

adequate fire protection. In Europe, on the other hand, the danger from fire is very small in most places, largely because of a dense population, an enlightened public sentiment, and an organization of the forests which is the result of many years' work.

Again, the market conditions affect the kind of forestry which can be practiced. With constant good markets, as in Europe, it pays to use more intensive methods of forestry than where only certain classes of timber can be sold. For this reason the Germans can afford to spend on cultural operations proportionally larger sums than the Americans. In the same way the total expenses of forestry in a country are influenced by the methods of timber sales. If timber is sold on the stump the outlay is less than if the government does its own logging. The last system involves a large annual expense for logging which does not appear in the budget of a country which sells its timber standing.

These facts must be borne in mind in the study of the forest budgets of Germany, France, India and the United States, which are discussed in the following pages.

A comparison of expenses in these different countries shows some astonishing differences. Prussia, with its forest of a little over 7,000,000 acres, spends each year about \$14,000,000; India, with about 65,000,000 acres (including only reserved and protected forests), spends only about \$4,000,000. The United States, with about 168,000,000 acres of national forests, spends only about \$3,400,000. If these data are expressed in terms of the amount per acre, it is seen that the expenditure by Prussia is over \$1.90 per acre as against that of the United States of about 2 cents per acre. In this connection it must be borne in mind,

however, that Prussia did not expend so large a sum on forestry at the beginning of its work of organization. With the development of forestry and the increased demand for timber and the resulting high prices, it has been profitable to use more and more intensive methods and invest greater sums each year in forest cultivation. This is well illustrated in Prussia, which in 1849 spent for regularly recurring expenses about \$2,000,000 each year, compared with \$12,500,000 at the present time.

In other words, the expense of administration increases with the development of forestry. This is possible only when there are increased returns as a result of the increased initial expenses. This principle is illustrated in Prussia, where the net income has increased from less than \$7,000,000 in 1848 to about \$14,000,000 at the present time.

To carry out further the comparison of expenditures in the different countries, Prussia spends for salaries, including both administrative and executive forces, 52 cents per acre; France, 38 cents; India, a little over 2 cents; and the United States, a trifle over 1 cent. The average area in charge of a supervising forester in Prussia is about 10,000 acres; in the United States it is over 1,000,000 acres. While our western forests will not require a division into so large a number of administrative units as those of Prussia the contrast is nevertheless exceedingly instructive.

Although the Prussian forests are already thoroughly organized, nevertheless the work of constructing and extending roads and bridges, dams, etc., is being pushed each year with an expense of over \$500,000, and that is about the sum which is now being expended on all kinds of construction work in our national forests. In other words, for con-