

forest officers in Germany, had retired on a pension, and I did not thus have the benefit of his advice and assistance during my stay in that kingdom. Herr Von Baldinger, one of the Forest Councillors, was acting in charge, and I found him most kind and attentive in giving me information, chalking out my route, &c., although, from not having previously had immediately to do with such matters, nor arranged a general plan with Dr. Brandis as Herr Von Mantel had done, he was naturally somewhat at a loss as to what districts would prove most instructive and best repay a visit by an Indian Forester. We eventually settled upon two, besides Aschaffenburg and the Spessart, which I had pre-determined to visit after seeing something of the Black Forest.

Districts visited. The districts selected were in the *Bayerische Wald* and *Schwaben*, and eventually the time at my disposal only permitted me to visit the latter, which I much regretted, as the *Baierische Wald* is particularly recommended by Dr. Brandis as deserving a visit, and cannot indeed fail to be interesting and instructive, as it still contains much indigenous or virgin hill forests, now being gradually brought under systematic management, and offers an opportunity of seeing how things are managed as to construction of rough hill roads and slips, transport of timber from the higher slopes, and floating in the valleys down the mountain streams and on the river Regen. I was, however, more reconciled to the loss of this opportunity by the information that, owing to the occurrence of frequent storms of wind, which had blown down many trees, the establishments were almost entirely employed in getting them out of the forests, to the detriment of any regular forest work, which might serve as a guide, and that I would have an opportunity of seeing floating and improvement of rivers to the best advantage in the Black Forest, which I afterwards found to be the case.

I may mention that Herr Von Baldinger dissuaded me from visiting *Kranzberg*, between Munich and Freysing, and the *Haupt Moor*, at Bamberg, which are specially mentioned in Dr. Brandis' memorandum, as he said they did not now present any points of special interest such as could be found in the *Baierische Wald*, the Bavarian Alps, and some parts of the province of *Schwaben*.

Area and classification. The forests of Bavaria extend over an area of 7,622,045 tagwerks, equal to 6,417,685 English acres (a tagwerk is $\frac{1}{100}$ of an English acre), but of this extent 3,709,624 tagwerks, or nearly 50 per cent., are private forests, leaving 3,294,219 English acres as the forest area under State management. This is classed as,—

a. Purely State Forests	...	...	...	...	2,318,623 acres.
b. Communal "	...	...	...	...	859,494 "
c. Ecclesiastical "	...	...	...	...	116,102 "

263,159 acres are classed as unproductive, leaving in round numbers 3,000,000 English acres covered with forests, under the management of the Government Forest Department.

Yield. It is difficult to arrive at the actual yield of timber, as it is divided or classed in a manner very difficult to explain in English, and which would occupy too much space here, and the measurement or method of estimating cubical contents varies according to class. The yield of the purely State forests may be roughly stated at upwards of 130,000,000 cubic feet, including faggots and stumps; and of this large quantity, upwards of 26,000,000 cubic feet may be classed as timber fit for building and similar uses. The average yield per English acre, including faggots, may be taken as 63 cubic feet.

Receipts and Disbursements. During the finance period extending from 1861 to 1867, the average annual cash receipts were close on 12,000,000 florins (£1,071,428), whilst the ordinary expenditure classed under, (a) establishments, (b) working charges, (c) planting, &c., (d) construction of roads, amounted to close on 5,000,000 florins (£446,428); and the extraordinary, which consisted of sums allotted out of the annual income, for, 1st, buying up or commutation of servitudes, and, 2nd, purchase of woods and plantations, is set down at 536,028 florins (£47,859). These figures leave a clear sum of 6,676,471 florins, equal to £596,113, as the cash profit of the forest, to which is added the value of timber and firewood, grazing, and other forest rights given free, estimated at upwards of 2,000,000 florins, leaving 8,819,779 florins, or £785,964, as the actual annual profit during the period under review. This represents close upon 4 florins (7s. 4d.) per tagwerk, and is an increase of fully a florin per tagwerk on the former period of seven years extending from 1856 to 1861, with which it is compared. This result must be very gratifying to the forest officers and all concerned.

Area planted or sown annually. An average extent of 35,000 tagwerks was planted or sown annually during the period under review, representing 37,000,000 of young plants, and 1,000,000 pounds of seed. I am unable to state the cost of the plantations, as it is mixed up with that of promoting natural reproduction, draining, &c., and there appears to be in some parts of the kingdom a system of "*socage*," or performance of work without cash payment, in consideration of certain privileges, which renders it difficult to arrive at a correct estimate of the expenditure. It is not without interest to note, that so recently as 1855, parties found guilty of breaches of forest rules were liable to be, and actually were, punished by enforced labour in the forests and plantations.

During the period 1859-60 to 1866-67, 60,234 tagwerks were added to the area of the State forests, by purchase, costing $5\frac{1}{2}$ million florins, and some 3,000 tagwerks by exchange; 9,155 tagwerks were sold to the public for upwards of $2\frac{1}{2}$ millions of florins, or 286 florins per tagwerk. The purchases consisted mainly of pieces of land abutting on, or even running in between the forests, and their acquisition will facilitate better arrangements for conservancy, formation of the complexes, &c. The sales were for the most part detached pieces of land, more valuable for agriculture than the rearing of timber.

The area under wood in Bavaria in proportion to the total area and population is very great, representing 34 per cent. of the former, and $1\frac{1}{2}$ tagwerk or upwards of an English acre per head of the latter.

Commutation of forest rights. During the two finance periods extending from 1853 to 1867, much appears to have been done towards the commutation and buying up of forest rights. In this most important matter nearly 6,000,000 of florins have been spent, and 13,000 tagwerks of forest ground given up; but for this the forest department has extinguished for ever 2,425 rights to building timber, 4,810 rights to firewood, 2,425 right to straw and grass from the forests, 1,780 rights to grazing, and 301 miscellaneous rights.