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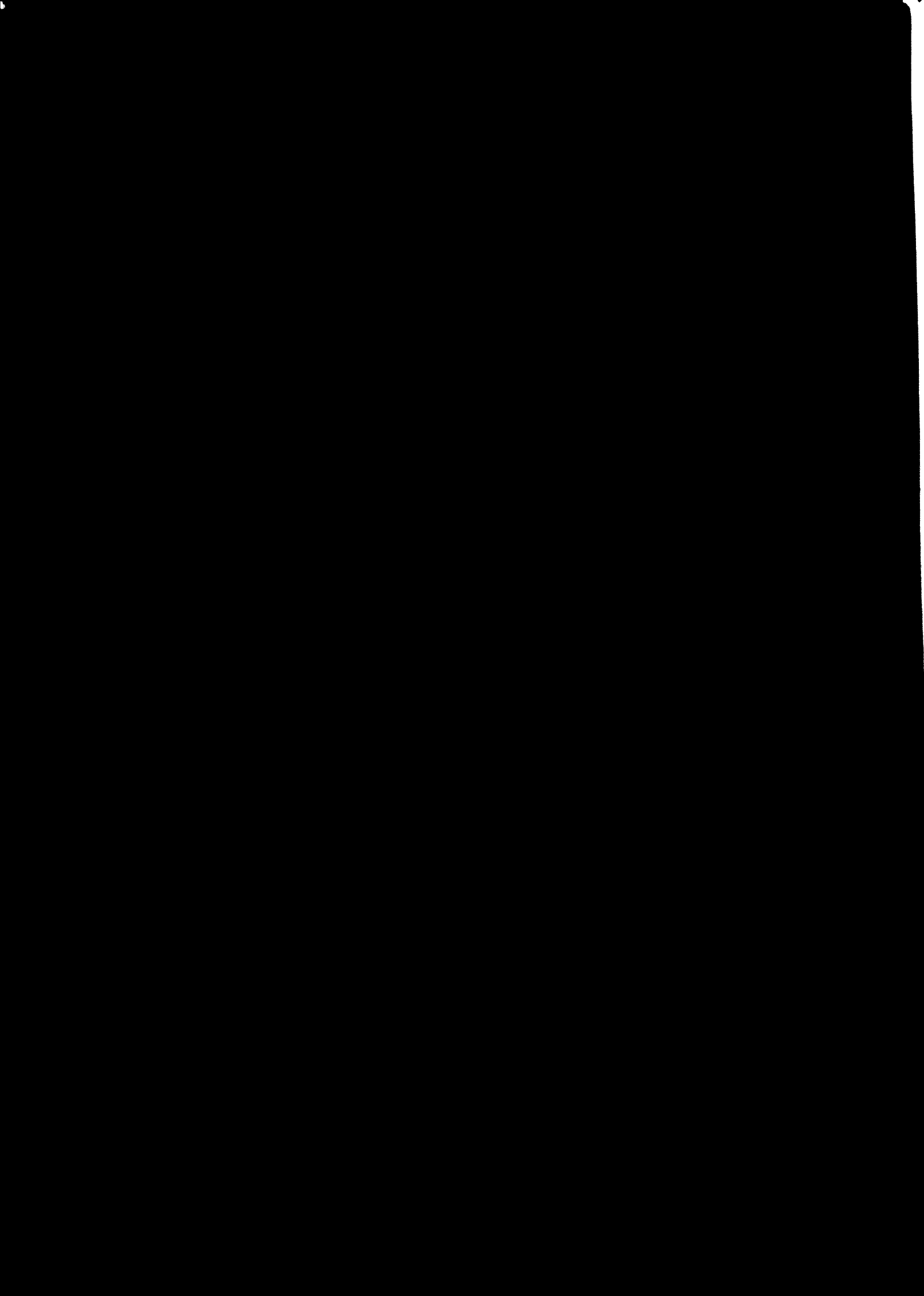
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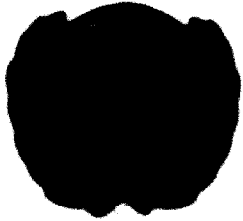
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**Technical Course on Criteria for the
Selection of Networking Machines**

Milan, Italy, 17 - 26 May 1976

THE PRODUCTION EFFICIENCY IN INDONESIAN ✓

by

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- ✓ The views and opinions expressed in this paper are those of the author and do not necessarily reflect the views of the secretariat of UNIDO. This document has been reproduced without formal editing.

