POST-WAR FOREST POLICY IN INDIA

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EIGHTY years have passed since the Indian Forest Service was inaugurated under the auspices of Sir Charles Wood, Secretary of State for India, Lord Elgin, Governor-General of India, and Mr. (later Sir Dietrich) Brandis, its first Inspector-General of Forests. It was the first forest service in the British Empire and Dominions, and the first attempt by the British Government to introduce a correct forestry administration into a country over which it ruled. Various factors, including the steady recruitment of its gazetted service from home and the high standard of training demanded by the India Office for its forest probationers, have gone to produce the forest service and the great forest estate it controlled up to the outbreak of the War of 1914-18. Perhaps one of the chief causes, accounting for the steady progress in achievement for the well-being of the forests and the people, so large a proportion of whom are dependent in many ways on efficient forest management, has been the presence of an Inspector-General of Forests as adviser to the Central Government without intermission down through this long term of years. Many a period of storm and stress, as one looks back, threatening one or more forest regions in different parts of India, were safely negotiated through the presence at the ear of the Central Government of a cool and far-seeing forestry administrator who, with his great experience, could weigh impartially the pros and cons of any policy suggested by a local administration, and advise accordingly.

It was not until 1894 that the aims which had influenced the work of the Forest Department were voiced in Circular No. 22F. "A Note on 'Post-War Forest Policy for India'" was written last year by Sir Herbert Howard, Inspector-General of Forests (Manager, Government Press, New Delhi, 1944). The Inspector-General thus summarizes the principles embodied in this memorandum: (a) First and foremost, the preservation of the climatic and physical conditions of the country come before all other objects. (b) The preservation of the minimum amount of forest necessary for the well-being of the country is second only to (a) above. (c) Agriculture and cultivation come before forestry in the use of the soil. (d) The satisfaction of the requirements of the local population, given either free or at competitive rates, comes before revenue. (e) With the above objects fully provided for, the realization from the forest area of revenue to the greatest amount which efficient management permits.

If the order of the above objects of a correct forest management in a country is examined, it will be observed that after thirty years of forestry administration in the different parts of India, the Central Government and its adviser had fully appreciated that the chief role of the forest—Nature's forest which had not been grown by man—in a countryside was not the provision of revenue, and that the maintenance of an adequate forest staff should not be dependent upon the amount of revenue which came from the forests; that, in other words, the *raison d'être* of the forests of a region might fulfil far greater and more important objects than the mere provision of money. It would be incorrect to say that the excellent rules laid down in this circular were carried out to the letter all over India. There were serious

back-slidings. But the present great forest estate of the country is witness to the fine work achieved, and that, to a considerable extent, the value of the forests and of the work is appreciated by the people.

Although more could not be expected at the time, the Circular of 1894 only related to the forests under the control of the forest service, that is, the reserved forests placed under a regulated management based on a sustained yield. This meant that private forests, as also the considerable forest areas under the Indian States, remained outside all Government forest supervision, though during the present century some of the Indian States had begun to recruit Indians trained in the forestry schools of Britain.

Howard's note is written for British India, but much of it has equal application to the Indian States. It is divided into two parts: Part 1, a review of present conditions, and Part 2, the Inspector-General's suggestions for the future. These are both considered under (1) the Government in relation to forestry; (2) existing forest policy; (3) existing demands on and supplies of forest resources; (4) floods, erosion and desiccation; (5) forest research; (6) forest education; (7) creation of a federal forest service; and (8) minor forest produce. From the point of view of general forest policy, it is the first four of these that are of primary importance, the others, important as they are, being more for internal consideration. It will be necessary here to confine ourselves to Howard's suggestions in Part 2.

