

# Trend of Wood Utilization in the United States, Europe and Japan

By

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It gives me much pleasure to put in writing my observations on the utilization of wood in foreign countries that I have visited early this year which indirectly leads to forest conservation.

The close utilization of wood impressed me much during my recent travels in the United States, Europe and Japan. In the sawmills and allied lumber industries that I visited, careful and decided efforts are always there to make every piece of wood and wood waste into something very useful.

In Memphis, Tennessee, for example, the Nickey Bros. with a large veneer plant-rotary and slice — a finishing mill has also been installed to produce oak flooring out of ripped 2" strips in three thicknesses of 3/8", 1/2" and 13/16", utilizing lengths as short as 9" T & G and end matched. Very remarkable close utilization indeed! In the market, this special brand of flooring is sold under the trade name: NOFMA — NICKEY MADE IN THE U.S. (Nofma stands for National Oak Flooring Manufacturing Association). Their plywood products consist of sliced veneer, rotary veneer and 5-ply panel boards with lumber core and 3-ply veneer core. The lumber core is laminated lumber of 2" wide strips and 9/16" finished thickness made from waste in the manufacture of lumber from Philippine Mahogany. Rotary veneer is cut to 3/16" thick and sliced veneer to 1/24" thick. Panel boards are manufactured to 3/8"-3/4" thick by 4", 6" and 8" wide by minimum length of 7' running mostly 8'-12' long. Practically everything is utilized: saw-

dust is converted into presto logs for firewood. Ribbon grain veneer is usually produced from sliced cut veneer, but for the first time, I saw here figured veneer produced by the rotary. This is accomplished by putting into the rotary machine a crescent-shaped or quarter circle flitch. This method, of course, incurs more waste in roundings, but the advantage is that the veneers produced are quartered, show ribbon-brain and could be matched in the final making of the panel similar to sliced veneer. In the Philippines, our plywood manufacturers usually manufacture rotary veneer by continuous peeling from a log, resulting in plain sawn face with no figure.

Another practice I observed not only with the Nickey Bros. but also other lumber factories is the emphasis given in quality and quantity control. They keep daily graphical statistics of the quality of their products and daily production. The line of the graph should not deviate beyond a certain limit, say 3, so that if the quality or production goes above or below 3, the technician will immediately investigate and the cause therefore removed in time. They are far advanced in this line. Every industry I visited, the laboratory phase is one of the departments of the plant under an expert technician, who keeps watch of the production and its quality to prevent wasteful productions.

In Stockholm, Sweden, I visited and made an observation of the Igelsta Sawmill, reputedly the most modern mill in Europe. It is a gang sawmill — 4 gang saws were

cutting spruce and Swedish redwood. The logs are very small, the maximum being about 26" in diameter and the length is usually 8'. Yet they are exporting their products in Europe and even to South America. Gangsaw is popular in Europe to save waste in sawkerf as they use very thin gauge saws and the logs sawn are usually small diameter. In other words, higher lumber yield could be obtained from small logs by using gang saws.

In Gamon, Belgium, I visited the site of the hardboard plant of the Union Allumettiere which also operates the largest match factory in Europe. Here I saw, due to lack of raw materials, even limbs and twigs of trees as small as my wrist and small bits of wood waste in the match factory converted into chips to augment the supply of wood pulp for the manufacture of hardboard.

I have been informed that most sawmills in Sweden have chipper or hog that convert their mill wastes into chips and sold to pulp wood and hardboard plants. I saw all along the road piles of short pieces of logs for pulp and hardboard plants, some of them as big as a man's arm, and these reminded me of Pansol and Calamba where ipil-ipil firewood are stocked along the road for sale to pedestrians.

The Igelsta Sawmill has a treating tank to impregnate lumber and ties, using a solution of arsenic instead of creosote. Arsenic solution is yellow, but later turns green. They advertise their product in this manner: "Arsenic impregnated Igelstat lumber Swedish Redwood (similar to Oregon pine) with durability of oak." The chemical treatment prolongs the life of the wood, hence reduces the demand for more lumber and ultimately leads to the conservation of the forest. They also run a planing mill and dry kiln. They make joinery articles, car vans and furniture. Their lumber waste is ground into chips and sold to wallboard plants. Logs are barked and the barks are ground, pressed to remove the water and mixed with sawdust for use as fuel in the boiler houses. We can do this here in the

Philippines, if and when we lack fuel in the future: grind the barks which are not needed in the wallboard manufacture, press out the water from our sawdust and the two combined produce a very combustible fuel. But the need is remote at least in our generation for the supply of firewood is plentiful at the present time. What we can profit out of what I observed here is the utilization of good lumber, but wasted because they are either narrow or short. We can utilize these narrow pieces into lamination strips and the short pieces converted into parquet floors. What is needed in this kind of factory is a good planing mill and dry kilns, good propaganda and advertisement to sell these new products locally. Abroad, its manufacture is well known and its use already accepted by the market.

In the Forest Products Laboratory in Madison, Wisconsin, U.S.A., I have observed an experiment being conducted on the application of inlaid paper over a finished defective lumber in order to effectively hide defective portions such as big solid knots, ugly appearances, as well as checks and slight cracks. I understand this is also being used on species that do not admit paint easily. All of these practices have the objective of utilizing all kinds of wood that are not used today. Here one can see in action the progress of "conserve the forest by wise utilization."