Present Situation

Indonesia is a country in South East Asia with a population of about 140 million people. As a developing country, increased industrialization is the main objective of the government.

As an agrarian country where the main population are peasants it will take a longer period to industrialise the country. At the moment the government has planned to develop industries which have a relationship with the primary needs of the people; for example, the food and clothes industries. For these kind of industries the government give more assistance than to others.

During the past few years, the furniture industry has begun to use machinery. In the beginning there were problems because of the lack of skilled labour and even nowadays these problems have not been totally solved, as operating knowledge is very limited.

Timber

In line with the government's decision to limit the export of logs, the small industry has developed rapidly and most of the wood exported is now in the form of sawn timber.

At the same time, the furniture industry has expanded throughout the country.

Indonesia, with its 120 million hectares of forest land is producing various species of wood. Most of them belong to the classification of hardwood such as: Teak, Ramin, Meranti, etc. For this reason there is a need for technical know-how to use wood working machines which are suitable for these species. In using dry-kilns where the air humidity is very high (about 90 per cent) the results are not always satisfactory to suit the needs of the wood importing countries. We hope that more attention will be paid to these problems by the wood working manufacturers.

There are still many furniture factories which continue using solid wood for their production instead of plywood or chip board, but in large cities, such as Jakarta, plywood is very popular. As far as I am concerned

the plywood factories are quite sufficient to take care of our domestic needs. Unfortunately there is only one shipboard factory in the country and this is owned by the government.

Primary wood processing industries

Due to the government's decision to process logs into lumber for export the sawmilling industry has increased considerably. As we know, the forests are located in the islands which are still untouched, such as Kalimantan, West Irian, etc., because the infra-structure is very limited. For this reason the problems of putting up sawmills or wood processing industries in these areas are many such as:

- lack of labour because of the small population;
- lack of transportation (roads, harbours, bridges, etc.);
- lack of electrical sources.

This is why only the large foreign companies are operating and in this business most of them only think of their own advantages rather than considering the national interest. Most of them disregard the normal rules and in this case we realize that it is difficult for the government to control their operation.

Secondary wood processing industries

As far as I know, only a few furniture manufacturers have begun exporting their products. In fact there is a great demand for Indonesian furniture and handiwork products but unfortunately, the industry is not capable of fulfilling the orders. Furthermore the designs are quite attractive for international markets. For this reason the use of modern machines is great but training in the operation of them is badly needed. Schooling and training facilities for operating machines do not exist in comparison with the requirements of the existing wood producing industries. Most of the woodworking machinery is imported from developed countries such as Europe, Japan and the USA.

The use of fully automatic machines is not encouraged by the government due to the abundance of labour, which is available. It is very hard to find

spare parts and after sales follow-up service.

Labour

Most of the furniture industry is still using manual labour for its production. The use of machinery is not very common as yet. Practically all the carpenters have learned their knowledge from their parents or by experience. Most of the furniture factories are using technical school graduates but they need to have advanced training. We feel the need for having a technical school with woodworking machinery for practical demonstrations. By experience, the local labour is not expensive but it works slowly.

