

## ADVICE TO NILGIRI RYOTS \*

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I am thankful to the Agriculturists' Association for giving me an opportunity for meeting you, the real cultivators of the District—and addressing you. I am glad to note that, judged from the Report of the Secretary, the Association has done good work for the first year, and that it is something achieved that the agents of the S. I. R. and M. S. M. R. have agreed to lessen the freight on consignments of potatoes exported from the district. I am also glad that the Association is getting help and guidance from the agricultural officers in the district.

Just over a century ago, this land of *Todas*, *Budagas* and other hill tribes, came to be occupied by the Britishers. All the improvements in the district, in the shape of easy and excellent communication, better sanitation, the growth of cities, the development of coffee and tea estates, the erection of factories, and the latest achievement, the Pykara Hydro-Electric Scheme, are due to British advent and British administration. The natural scenery and excellent climate attracted the Englishman to this land of latent wealth, and there were serious proposals in the earlier years to colonise the Nilgiris into a European Settlement. Spasmodic efforts were made, now and then, to study the agricultural possibilities of the district and improve the methods of cultivation. It was left, however, to H. E. Lord Napier to take the first step in this direction, in 1871. He directed Mr. W. R. Robertson,—the Superintendent of the Farms in the Presidency, and later also the Principal of the Agricultural College at Saidapet—to proceed at once to Nilgiris and submit a detailed Report. Mr. Robertson spent several months, in different seasons, in the district, made detailed local enquiries into existing conditions and submitted an exhaustive Report in 1873 with his recommendations on the following points:—

1. The Agricultural conditions, capabilities, and prospects of the district, especially with regard to (a) the breeding of horses, cattle and sheep; (b) the establishment of Farms on the European system; (c) the planting operation in coffee, tea and cinchona; and

2. The improvement of husbandry of the hill tribes.

In this Report, Mr. Robertson—reputed to be one of the most sympathetic officers alive to Indian interests—discussed the possibility of colonising the district with European and Eurasian settlers, retired military men, and even English and Scotch farmers, rather than with

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\* Abstract of a Presidential Address in Tamil at the First Annual Meeting of the Nilgiris District Agriculturists' Association, held at the Blue Mountain Theatre, Ootacamund, on 17th September 1934.

Indian settlers whom he considered at the time to be fit only to serve as labourers.

Times have changed, and the viewpoints of British administrators have also changed in that there is nothing to prevent the natives of the soil from being actual *mirasdars*, if they choose to.

Out of a total area of 630,000 acres in the district, the net area sown in 1931-32 was only 84,000 acres, i.e., 13%, while culturable waste and current fallow amounted to 30 per cent. It may be that the original settlers,—coffee and tea planters—obtained land from Government or by purchase from the hill tribes, at comparatively easy terms. But I appeal to the authorities to assign waste lands, in future, to the natives of the soil as far as possible.

The district of Nilgiris is very well favoured, so far as rainfall is concerned, as copious rain falls during the S. W. and N. E. monsoons and during the hot weather, and as the rainfall is spread over a larger number of days in the year than happens on the plains. To that extent, the cultivators of the Nilgiris district are more fortunate than their brethren on the plains, whose first requirement for crop production is water and whose ingenuities for getting water for irrigation, are so many and so varied.

The soils of the Nilgiris are varied and extreme in their richness or poverty of plant-food. Soils in the lower slopes and in the valleys are richer than the soils in the plains, while the fine soil on the steeper slopes has been washed away in mountain streams; and, unless an elaborate and costly system of terrace cultivation is practised, few crops can be grown. The soils in the Nilgiris are generally well supplied with all fertilising ingredients except lime and have plenty of organic matter.

Regarding the crops grown during 1931-32, tea and coffee occupied 53,000 acres, and as these were mostly in the hands of European planters, who have invested large sums in their estates, who have organised themselves well and who appreciate scientific guidance, tea and coffee bring in comparatively more profits. The cereal grains grown by the ryots, *samai*,<sup>1</sup> *korali*,<sup>2</sup> *ragi*,<sup>3</sup> wheat, and barley, do not occupy more than two to three thousand acres each, and, generally speaking, they receive scant attention and yield poor crops. Fruits and vegetables, however, are grown over 12,000 acres, the bulk of which is occupied by the potato. It is, therefore, necessary that the attention of the ryots and of the Agricultural Department should be more closely directed in future to the production of fruits and vegetables, which are in such great demand in the plains.

Government have organised two Departments, on what may be termed altruistic basis, for the special benefit of the agricultural classes, namely the Co-operative and the Agricultural Departments; they are interdependent. When the cultivators are particularly poor, as is

1. *Panicum miliare*. 2. *Setaria glauca*. 3. *Eleusine coracana*.

the case in the Nilgiris, it is evident that they will get increased profits and incidentally attain to better standards of living, only if co-operative methods are adopted, not only in banking through credit societies, but also in production and distribution, purchase and sale and transportation and marketing of produce. I particularly appeal to you to be a little more ambitious than being content always to serve as coolies to those who settle in the district, and to create in yourselves sufficient self-confidence for working out your own salvation.

