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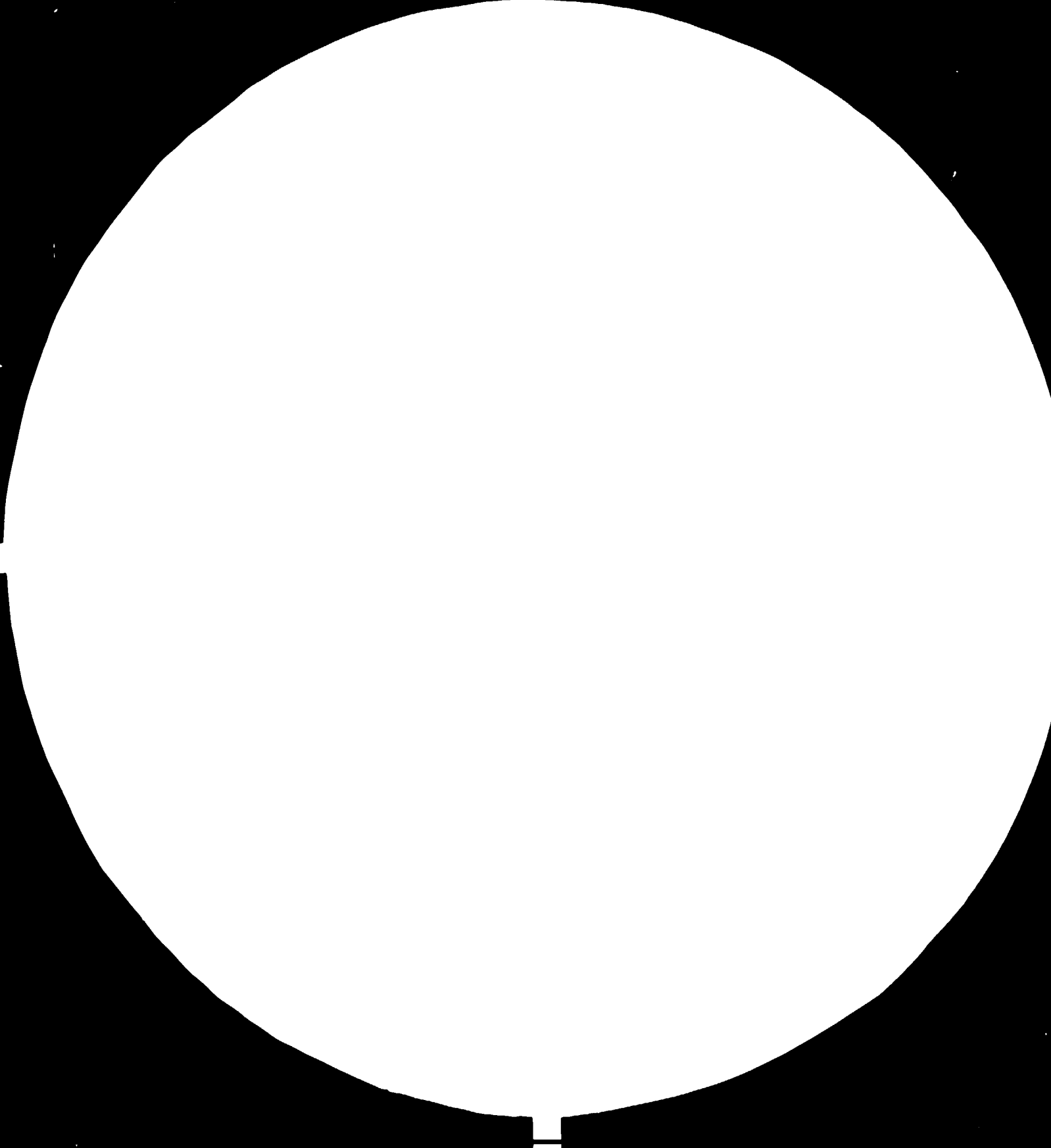
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Shipping Problems in the Tropical Timber Trade.

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At the meeting in Vienna in January of this year, we examined briefly the shipping problems of the tropical timber trade and highlighted in more details the relatively high proportion of freight costs and the paper on this subject gave many details underlining this aspect.