Under the minimum forest area necessary for the well-being of a country—a subject probably now of the first importance to almost every highly populated country on the globe—Howard shows that the area of forest under Government control comprises only 14 per cent of the area of British India. Certain provinces, such as Assam, have large areas of the so-called State unclassified forests, which are not under professional forest management; but for India as a whole the forests are badly distributed. Except for the Central Provinces, Bombay and Madras, roughly speaking, south of a line from the Gulf of Cambay to Calcutta the forests under the Indian Forest Service consist of those along the foothills of the Himalaya, a narrow band only, the Assam forests and the Sundarbans, south of Calcutta, and smaller areas on the banks of the Indus, in the south of the United Provinces and in Bihar and Orissa. Reliable figures for the privately owned forests do not exist; but it is doubted whether the total including the Government forests would exceed 20 per cent; while there is no sort of forest management in the private forests, which are rapidly disappearing under the hand of the unchecked timber-felling contractors or the unchecked grazing accompanied by fire in the hot season at the hands of the villagers. In European countries the average forest area in a State, including State, communal and private forests, amounts to 26 per cent. In British India, a fundamentally agricultural country, the total area of forest is less than that required, and its distribution is bad.

Howard points out that the existing forest policy does not include suggestions that the forest area of the country should be increased chiefly by additional Government forest reserves. The present policy restricts itself to the ruling that agriculture

should not be allowed to encroach on reserved forest to the extent of reducing the forest area below the minimum required for the well-being of the country, considered to be 20-25 per cent. Allusion is made to erosion and floods caused by the removal of forest growth in considerable parts of the outer Himalaya and other hill areas in the country, necessitating an increase of forest as an aim of post-war policy. Three ways are suggested: (a) by afforesting or improving impoverished areas of Government waste lands; (b) by bringing more private and communal lands, where available, under forest by propaganda and assistance in their management; (c) by the legal control of the management of private and communal forests to prevent deforestation. The Indian Forest Act contained clauses providing for control over private forests, but forest officers had found it practically impossible to enforce them. In some provinces fresh legislation is being drafted to provide for practical supervision. The suggestions of the Inspector-General are: (1) The acceptance of the aim that 20-25 per cent of British India should be brought under correct forest management, and so far as possible in each of the provinces; (2) the enactment of a Private Forest Act to supplement the present India Forest Act in each province.

Chapter 3 of the post-war proposals discusses supplies and consumers under: (a) general consumers, mainly urban, whose needs are mainly met by the timber trade; (b) local village consumers residing close to a source of forest resources; and (c) ordinary village consumers who live far distant from any source of forest produce. No serious problem is involved, says the writer, in respect of the first two of these classes, either the chiefly urban or the villager residing near the forest areas. It is the third class of consumers who has been inadequately provided with forest materials, in several cases, for periods which run into centuries, as, for example, in Bengal. The post-war proposals in reference to this class are of the first importance. It is estimated with more certainty than is the case with most estimates of this type that large parts of the Punjab and the North-West Frontier Province, probably 90 per cent of the plains' villages in the United Provinces, all the centre and west of Bengal, much of Bihar and the coast lands of Orissa and possibly half the Bombay Presidency contain populations with an almost completely unsupplied demand for forest produce, firewood in particular. Lack of fuel in India has involved the use of cow-dung for cooking purposes, for example, for centuries in large areas of Bengal; it is estimated that somewhere about 43,000 square miles, or 13 per cent of the whole of the cultivated tracts of India, could be manured if wood fuel were available to the peasant for cooking purposes. In other words, for large areas or sections of the countryside, if fuel can be made by the formation of plantations, fuel forests, or minor forests (the name by which they are called is immaterial) in small blocks carefully sited so as to be evenly situated over the forestless area concerned, a very considerable amount of manure will be directed to its rightful purpose, the land.

