



OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as "developed", "industrialized" and "developing" are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact <u>publications@unido.org</u> for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org



06804

United technical country and organization

 $S = \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R} \\ x \in \mathbb{R} \end{cases} \Rightarrow \begin{cases} 1 & \text{if } x \in \mathbb{R$

Ŋ

Car May

^{*} Surface by the grame . The Cares, while, all regarding

^{1.} The street consequence and ordered in action proper are trained at the author and so that is seen therefore the using on the property of th They be a real from the real report and although Earnet additions.

An institute that one of the pages of the month he had been at the proper of the state of the proper of the state of the s

The Republic of Cingapite of a new developing nation with no natural conservation in the second of the He industry and managed. From the electricity few compared to the well established conditionable curve of Capan, Hong Eong and Taiwan in this part of the world.

After the first textile factory (Singepore Spinner Fte Ltd.) we set up in late 1967 for the production of synthetic yars at the beginning, none other factories angused in the same line soon followed. The textile industry has grown since then.

At present, Singapore has:

- (a) One synthetic fiber factory for the production of Polyamide products.
- (b) Five textile aplication footoniss for the production of yarn, the number of Spindien of their conventional or open-end) they possess in between 170,000 and 100,000. Nost of the yarn produced will have to be exported because weaving factories in Singapore are not an ouraged and there is also lack of weaving looms.
- (c) No less than 20 other big factories are in the production of synthetic texturized yarn, haitted fabric, and man-made garments. The raw materials consumed are mainly synthetic yarn, either Polyemide on Polyemter or both, small quantity of Rayon, acetate and Acrylic.

as a chortage of raw anterials. Hany manufacturers thought that there was going to be a chortage of textile goods and production was stepped up repidly. Unfortunately, there came a blow, the oil crisis coupled with the world-wide inflation cought up with the consumers and the market for textile goods was reduced considerably, leaving the suppliers and manufacturers with a large quantity of stock to dispose of.

In order to solve this problem, they dumped their goods at a very low price and this spoilt the whole market. Hany factories were forced to lay-off part of their workers, reduce the number of working day from six days a week to five days or even four days a week. Although they have been affected to a certain extent by this " hard time ", most of the factories still could withstand the

The situation has improved over the last few months.

Synthetic fiber production

The production of Polyamide products:

Singapore Bylon Corporation Ltd. which was designed, supplied and set up by one of the world's feasous Chemical Engineering Companies (Vicker Zimmer) is the only factory in this region for the production of nylon products from the basic material of enprelactam. This factory, which is a respective \$1972, has continuous polymerisation process, spinning, drawtwisting and texturizing machines for the production of polymmide 6 ships, filament and texturized yarn. The production capacity/4 tons per day at the beginning was increased to 8 tons at the end of 1973. Only 10%-15% of its products is consumed in the local market, the respective of the products is consumed in the local market,

The Present Status

The number of machines employed in the textile industries

(a) False-twisting machines

30 nets in 1973 and 72 sets in this year.

(b) Knitting machines

Circular knitting	450 meta
Flat knitting	30 nets
Warp knitting	21 sets
Sock knitting	130 cets
Glove knitting	100 Gets

(e) Number of spindles in textile spinning factory

Type of material used	No. of spindles
cotton	65,000
V. S. F.	4,000
Tetetron/ Cotton	72,000
Tetetron/ Reyon	16,000
Tetetron/ Wool	7,000
Polynosic/ Cotton	5.000

Labour

Bingapore has become an interestional by word for its rapid economic development over the rand to pyname, a model of political etability, of aonic, discipling and cohe or. To about to had that the labour problem had all been indeed, but it is employed to least in acia. At present, about 13,000 to 14.000 to sole are employed in the textile and synthetic fibre industries; they are remodified, 7% to 8% of the total industrial force; no less than bell of them are residents from the neighbouring country. The Government has already forcers on:

- (A) The control of the distance workers from one factory to another.
- (b) To train more skilled workers.
- (a) To ancrease the workers efficiency of the workers.

Raw Material

The major problems tacked by manufacturers in our country are continuity of supply and stability of prices of the raw materials. The caprolactam used in the synthetic fibre factory is imported from BATM and Japan. Other textile products such as cotton, synthetic varia, acetain, come from Japan, South Korea, Hong Kong, Africa and Japane. Although some contracts have been signed for the scantant supply of these materials, the change in prices of the raw materials in the foreign markets have reflected directly on our manufactured products.

Technology

Many of the manufacturers one foreign technology and know-how in the production since mont of the factories here are joint ventures between Singapore and foreign countries, e.g. the synthetic fibre factory here is built with the technology from West Cormany. Other cources of textile technology are mainly Japan, Taiwan and Hong Kong.

The two main nources of Wechnical Assistance received by Singapore are under the United Nations Development Programme (UNDP) and Colombo plan technical development scheme.

Renearch

Singapore Government have noticed that for its goods to compete in the world market, they must not only be competative in price but also in quality and reliability. To ensure these, Singapore Institute of Standards and Industrial Research (SISIR) was set up in 1967 to encourage its members to set up quality control units in their factories. Apart from the standardisation

and quality control activities, SISIR's Technical Suspending Services such as technical information services, extention and consultancy, industrial research activities, will be expended.

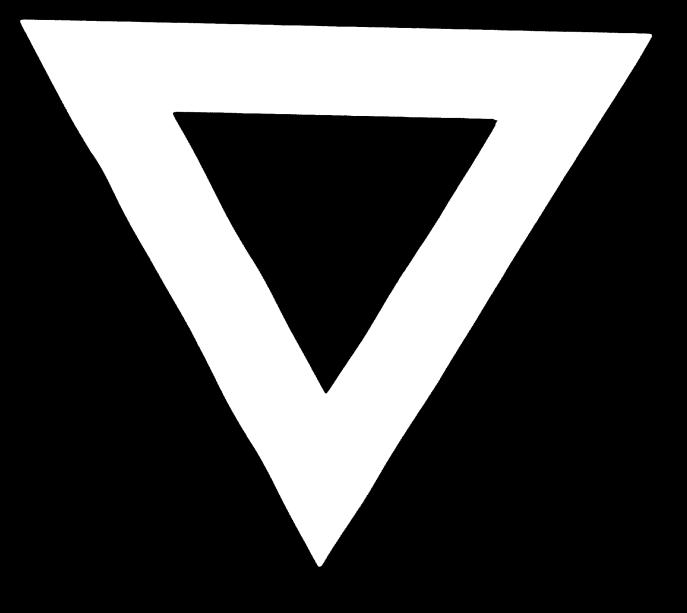
Future Prospect:

Although there are no definite plans for future expansion due to the existing oil crisis, uncortain market conditions and the recession of the world economy. the following facts show that the prospects of the textile industry both in the demostic and export market, especially the small scale industries are indeed very bright.

- (a) Rapid increase in the world population.
- (b) More end uses for synthetic fiber today.
- (e) High standard of living.
- (d) Technologically advanced countries have not discarded their textile industries.

The future trends of development of the textile industries in this region more or less depend on:

- (a) Trohnical and Financial assistance given by well developed mations.
- (b) Mutual co-operation between nations to recover the world economy.
- (e) The co-operation between Government and the private sector.



76.02.03