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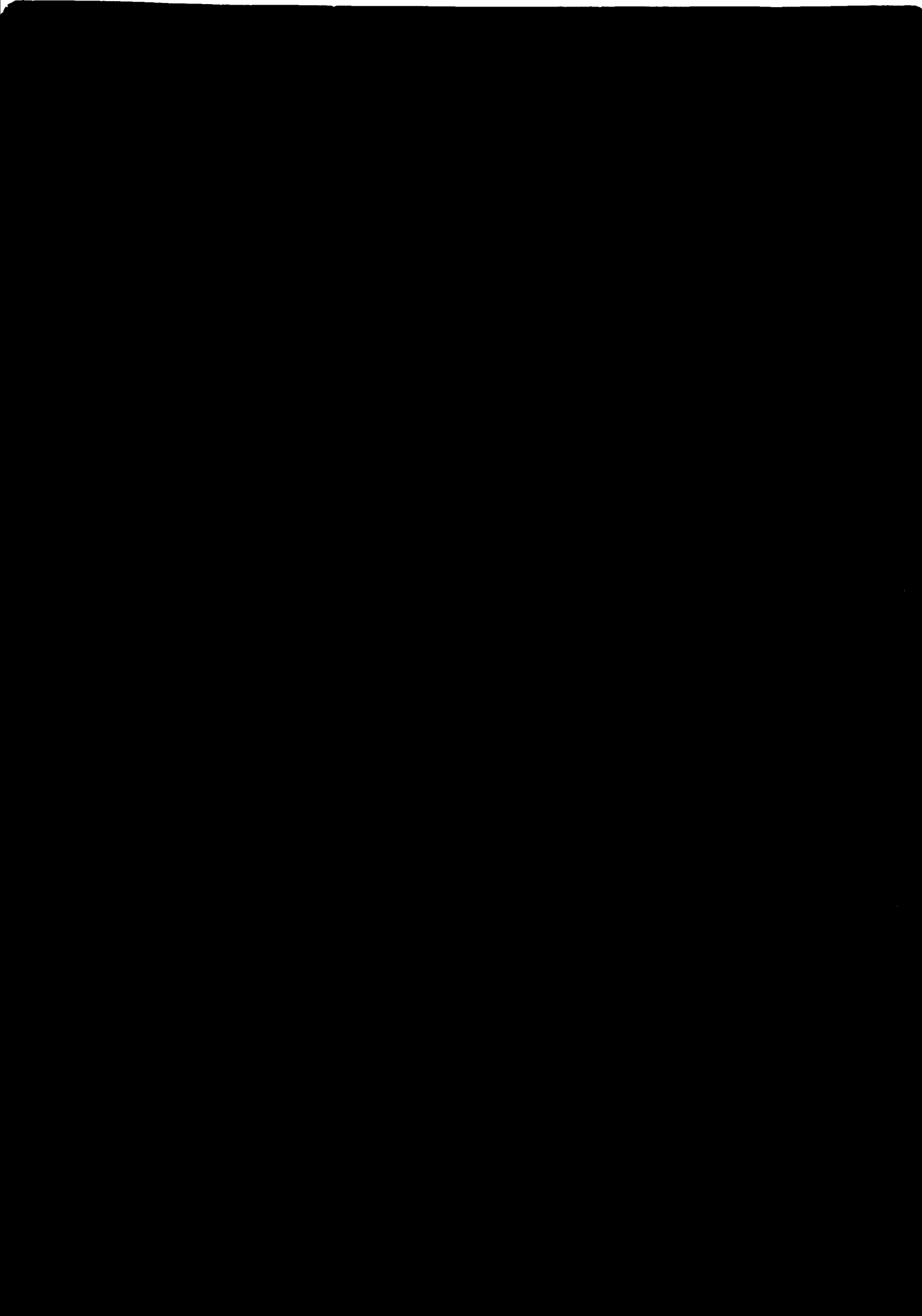
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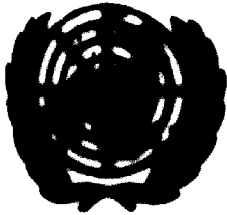
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Technical Course on Criteria for the  
Selection of Woodworking Machines

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THE WOODWORKING INDUSTRIES IN THAILAND ✓

