

Lumbering in Manchuria

BY PHILIP KERBY

CONSIDERABLY more than thirty thousand square miles in extent, the forest areas of Northern and Eastern Manchuria are undoubtedly the richest in China. Of this vast area nearly two thirds may be considered virgin especially since comparatively few foreign trained timber cruisers have penetrated into their depths and their reports at best are but approximations. With these facts in mind it is small wonder then that the ancient name for Manchuria was "Forest of Trees" or "Votzi" in the dialect of the Tungus tribes.

The reasons why these forests have been spared the woodsman's axe for so many hundreds of years are not hard to find when it is remembered that Manchuria has always been settled by nomadic tribes who lived in either mud huts or a kind of Indian Teepee made of saplings and laced together with branches. Kaoliang stalks were used for firewood, and furniture was noticeable by its absence.

Logging on a small scale was practised in the northern regions by hardy Russian pioneers but it was not until the Chinese Eastern Railway cut through the heart of these timbered regions a quarter of a century ago that anything like production on a modern scale was attempted.

The forest areas of Manchuria are roughly divided into two distinct parts by the wide plain on either side of the Sungari River. In the northern regions along the high slopes of the great Hinghan range are found mostly pine, spruce, hemlock and other coniferous species. Larches abound on the western slopes and at lesser altitudes a predominance of leafy species notably oak birch and maple.

A greater variety of trees and also of better quality grow on the eastern side of the Sungari in the province of Kirin. Here may be found several different species of cedars, white pines, yellow pines, oak maple and elm also white birch. Unlike the northern area it is impossible to either cut or transport this timber from May until the end of September because much of the ground is covered by a soft moss over a marshy subsoil. Nearly all the work therefore has to be accomplished during the winter months in the excessive cold and across frozen ground.

Streams Offer Little Help

Unfortunately the streams of Manchuria offer little aid as a medium of transportation. Large quantities of the timber adjacent to the streams has been cut during the past decade thus necessitating a long haul from the forest to the water, and furthermore there are but two rivers, the Sungari and the Amur, which are suitable for rafting purposes of long booms. Then, too, for six months in the year the rivers are choked with ice, making traffic impossible.

The lumber traffic on the Sungari is the most important. One district, which is being worked on an extensive scale some 150 miles from Harbin ships cut lumber to that center. Other districts adjacent to the source of this great waterway send down great rafts in the high spring floods, and these are marketed mainly at Kirin.

The rivalry between Harbin and Kirin as lumber markets has grown steadily during recent years. Harbin has a slight advantage because some of the greatest of the timber concessions are located along the two branches of the C. E. R. but transportation to Kirin on the Sungari is cheaper and the quality of lumber is of higher grade. The forests adjacent to the headwaters of the Sungari were opened before the construction of the C. E. R. and the first saw mills were established at Kirin. Much of this cut lumber was shipped across into Fengtien province to Mukden during the winter months while the remainder found a ready market in the woodless regions around Potune and Taolajichiao.

There are more than five score Chinese lumber merchants in the city of Kirin at the present time all operating through sub-contractors who in turn hire the cutters and "lumberjacks." There are between 35,000 and 40,000 Chinese, Japanese and Russian workmen employed in this single area. In former years the Russian workmen were in the small minority but since the Russian revolution many refugees have swelled their ranks. This condition is prevalent in the northern districts as many refugees after escaping across the border are only too anxious to turn their hand to anything in return for food and a small wage. Many are inexperienced and after suffering great hardships are utterly unfit for the strenuous life of the woodcutter. The population is shifting continually with the seasons, and with the spring the majority of these refugees drift farther south to the cities in the hope of finding employment for which they are more suited. This unskilled labor is a great handicap to contractors because with sickness and deaths frequently one-third of their personnel is useless.

The concessionaires have also great difficulty in supplying food and grain to their men and draught animals. The Hinghan region is wild, mountainous and unpopulated and very little grain is grown locally, practically all must be imported. Transportation of food supplies to the hinterland in the excessive cold, sometimes seventy or more miles from the railway station frequently offers more difficulties than the cartage of felled logs. Many concessions have established central stores which are miniature block houses, well fortified to withstand attack, since the man who has the food is virtually "king" in the country where starvation lurks just around the corner. The wood cutters themselves have seldom any actual cash but make their purchases at the company's store by presenting vouchers which they have received for their work. At the end of the season a worker may cash all his vouchers at the store providing he is going "outside" or back to civilization.

