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OIL PALM PLYWOOD

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As wood (logs) from natural forest becomes scarce and costly, more and more plywood plants terminate their productions. At least 20 plants stopped their operations out of the 50 plants available in Peninsular Malaysia. For many manufacturers, it was only natural to substitute the natural wood logs with oil palm trunks. However, in spite of several attempts made, most did not succeed. This is due to unsuitable machinery, difficulties in handling and drying oil palm veneers. Glue formulation and pressing of the plywood also offer challenges that very few manufacturers can cope.

For MPOB, the attempt to manufacture plywood from oil palm trunk started in the early 1980s. However, due to the abundance of logs from natural forest, such effort did not interest the collaborator, which was then an established manufacturer of plywood. Interest on manufacturing oil palm plywood appears only recently when supply of forest wood is scarce.

Recently, one company working with MPOB, managed to reduce its rejects from 40% to only slightly over 3%. The product can easily be marketed in the US and UK. Due to its friendliness to the environment, lightness and easy to work with.

Presently, the annual availability of oil palm trunks is estimated to be around 13.60 million pieces based on 100 000 ha of replanting per year. Assuming the total production of the 20 closed plywood plants mentioned above, was 60 000 m^3 per month or 720 000 m^3 per year, this would only require about 3 million oil palm trunks and would generate RM 576 million in foreign exchange. Therefore, oil palm trunk from the oil palm industry does not only revive the ailing plywood industry but also provide an opportunity for the industry to grow.

PROCESSING

The processing of plywood using oil palm trunk requires that the radius of the bottom trunk be

Figure 1. Green veneer from oil palm trunk.

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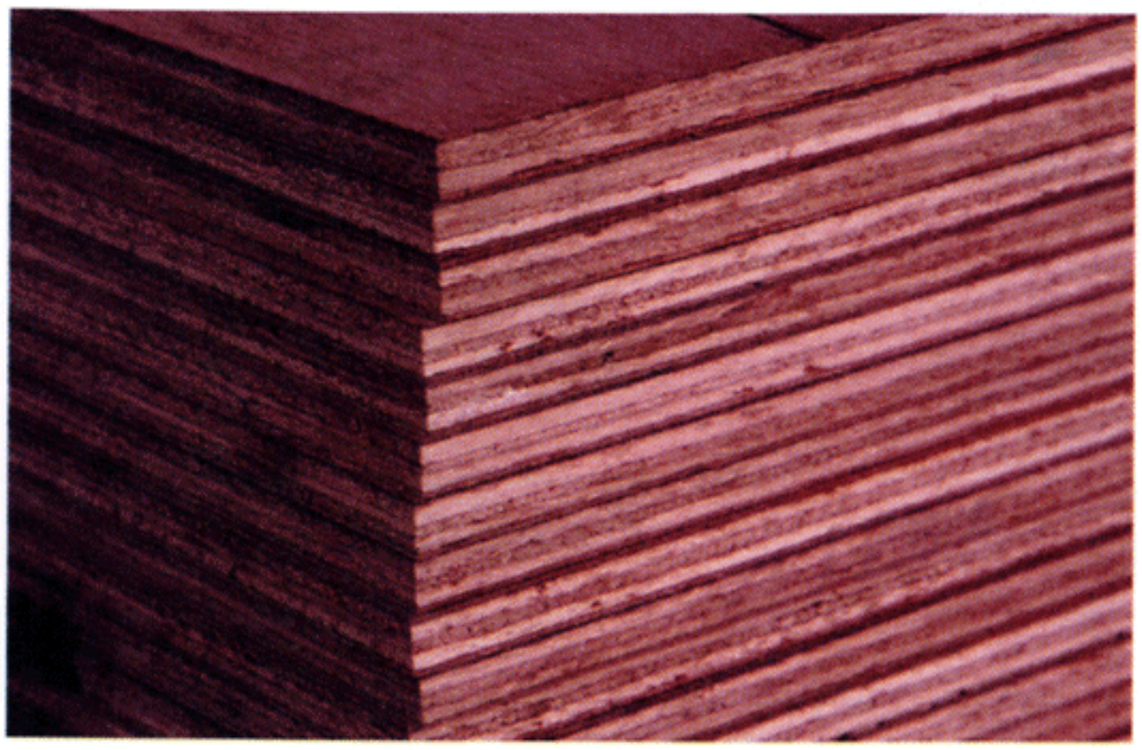

Figure 2. Plywood from oil palm trunk.

similar as much as possible to the top. The veneer is extracted using rotary lathe followed by an intensively modified spindleless lathe machine. The veneer is then clipped to a suitable size for ease of handling and dried in a veneer drier which was modified for the specific need of the oil palm veneer. The gluing, composing and pressing processes also require specific modified machines in order to adapt to the requirements of the fragile oil palm veneers.

ECONOMICS

For a 3000 m^3 per month production of plywood, generally the following investment is required:

Land (4 ha)	=	RM 2 000 000
Building (5000 m^2)	=	RM 1 500 000
Machinery	=	RM 21 500 000
Total	=	RM 25 000 000
Payback	=	3. 6 years
IRR	=	20%

CONCLUSION

Industrial manufacturing of plywood from oil palm trunk has been proven to be successful and profitable. The oil palm industry has the potential to provide sufficient amount of oil palm trunks for the plywood industry.

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