This proposal, the most vital one in the Inspector-General's post-war forest policy report, it is estimated, will mean the creation of 100,000 square miles of additional forest—a sufficiently formidable scheme when it is remembered that the forest staff will have to make themselves conversant with the soils of a particular tract on which it is wished to site a future block (of no large size, but compact) of forest for the

provision of fuel and small house timber. Usually in India hitherto, in the districts, land has been classified into cultivated and uncultivated lands solely from the agricultural point of view, the latter being subdivided into cultivable waste other than fallow and land not available for cultivation. It is suggested that uncultivated lands should in future be classified as: (a) waste lands other than fallow on which minor forests could be grown (that is, fuel forests), and (b) land not available for forest cultivation. It is considered that such a classification will not require any elaborate machinery, since the selection of areas to be utilized for these fuel reserves could be left to the forest officers, who would be responsible for the actual planning of operations. I am given to understand that Bengal has already made considerable headway in this matter, the parts of the country intimately concerned in this matter having been investigated by the Chief Conservator of Forests and members of his staff and preliminary proposals drafted. If the work is to meet with success from the outset, as is most desirable, it would appear essential that an increase of forestry staff should be made, and that carefully selected members should be detailed to carry out these far from easy operations, which will be of such vital importance to the community and the country.

On the subject of the reserved forests of India as a whole, such was the degree of efficiency reached in their management that the Inspector-General is able to write that little is required to restore the departure from normal, that is, the excess war fellings; a 40-50 per cent reduction in pre-war yields for a period of five to ten years may in some cases be necessary. The true position can be determined by the revision of the working plans, which must therefore be accelerated after the War. What other country in the world with the possible, though doubtful, exception of one or two in Europe, could make such a confident statement about its war fellings and give such an estimate of the period—and so short a period—in which the excess could be brought to normal again? With such a forest record India will fully deserve all the assistance she can be given in her new effort to bring about a more even distribution of her forests, particularly those providing more especially, if not solely, for her huge agricultural population. For a higher fertility of her soils will furnish at least one answer to the question as to how she is to maintain her increasing population.

Space will not permit of following the Inspector-General's suggestions on floods, erosion and desiccation, forest research, forest education and minor forest produce. It is proposed—and the proposal has now been carried out—that the posts of Inspector-General of Forests and president of the Forest Research Institute and Colleges, which were amalgamated in 1925, with headquarters at Dehra Dun, should be separated, the Inspector-General going back to the headquarters of the Government of India at Delhi and Simla. This was a most desirable move. The idea of a federal service, which had already been suggested by Sir Jogendra Singh, was to provide for the staffing of posts under the Central Government and possibly interchangeable with men from the provinces. It would mean that the majority of the gazetted officers at the Forest Research Institute and posts such as the Andamans, Coorg, etc., and special forest officers to draw up working plans and give professional advice to individual States and agencies, would be placed on a federal list. Sir Jogendra's

suggestion appears to be eminently practical and one well worth bringing to realization.

The picture would be overdrawn if it were said that this report on post-war forest policy for India and the suggestions contained in it are in many directions the most important document drawn up for India's forests since the dispatches of the Secretary of State for India and the Governor-General written in 1862, dispatches which brought about the inauguration of the Indian Forest Department.

NUTRITION IN JAMAICA

IN a report prepared by the Nutritional Committee of the Jamaica Branch of the British Medical Association, Dr. W. E. McCulloch and his colleagues have explored the future position as to nutrition and agriculture in Jamaica, when the resolutions of the Hot Springs Conference come to be implemented.

While there is little or no difficulty in formulating a dietary of what the people should eat within the list of available local and imported foods, difficulties begin when the 'how' has to be considered. It is here that one comes up against what is probably a problem common to all those countries which depend very largely on agricultural exports for their economic existence—the conflicting interests of local nutrition and the export trade. This problem is most critical in those countries which, like Jamaica, are densely populated. The suggestion made in the report under notice for the solution of this problem is the intensification of agricultural production.

Considering the report in detail, the Committee accepts the findings of the 1937 Nutritional Committee of Jamaica, and remarks that the condition has been accentuated by the War, which has limited imports. The two main findings of the 1937 Committee were that the nutritional state of a distressingly large proportion of the labouring classes must be classed as definitely bad, and that the chief features of the island's unbalanced dietary were the deficiencies of animal protein and animal fats and the excess of starchy foods.