Import of wood working machines

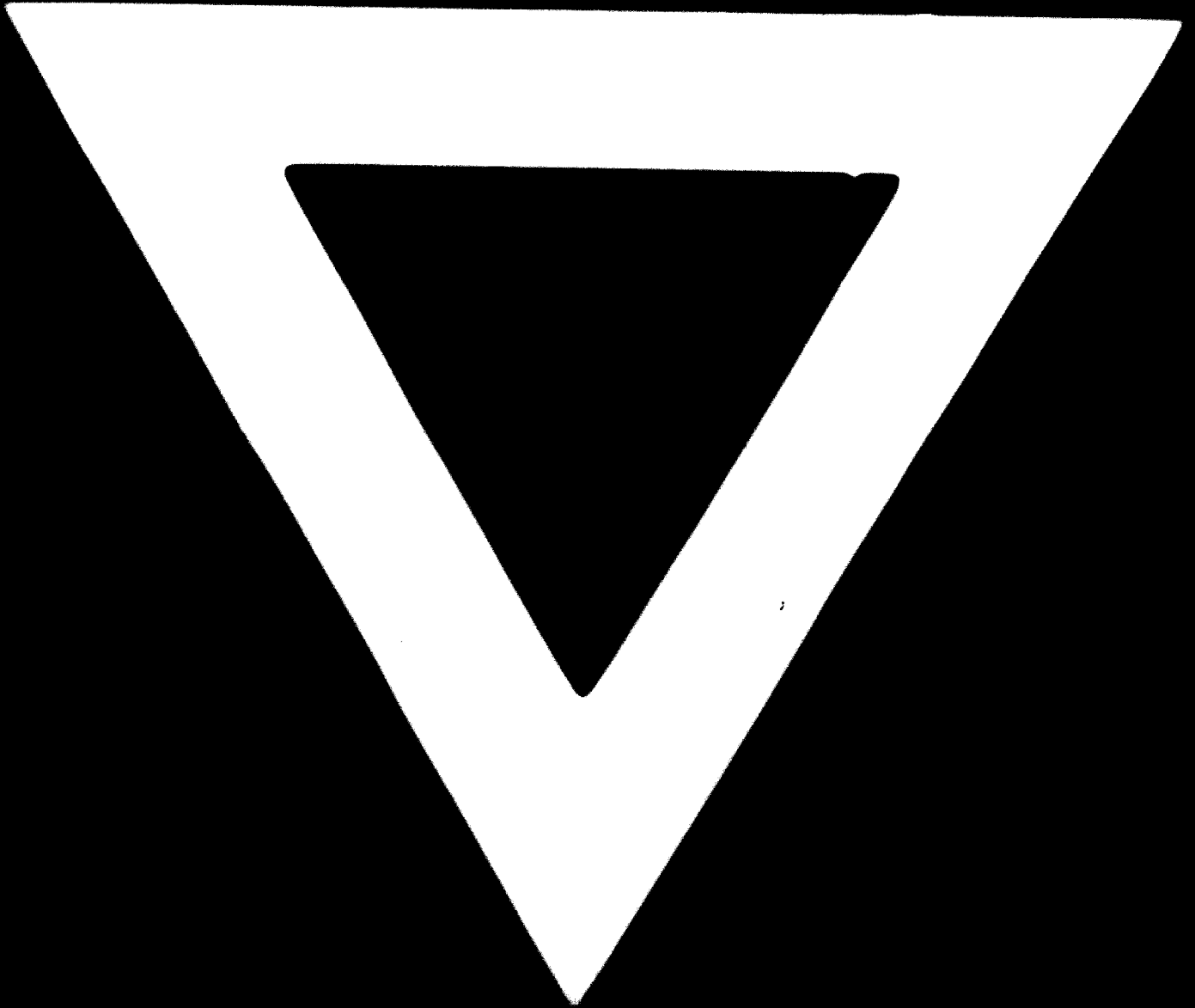
There are no woodworking machine manufacturers in Indonesia. All of the machines are imported and only a few brands are known to the industry. The situation allows for no competition and therefore causes high prices to be maintained. The government only collects a 10 per cent entry tax for machinery in general and some times even no taxes at all. This fact offers an incentive for the development of the industry in general.

Sometimes the machine exporters fail to give complete instructions for installing and operating their machines and this creates problems for both parties.

We suggest that the foreign suppliers either manufacture or assemble the woodworking machines in Indonesia as such a move would be welcomed by our government.



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