

duced to balance the expenditure. This latter case shows the utter absurdity of suggesting such a tree as the totara for afforestation purposes. (See photo No. 6.)

In these calculations no account is taken of the value of thinnings, as it is considered that for many years to come the cost of cutting would fully balance any receipts.

We are fully persuaded, however, that given cheap land, economical management, and the right kind of trees to plant, afforestation can be made a highly profitable investment for the State, apart from the secondary benefits of having a good supply of timber to meet the public demand and a possible amelioration of climatic conditions. We would recommend that in future, to keep the forestry operations on a sound commercial basis: (1.) That the Prisons Department should have a credit note for the value of all work done by prison labour. (2.) That $4\frac{1}{2}$ per cent. interest should be debited annually to the cost of the previous year's operations. (3.) That the rental value of the land as assessed by the Government Valuation Department, also on a $4\frac{1}{2}$ -per cent. basis, should be debited to the Forestry Account.

In considering the expansion of the afforestation operations of the State the length of time that the present timber-supply from the indigenous forests will last must be considered. According to evidence before us, the estimate of 33,060,883,437 superficial feet available in the indigenous forests in 1909 is at best a guess, and no one can truly say whether the amount be too much or too little. Our opinion is that it is not safe to conclude that there will be any supply of moment at the expiration of thirty years from the present time, and that unless more stringent methods are adopted to conserve the supply as far as possible the period of supply may be even shortened. From the above it is clear that sufficient provision must be made for the future if we are not to run the risk of a considerable deficiency in our supply of timber. The countries of the Old World are a striking object-lesson to us in regard to afforestation operations. It may be stated briefly that afforestation has been practised to a considerable extent in all civilized countries, and that where economy of method is closely followed it has proved a financial success. The thickly peopled countries of Europe do not begrudge the necessary areas for the work. Even in densely populated Belgium the forest area is 17·7 per cent. of the total area, or 0·2 acre per inhabitant. In Germany the area under forest is 34,989,675 acres. This forms 25·89 per cent. of the total land area and 0·62 acres *per capita*.*

Throughout the world timber is becoming both scarcer and more valuable. Quoting from the second Report on Afforestation of the British Royal Commission on Coast Erosion and Afforestation, p. 9, it is stated that Professor Schlich is of opinion that "Since the year 1894 a steady slow rise has taken place, which I estimate at something like 20 per cent." It is further stated in the same report, p. 11, that "Not only do the supplies of timber threaten to prove insufficient to meet the present demand, but it would also appear that the consumption per head of population in this and other countries shows a marked tendency to increase." And again: "Substitutes for timber—steel, concrete, patent compositions, &c.—there are in plenty, but in spite of these timber seems to be more a necessity of modern domestic and industrial conditions."

It may be urged that there is no reason for New Zealand to go in for a comprehensive system of tree-planting by the State since a supply can always be procured from abroad. But the above quotations show that there is but little reliance to be placed upon foreign supplies. Likewise the time may come when it is possible that many countries will forbid the export of their home-grown timber, and there is always the chance of the timber-supply being cut off in time of war. In short, if there is good reason for the countries of the Old World to plant commercial forests, there is far more need for an isolated land such as New Zealand to do so.

* Zon, R., "The Forest Resources of the World," Bulletin U.S. Department of Agriculture, 1910, p. 48.