It was therefore suggested that the whole infrastructure of transport and it's costs should be examined.

The cost of inland transport falls into two main sections.

1. From the point of the felled trees in the forest to the port of loading and/or the places of conversion and then on to the port of loading.
2. From the importing ports of discharge to the destination of the purchaser.

The methods of transport and the costs involved in getting logs from the forest to mills or ports vary considerably and are governed by the geographical conditions.

Depending on these, heavy expenditure could be incurred to get access to the forest involving road and bridge building plus purchasing/leasing of tractors and log carrying vehicles. Alternatively rail tracks may have to be used. In all these cases finance plays a heavy burden on the exploitation which often prevents private enterprise to work in some forest areas which should be harvested.

Generally speaking water transport has been considered the most economic. Logs are rafted in the river. Some logs float on the water and are called floaters. Those species which do not float are sinkers. To get sinkers transported by river, rafts are made up of sufficient floaters, a practice used from time immemorial.

The problems of river rafting are numerous; there is first of all in many areas a wet and dry season, which limits the time of year rivers can be used, but generally speaking this can be planned more or less in advance but is nevertheless a great inconvenience. It makes a dent in the cash flow and can increase the danger of deterioration through being exposed to attacks of insects etc. Felling would also have to be regulated to coincide with the use of river levels and that poses a problem with employment of labour.

If it is possible and practicable to erect a conversion mill at a point between the forest and river, then many of the problems can be overcome; by converting the logs not good enough for export in the solid and the sawn timber can then be put on stick under cover and season, ready for transport when the river is navigable. The sawn material should be transported by barges and preferably sheeted.

Other risks to log rafts are currents and pilfering. Insect attacks are a constant danger and speed from the moment the tree is felled to move it on is of paramount importance.

Of course the river transport does not always entirely eliminate the problem of extraction from forest to river and this can vary from rolling the logs down, pulling by elephants, by tractors, light rails, road lorries etc. all this depends on land formation and distance.

Rivers float where nature sends them. For instance some sawmills in Eastern Cameroon must send their goods by river navigable just over six months in the year through the Central African Republic till Brazzaville in the Congo and there the rapids stop navigation. Whether logs or lumber all has to be loaded at Brazzaville or across the river at Kinshasa to rail and railed to the ports of Pointe Noir or Matadi respectively.

If roads and rail were available some four months time saving on transport could be achieved in this particular instance and all year round goods could be moved. This is one important example of the problem affecting the hinterland operation and highlighting the difficulties and costs. It cannot be expected to build railways everywhere but where they do already exist, then maintenance of rolling stock should not be neglected and the practicability of some extensions studied.

Whilst shipping costs can be ascertained and the Vienna paper showed that on Tropical Hardwood Logs same varied from about 22% to about 60% of the FOB value and on sawn Hardwood lumber from about 16% to about 35%, the incidents of inland transport cost cannot be generally determined so accurately. It will not only vary from country to country, but also vary in the country itself.

It can be said however that in many instances the inland transport costs alone are well above what the forest owner gets for his standing trees. The higher these transport costs are, the greater the danger that trees of lesser value are not exploited. By and large areas close to good water transport have been fully worked for decades and even centuries and now forests which are less accessible have to be worked in and the transport costs go up accordingly.

A few examples of inland transport costs are given hereafter with areas having been chosen at random.

BRAZIL Rondonia. Haulage costs alone of logs to mill about 15\$ per cubic metre log measure.

Transport costs of sawn lumber from mill to the port of Santos by road about but not less than \$60 per cubic metre on an expensive timber like Swietenia Mahogany top grade for which about \$400 to \$450 per cubic metre can be obtained FOB, the transport from the mill will represent about 15% of the FOB value and on the next lower grade about 20%. To the \$15 cubic metre haulage cost to mill the conversion loss should be added to bring it to a comparable figure which with some incidental extraction costs could well represent a further 8% to 12%. Incidentally as a matter of interest the tax on logs is about \$15 a cubic metre and the milling costs are estimated about \$20 a cubic metre.

To the port of Belem in Brazil by water transport we found variations of about \$32 to \$45 per cubic metre depending on the distances but then again some times during the year there is not sufficient water available.