As a standard at which to aim, the Committee adopted Plan 1 of the Hot Springs Conference (which is relatively economical and suited to a poor population) and has translated it into tons of foodstuffs necessary to feed the Jamaican population of $1\frac{1}{2}$ millions. This estimate has been compared with what Jamaica actually ate in 1942. The calculated daily calorie consumption was 1,779, as against the Hot Springs standard of 2,688. Substances eaten in excess of requirements were those of a bulky nature such as ground provisions (yams and roots of various sorts) and vegetables and fruits (other than citrous fruits); while the chief deficiencies (per man per day) occurred with milk, $1\frac{1}{7}$ oz. as compared with 20 oz.; eggs, 5 per man per annum compared with 228; fats, $\frac{1}{2}$ oz. compared with $2\frac{1}{5}$ oz.; grain (as flour), $2\frac{3}{4}$ oz. compared with 10 oz.; and meat and fish, 2 oz. compared with 4 oz.

The Committee then goes on to translate these deficiencies in food requirements into acres required to produce them on the basis of the present production per acre; for example, a ration of 20 oz. (1 pint) of milk per day means 60 million gallons per year, which at present production-rates means 158,750 milking cows, or including dry cows and heifers reared for replacement, 264,000 cattle. This number of cattle would require 792,000 acres to maintain

them. The total acreage required (allowing for the importation of 50,000 tons of wheat and 15,500 tons of rice) under existing methods of agriculture would be as follows (in thousand acres): cereals, 83; roots, 20; pulses, 20; citrus, 3; milk, 792; beef, 1,836; a total of 2,754,000 acres. With additions for other things such as green vegetables, the total would exceed 3,000,000 acres. The actual acreage available in Jamaica, excluding some 586,000 acres in forest, towns, etc., is 2,250,000 acres, and much of this is not suitable for permanent cultivation.

Moreover, the economy of Jamaica is based on the production of agricultural produce for export to provide money for the importation of manufactured goods, flour, etc. These crops (as for example, sugar cane, 100,000 acres, and bananas, 150,000 acres) utilize the best available land for their purpose, and in total require 350,000 acres. It is thus clearly demonstrated that competition for land between export crops, food for domestic livestock and potential food for man has already reached a stage in Jamaica where it is impossible of solution if the present methods of agricultural practice continue. This is the outstanding conclusion of the Committee.

The Committee recommends therefore a complete revolution in Jamaica's agricultural system, which would include improved and more intensive methods of production. In particular, the first requirement is to increase the efficiency of the livestock industries, since there is an appalling competition for land between man and cattle. It is pointed out that Jamaica can no longer afford 2-3 acres to feed one cow giving about 300 gallons of milk, or a range steer to produce some 500 lb. of meat. A swing-over from beef to milk production is also recommended. Increased production of peanuts and soya beans would do much to supplement the meat supply. The productive land should be used in a cycle which includes cattle, but the land cannot be permitted to be used solely for beef cattle. The local production of rice on reclaimed swamps and the production of food yeast from molasses are among other items suggested; but it is pointed out that while the addition to the ration of vitamin B₂ from yeast will be an advantage, it will not reduce the need for the other constituents of a good ration for children. The Committee quotes in detail Dr. Platt's recommendations for an immediate aim for nutrition in Jamaica, but considers that these will not altogether satisfy the social needs or meet economic requirements, and so it proposes an amended dietary as a basis for agricultural policy. It is convinced that the increased production required to meet the 'intermediate diet' could then be attained by increased output of produce per acre; increased acreage should not be required. The Committee concludes by saying that it considers that by increased efficiency and harder work, the aims of nutrition and economics are attainable in the next few years, and that both can be made to fit into the requirements of the land and the farmer. Neither efficiency nor hard work can, however, be achieved unless good food is plentifully available to rich and poor alike. If higher standards of efficiency and greater output *per capita* of population as well as per unit of land cannot be achieved, then the outlook for Jamaica cannot be regarded as anything but poor.

The Committee's report is a most interesting and important document, and worthy of study by all those who are engaged in nutrition or agriculture; it can well serve as a model in method for those who are considering such problems.