From what I saw in the mountains that we passed by, Japan does not have the density size and height of our trees. This is the reason why they are very careful in taking care of their forest and closely utilizing what timber they possess. The big logs that they have and which I saw in their mills are cedars. Along the road approaching Nikko are lined with giant cedars about 700 years or more similar to the California Redwood but in small scale. In their farms, tree planting is practiced along the border of the farm; they cannot afford to use their arable land to forestry. In all the hills around the resorts, especially in Hakone area, artificial af-

forestation is extensively practiced and fire lines are carefully established. The trees they plant are mostly cedars and Japanese fir. I visited several sawmills both in Osaka and in Tokyo and I noticed that close lumber utilization is done to the highest degree; very little lumber is wasted in the mill. They do not cut slabs about 4-6" thick and this slab is sawn on the narrow gauge bandsaw to produce 2-4" strips, and these strips are resawn to remove the barks resulting in very thin slabs. They utilize for furniture, pieces as small as 1" x 1" x 2' and even as short as 18" in some cases. I saw logs, as big or should I say as as small as my leg, being sawn in their hand sawmill. Eighty per cent of our wastes in our mills in the Philippines, were it in Japan, could be recovered for some uses. This close utilization is one of the secrets of Japan in being able to compete in the United States against the Philippines in the sale of Philippine Mahogany lumber that they manufacture from logs imported from us.

In the Philippines, on account of the abundance of wood no serious thought is taken to conserve wood supply, thinking perhaps that the forest is inexhaustible. But are we conserving our forest thru wise utilization? We have no industries that make use of sawmill refuse that are now burned and thrown away as waste. The Philippine Wallboard plant being erected by the Nasipit Lumber Company, Inc. is one of such wood-waste-saving plants; its product will amplify the use of a given volume of wood consequently in a way reduce the drain on lumber. But this is not enough. Research in utilizing Philippine Mahogany wood pulp for paper making is in order — it will certainly help the economy of the country a great deal for there is abundant raw material supply found in the forest in the form of tops, branches, destroyed and uprooted poles unavoidable in the course of logging operation. Along the Agusan River alone logging wastes can support a pulp industry that could produce thousand tons of paper and could em-

ploy hundreds of laborers. That is utilizing resources and at the same time saving dollars that will otherwise go to foreign countries to buy our paper requirements.

My message, therefore, to our capitalists and industrialists is to exploit the potentialities of an industry that will utilize present forest and lumber wastes now found in abundance in logging and sawmill operations. It means close utilization of wood material and conservation of our forest resources by wise use.

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## FOREST POLICY . . .

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tented and law-abiding people in decent communities increased food production for the nation, savings in the form of forest resources which otherwise would just go up in smoke in the pernicious operations of shifting cultivations, the improvement of health and climatic conditions, reduction of erosion and the conservation and regulation of the flow of rivers and streams, increased game and wildlife, and other intangible benefits.

Reservations for non-Christian tribes established not like penal colonies but patterned more or less after the EDCOR projects with the same incentives and privileges given to captured, surrendered and repentant Huks will confine the non-Christian tribes in areas where they could be educated and civilized to become more useful citizens of the Philippine Republic. Those tribes however who insist on being wild and are not amenable to such treatments may be let alone.

Generally the Filipinos whether Christian, Mohammedan or non-Christian if handled right are not a rebellious people. Justice tempered with mercy, an iron hand in a velvet glove, social justice and equity, with the necessary social amelioration programs will go a long way in establishing a strong and progressive Filipino nation; its people schooled in the doctrine of conservation, not only of forests but also all forms of natural resources, and forestry conscious to insure their economic well-being and comfort.

## REFORESTATION WITH . . .

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and corrections and improvements be introduced to further reduce costs and increase accomplishment. With well prepared plan, flexible enough to allow proper adjustment, this task of reforesting barren lands can become a reality.

### RECOMMENDATIONS

1. Reforestation is admittedly a very expensive and a slow process but it is a challenge that should be met squarely now—it is the price we must pay for the folly of the past. We should put more efforts in it.

2. There may be advocates of leaving the denuded barren mountains and concentrating our efforts in logged-over areas but in the Philippines the people are now clamoring for attention to the barren areas. The rivers from denuded watersheds are causing them untold sufferings and privations. We certainly cannot wait longer. On the contrary the logged-over areas can wait because with the cooperation of the logging companies or operators, proper steps can be taken

to insure the regeneration of the logged-over areas. Patrolling is all that may need be done to protect such areas from squatter and kaingin making.

3. Politicians have been bearing much pressure upon the operations of the various reforestation projects such that many incompetent workers are admitted, hence the efficiency of the work is greatly affected. Let there be no such interference.

4. Many of the projects are manned only by nurserymen or laborers. Technically trained personnel should replace them.

5. About one fourth of the expenses of reforestation are spent in other works other than actual reforestation activities. All of the reforestation fund should be funnelled to the productive side of reforestation.

In this connection all personnel occupying positions in the reforestation plantilla should work on their intended job.

With the above recommendations, it is the fervent hope of the writer that reforestation with government funds will not be branded anymore as failure.

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