In the southern areas life is not nearly as difficult because the means of transportation are better, and also the wages are not as high. Along the eastern branch of the Chinese Eastern Railway, Chinese workers earn about half a yen a day and Russians between 70 sen and one yen a day. All are required to buy their own food. In the Hinghan region the wages are about thirty per cent higher. In the latter district a two-horse cart loading half a ton receives about three yen a day but in the more mountainous regions this rate jumps to five and even six yen a day depending upon the difficulties involved and the number of horses required to drag the sleds out.

Russian Unit of Measure Used

The Russian unit of measure is used in practically all timber cut in Manchuria. One sagan, of 343 cubic feet, of firewood costs the contractor in the eastern section about five yen. This price fluctuates slightly depending on local conditions. Railway sleepers average about thirty to forty sen apiece depending also upon quality and locality.

The haulage of this cut timber to the railway is usually four and five times as expensive as the actual cutting which brings the cost proportionately higher to the ultimate consumer. In sections where a haul of ten to fifteen miles to the rail head is required the cost of transportation of a cubic sagan of firewood mounts to nearly 20 yen, a single railway sleeper 80-90 sen, a cubic foot of beam 25 sen.

Another item of expense which the contractor must pay is "Stump dues" to the Chinese government. These dues as fixed by treaty are as follows.

1 Cu. Sag. Firewood	\$.50	(gold)
1 Sleeper	1.75	
1 cu. ft. beam	.07	

A tax of 18 per-cent advalorem is collected when timber is sold on the private market which adds considerably to the cost which the ultimate consumer must pay. Other costs include loading on railway cars, storage in station yards freight charges, etc. Some of the larger concessionaires keep a small "standing army" for protection against bandit raids while others depend upon paying a "guard of honor" each time a shipment is made from the forest to the railroad. This latter practise is no longer necessary except in the more remote since the country in the southern and eastern districts is held well under the central government of Manchuria.

The Chinese Eastern Railway plays a dual role in the development of the lumber industry in Manchuria. In addition to being responsible for the transportation of cut timber to the markets it is one of the largest purchasers. Some of the largest concessions within the C. E. R. zone are owned and operated by the railway itself for its own use but these are insufficient for the growing needs and in consequences large purchases are made on the open markets. The locomotives of the railway burn a mixture of coal and firewood, the ratio being nearly ten times as much wood as coal. Several hundreds of thousands of sleepers are required annually for the upkeep of the roadbed, which is one of the best in Asia. In 1923, the last year for which figures are available, the Chinese Eastern Railway purchased 603 thousand tons out of a total production of 894 thousand tons, while during the past eleven years the railway has consumed 6.72 million tons out of a total production 8.13 million tons, or slightly more than 82 per cent.

Railway officials in Harbin informed me that the Chinese Eastern Railway had taken under serious consideration the abandonment of wood as locomotive fuel since the opening of several important coal mines along the eastern branch of the line. During the past decade the railway has acted "in loco parentis" to the lumber industry, but great efforts are now being made to develop the export market for Manchurian lumber since higher prices will be realized and the railway will reap a reward on its large investment.

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to requirements or that it was not up to standard. The shipments auctioned off to the highest bidder in order to defray the transportation charges while the seller was fortunate if he did not have to face a deficit. In order to obviate these difficulties a campaign is going on to have foreign purchasers inspect the lumber at the shipside and accept or reject the cargo before sea transportation many foreign firms have not yet acquiesced at the idea but have decided that the lumber be landed at their own ports overseas.

At the present time much of this Manchurian timber is being shipped into China where the standards are not so strict. Both at Changchun and Mukden there is brisk trade in lumber for requirements of intra-mural China, while in Dairen many Japanese merchants are making purchases for southern and central Japan. The Japanese earthquake gave a big impetus to the lumber industry in Manchuria but on the whole prices remained firm and did not advance in the proportions which might have been expected from the influx of orders.

As in the past the future of the lumber industry in Manchuria is largely dependent upon the Chinese Eastern Railway and the construction of new feeder lines in order to lower the price to the consumer. Stabilization of standards is also required and together with an easier system of credits for the concessionaire. Although the lumbering industry is still in its infancy its future under certain conditions appears very bright.

An account of the activities of the China International Famine Relief Commission during the past year is contained in the annual report of the Commission, which has just been published. During the past twelve months war and floods have visited China and the Commission met the calls for help with a ready response, when possible. The report takes up in detail the year's work, showing that most of the relief tendered was in Hunan, Chihli, and Kiangsi provinces, and the Metropolitan district. A variety of projects were undertaken including reconstruction work, repairs of dykes, etc. The work of the commission is well illustrated in the report and several comprehensive maps are included showing the scope of work and the various committees working in the different parts of China.