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Thailand is a Southeast Asian country with a population of 40 millions and with an area of 514,000 square kilometres, a third of which is covered with forests ranging from North to South on the hilly parts. Even though there are over fifty wood species, only two, namely teak and lanan, dominate the business interest in woodworking industries. The lanan wood industry is mainly for local consumption. This is because of its cheap price in comparison to that of teak. Furthermore, there is a diversity of application in building constructions and furniture structures. Even though lanan is cheap for local consideration, it is more costly in comparison to the same category of woods in neighbouring countries like those in Indonesia and the Philippines. Because of the reason mentioned, the amount of lanan export is fairly limited. On the other hand, teak with its well known intrinsic values finds large demand both locally and abroad. The local demands are mostly confined on low to medium grades in the form of solid lumber. The high-grade teaks are converted into veneers, more than 90 per cent of which are exported.

Primary woodworking industries in Thailand are fully expanded, especially in the area of saw milling. Over the whole country, there are more than 500 saw mills with capacities ranging from 20 to 30 cubic metres of log consumption per day. However, most of the large saw mills are situated in the central area, especially in Bangkok. It can be said that small to medium saw mills employ locally made machines or imported machines with local modifications. As such, they are not automated. Only a few large saw mills in Bangkok are equipped with semi-automated machines. The major problems facing them are not of a technical nature but of raw materials. There have been inadequate supplies of logs to the extent that it became imperative for the Government to impose export restriction of logs in the early 1960's. With the restriction, exporters are not allowed to export sawn timbers thicker than 24 cm. As a result, export volumes declined from 1960 to 1971. However, with the advent of veneer and parquet-flooring productions in the early 1970's, the export again started to pick up its momentum, reaching a peak in 1973 with a total export of 25,000 metric tons in volume and with a foreign currency earning of about US\$ 43 million.

Even with these improvement attempts have been made to abolish the restriction on the export of logs. However, it is felt doubtful as to the success of the attempts since there are fourteen promoted veneer producing companies with an aggregate yearly consumption of 30,000 cubic metres of wood, together with eighteen operated parquet-flooring factories with a total yearly output of 3,000,000 m<sup>2</sup>.

Plywood and particle-board production was started in the late 1960's. Even with an increase in production volumes in the later years, the outputs are still confined to local consumption. At present, there are three major plywood factories with two continually producing hard-boards and fibre-boards. There are also another two particle-board factories. However, since Thailand is still nourished with forests, solid woods are still the preference in furniture making. It is anticipated that even though the future for wood-based panels is not presently bright, with an imminent solid-wood shortage as well as with improved production techniques the wood-based products will ultimately control the local markets.

Secondary wood-working industries are mostly of the cottage type scale. Out of 2,000 firms spread over Thailand there are only eight firms which utilize mass-scale production techniques. Most of the product volumes are for local consumption. Exports are also made to neighbouring countries like Laos, Cambodia, Malaysia, Singapore, Hongkong, Taiwan and Japan. The basic difficulty on export of furnitures is on their bulky nature. However, the problem is solved by exporting small size furnitures as they are and larger sizes on a knock-down basis. From 1970 to 1974, there were five firms having joint-ventures with foreign firms - three with Japanese and one each with American and Taiwanese. The joint-ventures were done on the basis of local firms manufactured knock-down parts to be assembled in the counterpart firms' abroad. With these joint-ventures, there has been a rapid growth of furniture export. From 1970 to 1972, there was a growth of 170 per cent and exports in 1973 were four times that of 1972.

