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Equipment used in logging goes from animals to winches, large wheeled automotive equipment, skidders, pick ups and light tractors. It is very reasonable to assume that in the jungle forest of Peru new logging techniques must combine with old primitive methods.

One very important phase of logging is the transporting of logs from the felling area to the mill. The same practice, used for decades, is still in use. Logs are made up into rafts and floated or towed by diesel powered tugs to the mill. In relatively few cases are flat bed trucks used for this purpose due mainly to the lack of serviceable roads and the large sizes of the raw material.

When more species come to be exploited a more efficient means of transport of the raw logs can be implemented and one of the major impediments to further development of the forestry will be solved.

## Sawmilling

Sawmills for the Peruvian forestry industry must be very carefully thought out and planned. Provisions have to be made for handling a variety of species of trees, as well as consideration given to the treatment of the logs before milling. Some species are durable and can be stored on dry land while others, due to the depredations of insects and fungi, must be cut and immediately treated, or "stored" in the quiet waters of a near by river

The treatment of lumber after it is sawn also varies widely. species must be sprayed with toxic material to prevent stain and insect attack before the lumber is seasoned, some should be kiln dried immediately, others can be air dried.

The mill sites must be on high, well-drained ground well above the "high waters" level, common during the rainy season. Logs are received by water, truck or both, and can vary in size up to 6 feet in diameter and from 8 to 24 feet in length. Logs can also weigh from under 500 pounds to over 10 tons. Within the mill itself, cut pieces of the log can weigh up to one ton. Chainsaw quartering in the log yard is a general practice.

The conveyors must be heavy and rugged. The power to drive the saws must be sufficient to stand up under heavy peak loads and yet be sufficiently high speed to keep a steady reasonable production flowing.

One other consideration is that mills should be designed to saw logs for grade and industrial use or produce sizes and grades for construction purposes. This is usually necessary in the tropics because of the mixture of species found in the forest.