One of the large Brazilian producers who also works on \$20 per cubic metre milling costs and pays \$15 per cubic metre tax on logs has been costing his extraction and hauling costs and finds the total costs come to \$117 which on Mahogany shows the internal total costs on the top grade of between 26% and 29% on second grade Mahogany about 35%.

These figures highlight the problem of the economics of lower valued secondary species.

PERU Transport costs from forest to mill about \$24 per cubic metre.

Transport cost mill to port \$40 a cubic metre this latter figure represents about 10% of the FOB value of top grade Mahogany and 15% on second grade but these figures must be more than doubled if taking into account the transport cost to mill and conversion loss.

INDONESIA Here we have an optimum; Ramin for instance grows in swamp forests near rivers where the mills are located and the transport costs on Sawn Ramin on a FOB price of about \$275 per cubic metre is only in the order of about 3%.

On Meranti logs which are further inland and which are mainly transported in log form on a FOB price of about \$105 per cubic metre the internal transport costs are under 4%.

It is as aforesaid all a question of geography.

WEST AFRICA

The transport costs here vary considerable from country to country and also in the country itself. If road transport is used, costs will not only vary according to distance but also according to the density of the species; therefore the figures shown hereafter are only an approximate indication and are based on information supplied by the various producers and contractors.

ZAIRE; Logs from origin to the port of Matadi based on an internal transport costs of BF 5,000 per cubic metre which could well turn out to be the minimum would represent about 37% of the FOB value for highest priced species. On square edged lumber on a similar basis the internal transport costs could represent about 30-35% of the FOB value for highest priced species of top quality. This would indicate that lower priced species and lower grades could not be economically exported.

IVORY COAST; Log transport from bush to port on distances of about 800 kms. would be about FF 300 or \$41 per cubic metre and shorter hauls of about 250 kms. FF 120 or about \$16.1/2 thus representing according to value of species a variation of about 10-70% of the FOB value. Transport costs on Ivory Coast are relatively cheaper than in some other countries and enable better the export of secondary species.

LIBERIA; On an estimated \$50-60 transport cost internally this would work out according to species between about 25-60% of the FOB value.

CAMEROON; If internal transport can be arranged via the port of Douala then the transport costs would only be about 15-35% of the FOB value on logs but from the areas where transport could only be effected through the Central African Republic and Congo Brazzaville transport costs on lumber alone could go up to 50% of the FOB value.

GHANA; With varied exchange rates it is fairly difficult to come to any figure accurately but lumber generally speaking would be about 20-50% of the FOB value on internal transport costs.

At this point it may be appropriate to mention the sea transport costs in order ^{to} have an overall picture of the incidence of transport costs.

From West Africa to Europe the seafreight on logs represents about 22% to about 60% and on sawn lumber from about 23% to about 31% of the FOB value.

From the Far East logs to Japan, Taiwan and South Korea about 20% of the FOB value whereas sawn lumber from the Far East to Europe represents about 16-35% of the FOB value.

From Brazil to Europe sawn lumber about 17-29% of the FOB value.

It needs to be stressed, that whilst internal transport costs depend on distance, seafreights by Conference lines are not correctly based on distances. It is recognised that speed of loading and unloading is an acceptable factor to determine seafreights but distances should have a proportionate affect on freight rates and not be arbitrarily dictated by shipping lines.

It is illogical that sawn lumber of approximately the same FOB price range should be charged a freight rate of about 18% of the FOB from the Far East to Europe and about 23% from West Africa on at least half the distance.

Charters do eliminate this anomaly as time taken alone counts; against that the difficulty to get sufficient cargo together and at the right time and the speed of loading and unloading are the problems facing the charterer.

It is interesting to note, that shipment by container on a medium price sawn timber like Kouvola from Papua New Guinea to Europe, probably the furthest distance timber is carried, the freight element works out at only about 28.1/2% of the FOB value and underlines how much our minds have to be turned to this method of transport.