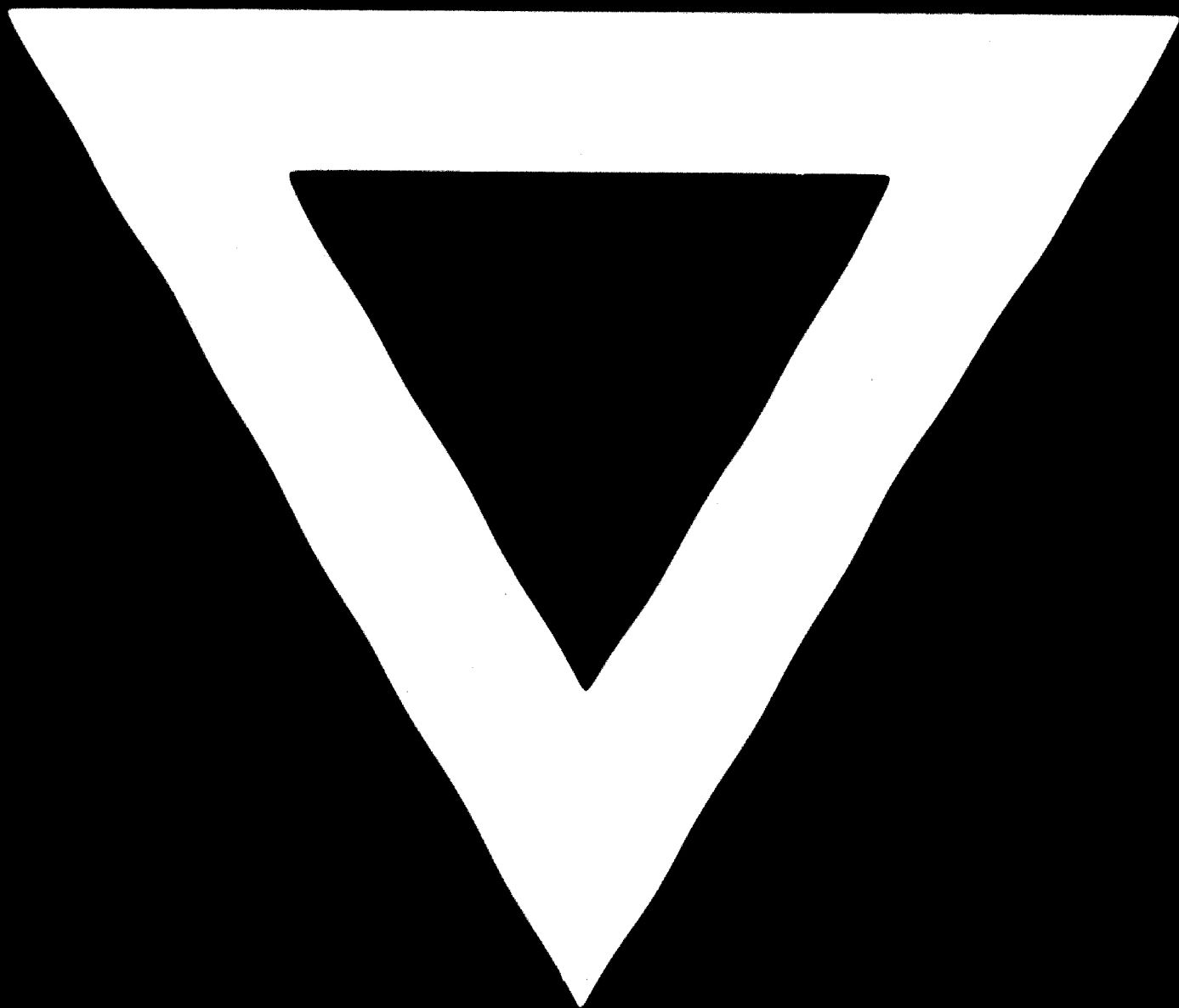
Thailand radically started her social and economic developments in 1960 with successive five-year plans. Foreign investors have been encouraged to invest in Thailand with attractive incentives. In the span of fifteen years,

833 firms have been established with a total investment of US\$ 2,500 million. It can now be said that on a comparative basis with neighbouring countries, Thailand has firmly established light manufacturing industries together with a number of basic industries. In the process, Thai professionally qualified personnel together with skilled and unskilled workers gain sufficient maturity in industrial experience to the level which can ensure profitable returns on investments with a minimum number of foreign executives or administrators. This is the result of imported technical know-how, training, together with technical education expansion.

Lately, Thailand suffered two major economic problems - one was the world-wide inflation as a result of the oil crisis; the other was of political sudden transitions both within and outside the country. However, confidence has been gradually re-established during the past six months as can be read from investment reports released by the Board of Investment of Thailand which can be obtained upon request.

As far as woodworking industry investments are concerned, Thailand has reached a phase where trends of development should be geared towards semi-automation of furniture making with the prime objective being for export. Additionally, there is the need for investment in particle-board or fibre-board operations. Local assembly or manufacturing of wood-working machineries is also attractive. However, even though there are apparent markets for them, appropriate marketing and product promotion are considered to be unprofitable.

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