480</u>	<u>1373</u>
T O T A L	72123	107663

<u>1968</u>		
Shoes, sandals, boots wholly rubber or plastic or combination for men.		
GERMANY FED. REPUBLIC	25	51
CZECHOSLOVAKIA	6520	3020
ROMANIA	<u>50</u>	<u>37</u>
T O T A L	6595	3108

<u>1968</u>		
Shoes, sandals, boots, wholly rubber or plastic or combination for other		
U.A.R.	2010	2337
CZECHOSLOVAKIA	15715	6682
HUNGRY	16200	906
INDIA	486	348
HONGKONG	1369168	103769
CHINA PEOPLE REPUBLIC	17640	1389
JAPAN	<u>172600</u>	<u>43034</u>
T O T A L	1593819	158865

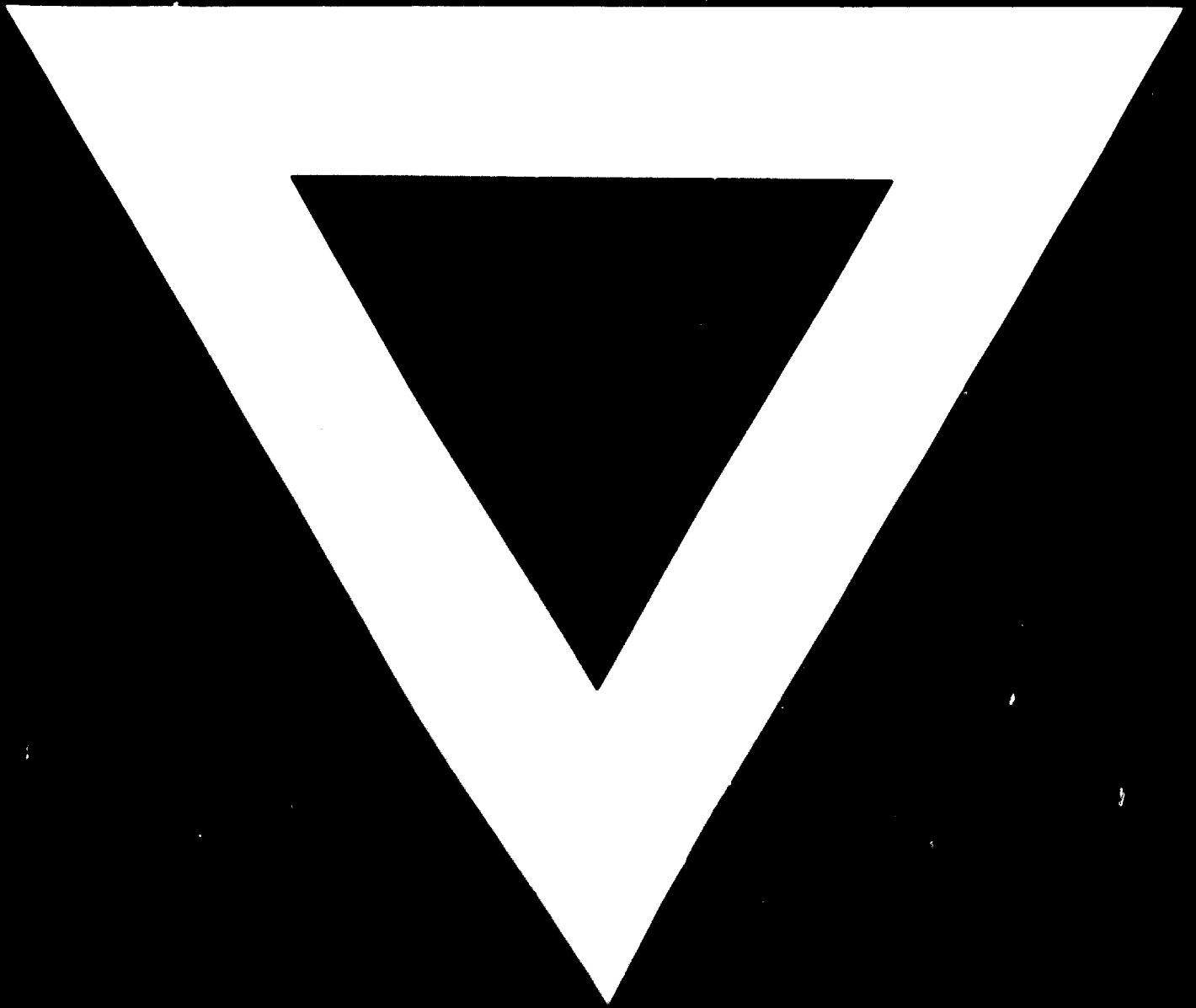
<u>1969</u>		
Shoes, sandals, boots wholly rubber or plastic or combination for men.		
ITALY	182	182
UNITED KINGDOM	1200	1488
CZECHOSLOVAKIA	27270	11344
CHINA PEOPLE REPUBLIC	450	312
JAPAN	<u>100</u>	<u>201</u>
T O T A L	29208	113527

<u>1969</u>		
Shoes, sandals, boots, wholly rubber or plastic or combination for other.		
UNITED KINGDOM		224
CZECHOSLOVAKIA	135556	45193
ROMANIA	4750	2990
INDIA	1000	294
HONG KONG	468684	36166
JAPAN	<u>55098</u>	<u>13658</u>
T O T A L	665090	98525



	<u>units</u>	<u>value</u>
<u>1970</u>		
Shoes, sandals, boots, wholly rubber or plastic or combination for men.		
GERMANY F. R. G.	55	59
ITALY	50	176
UNITED KINGDOM	170	250
HONG KONG	<u>18000</u>	<u>1300</u>
TOTAL	18275	1886
<u>1970</u>		
Shoes, sandals, boots, wholly plastic or combination for other.		
UNITED KINGDOM	<u>X</u>	<u>58</u>
TOTAL	X	600
<u>1971</u>		
Shoes, sandals, boots, wholly plastic or combination for men		
KENYA	<u>60</u>	<u>41</u>
TOTAL	60	41
<u>1967</u>		
COMMONWEALTH Slipper wholly rubber or plastic or combination		
UNITED KINGDOM	41000	11000
<u>1968</u>		
CZECHOSLOVAKIA	17200	2040
HUNGARY	10000	1400
FRANCE	1000	199
INDIA	500	54
HONG KONG	110000	1000
UNITED STATES	400	500
JAPAN	<u>1000</u>	<u>100</u>
TOTAL	118200	7000
<u>1969</u>		
U.S.A.	1107	1041
HONG KONG	<u>1100</u>	<u>100</u>
TOTAL	2207	1141
<u>1970</u>		
	nil	
<u>1971</u>		
	nil	





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