In Vienna delegates raised the next point viz terminals in developing countries. This where possible and practicable, must be of advantage, preferably at the shipping port and for sawn timber. Covered sheds would be required, where timber from various mills could be accumulated for seasoning, sorting to grade, and adjacent kilns, kiln

dried for shipment. The kilning would have the advantage of increasing revenue and giving additional work, protecting the timber on its voyage and making shipment by container possible, the no doubt cost saving method of the future. However a terminal requires capital expenditure and few producers are big enough to be able to undertake this. The solution could be renting/leasing facility to the individual exporters who like their buyers would wish to keep their identity and MARK which assures individual grading and production.

Where there are many producers competing with each other it could possibly be of mutual advantage to work with a shipping line to build a terminal and the larger agglomeration of cargo could attract a lower freight in addition. To make a terminal viable a big throughput is required. To enliven discussion on this subject there are already precedents of terminals at various ports of import in a number of developed countries but to the best of my knowledge for Coniferous Sawn Lumber only arriving as one cargo at a time.

In the case of Tropical Hardwoods with its many species and grades the advantage of a terminal at a loading port would be mainly to be able to negociate lower sea freights through an agglomeration of cargo being available and have an opportunity to charter. The saving may be less than the additional costs of the terminal.

Terminals at receiving end have from time to time been studied but found generally uneconomic and impractical from most areas.

In Softwood we deal with big quantities, very few species, coming from relatively easily accessible large forest areas. In the case of Tropical Hardwoods, we deal with much smaller quantities but considerably more species - and hopefully to be even more in the future - with supply areas and ports more scattered across the world. A pilot scheme to use a sort of terminal for South American timber was tried in Europe but turned out to be a failure for a number of reasons. Tropical Hardwoods are manifold *and* terminals not run by export traders could well face financial losses through carrying unwanted stocks and finally lose more than the freight and handling saving. Even on finished and semifinished products it may not work to advantage. Styles and specifications and colour fashions change and container shipment as repeatedly pointed out would look like being the best solution and the one to aim for all along the line.

This leads on to port infrastructure and handling methods at both ends of the voyage.

Loading. Where no dock facilities are available loading is effected by ship's tackle at sea or in a river. Logs are rafted to ship's side - sawn lumber securely bundled and barged to ship's side and weather conditions have a considerable influence on delays. Where port facilities are available cargo must be carried to the quay in accordance with the ship's loading officer's instructions. Thus wood might have to be lifted several times which all adds to costs. First comes the unloading from the transport bringing goods to the port and transporting to an assigned place; then at a later stage if possible by fork-lift to the quay berth of the vessel. If loaded into

container this can usually be done straight where the timber is lying in the port or container base.

Unloading. Here again speed of unloading is vital to achieve saving in costs. Either all cargo is unloaded to quay from where the timber must be shifted quickly to make space for further bills of lading. Alternatively if required some bills of lading are discharged straight into barges. If both can be done it speeds up unloading by working all holds and using ship's tackle to discharge into barges and dock based cranes can assist on the other side. If conditions make it possible logs can be discharged straight on to open rail trucks or polewagons provided they are shifted speedily to make room for further discharge.

The Tropical Hardwood Trade is far too varied and fundamentally different to Softwood where there are large and relatively easier accessible forests of fast growing trees and few species which simplifies cost of transport, processing etc.

To recap briefly we examined previously that sea transport by charter vessel is mainly practicable for logs but is a method which could be increased for sawn lumber and particularly if efficient loading ports or terminals were available. Conference Lines give a regular service but are expensive and likely to become more so in future. For sawn or further processed Hardwoods container transport looks the best cost saving method in every way and provided the right containers are used and the timber is of the right moisture content then trans-shipment can be safely effected insurance risks through pilfering or

deterioration much reduced and handling in and out of ship cost saving. More and more general cargo is being handled this way and efforts should be made to encourage this form of transport to be handled by ports where possible.

Help should be given to producers to erect kilns to reduce their sawn lumber to the required moisture content not only for the safe transport by container but also for the required use of the ultimate user. This would be money well spent giving additional work and revenue and effect saving on transport costs.

In discussing primary and secondary processing kilns are a sine qua non premise and container transport follows on.

All these are of course broad outlines and the small cargo from smaller ports will always continue but encouragement should be given to rationalize transport costs where it is geographically practical.

The figures given for inland costs will show what high proportion transport represents in many areas of Africa and South America which makes the export of many species less economic or even uneconomic. East Asia alone stands out with lower transport costs.



