

then placed on a truck, and drawn by an engine (or, in some cases, a team of horses or bullocks) to the mill, where the log is converted into sawn timber.

In the Auckland Province, where kauri is worked, different methods obtain. Formerly a large proportion of the logs were hauled to the mills or to tidal waters by locomotives or horses over tramways, or by bullocks over "skidded roads." By these means logs were delivered at the mills green, and in long lengths. Now nearly all the forest accessible by tram or "skidded road" has been worked out, and logs are hauled, "jacked," or delivered by means of "shutes" into a suitable creek, usually into a branch or tributary of some large stream, where they remain until by means of specially erected dams, "tripped" (or opened) when the streams are in flood, they are "driven" to booms erected in tidal waters. In large watersheds a number of dams on branch creeks are necessary, and often a very large dam is required in the main stream to "drive" the logs from the branch creeks.

We found that in many cases, particularly in the Westland and Southland Districts, where the bulk of available timber is on Crown land or in State forests, the recently repealed Forest Regulations under the Land Act and State Forests Act were unsatisfactory, as they limited the forest land that could be allotted to one mill to a sawmill area of 200 acres, and three reserved areas of 200 acres each, or 800 acres in all. This proved detrimental to cheap production and profitable working of the timber, as, with such limited areas to mill, it did not pay the sawmiller to erect expensive and up-to-date machinery. Further north, particularly in the Waimarino Forest, where large areas of native and private freehold land can be secured by a sawmiller, larger and better-equipped mills have been erected, and the industry established on more economical lines. It is, however, satisfactory to note that the new regulations, which came into force on the 15th April last, have permitted areas of Crown land being allotted to sawmillers in proportion to the respective horse-power of their mills, and this is undoubtedly a step in the right direction, and will do much to improve the conditions under which bush can be worked. A recommendation dealing with this question is set forth under clause (5) of the report.

Kauri timber, being sold in large quantities for cash, is not subject to the above restrictions, and has generally been felled and milled in a fairly economical manner. There is no doubt but that the machinery in many of the existing sawmills (which the census of 1906 returned as 444, including sash and door factories, employing 9,098 hands) is not up to date, and tends to hamper the efficient working of the mills. The chief reason for this, however, as already pointed out, no longer exists, and it is hoped that in a comparatively short time modern methods and machinery will be generally employed. In some cases the millers might with advantage to themselves visit other localities, and ascertain how larger and more recently erected mills are worked, and thereby improve their present methods.

Speaking generally, however, we can confidently report that, although the cost of felling the trees and delivering the logs at the mill varies considerably in the different localities, owing to the causes enumerated above, yet it cannot be considered unreasonable under existing conditions.

## (2.) *The Cost of Cutting at the Mill.*

In considering this phase of the question, the remarks just made apply with greater force to the cost of cutting at the mill, and must be taken into account when considering this point. Bearing in mind, however, the character of the plant now generally employed, and the reasons that in many cases restricted the construction of more expensive and efficient plant, we are of opinion that the cost of cutting has not been unreasonable, but consider that in many cases a reduction in the cost could be brought about, and much waste of timber in cutting prevented, by the adoption of more modern machinery, better methods, and more economical working in bringing it to, and dealing with it at, the mill.