There are two obstacles in the way, illiteracy and drink. The Nilgiris district is one of the most backward in education. Let alone higher education for which probably there is no scope with the limited population in the district, the people must utilise the facilities now available for secondary education and must ask for compulsory elementary education and take full advantage of it. As regards drink, it may be remarked that as there are no coconut or palmyra trees in the district, there is no manufacture of toddy, the usual drink of the working classes in the plains. The advent of civilization has brought in the evil of drink among the hill tribes in the shape of the more harmful distilled liquors. Some one remarked that the drink habit is much less now, but it is staggering all the same to note that, in the year 1930—31, the excise and opium revenue was over six lakhs of rupees, while the land revenue was less than two lakhs.

The Government Agricultural Station at Nanjanad has been established solely for solving the potato problem in all its aspects for the benefit of the Nilgiri cultivator. A large number of experiments has been conducted there, and fruitful results have already been achieved. It is well to remember that, in a Research Station, some experiments may yield positive results, while others may give doubtful or even negative results. It is only the successful and profitable methods, proved beyond the stage of experiment, that are recommended to the ryots for adoption. Of such successful results, the following may be mentioned as the most important:—

(1) Improvements in preliminary cultivation by the use of ploughs and light field implements with bullock labour, in the place of manual labour which is always slower and more costly.

(2) The necessity for adequate manuring of an exhaustive crop like the potato, the dose recommended being 5 tons of Farmyard manure and 15 cwts. of a specially improvised manure mixture, containing 80 lbs. of nitrogen, 234 lbs. of phosphoric acid and 108 lbs. of potash, these quantities being relatively the amounts of fertilising ingredients removed by a good potato crop. The farmyard manure has been found necessary for potato, as without it, the manure mixture does not give a proper yield. To procure farmyard manure, you must keep cattle, and the maintenance of cattle will induce the Nilgiris cultivator to resort to the use of ploughs and light field implements.



(3) Wider spacing of furrows and wider planting of seeds in the rows, 20 to 24 inches and 9 to 12 inches being recommended, instead of 15 inches and 6 inches, respectively, now adopted by the ryot.

(4) Medium and big seed potatoes, weighing  $1\frac{1}{2}$  to 2 oz. the size of a hen's egg recommended in the place of chats, weighing  $\frac{1}{2}$  oz., as is now the practice.

(5) Selections of varieties, suitable to the district, resistant to the disease and yielding relatively a larger fold.

(6) Adoption of rotation of crops, not only to recuperate the soil, but also to avoid diseases, incidental to potato cultivation.

(7) Planting lesser seed rate at 7 to 8 bags per acre, instead of 25 to 30 bags now used by the cultivators.

(8) Improvements in harvesting, storing, and selection of seed for the next crop.

All these improvements are worthy of immediate adoption by the ryot without any hesitation whatever.

I am glad to hear that the Nanjanad potato has penetrated throughout the district and that a few demonstration farms are run by the ryots with the help of the officers of the Agricultural Department, with a view to grow their own seed-potatoes. Much more remains to be done. The Deputy Director of Agriculture, the Superintendent of the Nanjanad Farm and the Agricultural Demonstrators are always ready, working as they do in a missionary spirit, to help the cultivators.

Utilise the services of these officers to the fullest extent. How many of you have visited the Nanjanad Farm? If you have not yet done so, take the earliest opportunity to go there, see for yourselves what is being done there and ask the staff to explain the nature of the different experiments. Ask for their help in laying out suitable Demonstration Farms in your own villages. Seek their co-operation in the working of your Agriculturists' Association on the model of the Mysore Experimental Union, in which the ryots and officers are working in sympathetic co-operation.

I have to reiterate that the Indian cultivators of Nilgiris, are so poor that they cannot make great progress, unless they co-operate and organise themselves for their own benefit. I fail to see why it should not be possible to supply, more copiously than is now the case, the people of the plains, at least those in the neighbouring tamil districts, a lot of produce peculiar to the hills, e.g. English vegetables, apples, pears etc, when it is seen that the Himalayan apples and pears are delivered by post at the southernmost end of the Peninsula. What is wanted is organisation, and it is a recommendation to the Nilgiris Agriculturists' Association to tackle the question in all seriousness as there is plenty of trade and money in it.

I notice that the loans taken by the ryots under the Land improvement and Agriculturists Loans Act have been diminishing during the last 5 faslis, being Rs. 27,000 against Rs. 42,000 five years ago. It is not known whether such loans are taken by the Indian cultivators or the European cultivators. I advise you to take advantage of the facilities afforded and at the same time emphasise the need for speedy and sympathetic compliance, with loan applications, on the part of the Revenue authorities.

I am glad to hear of the Rural Re-construction Centres, established at Edapalle and Dhavani where poultry-rearing, bee-culture and agricultural improvements in general are being demonstrated. I am equally glad to be informed that arrangements are in progress to purchase and distribute the special manure mixture on a co-operative basis.

It is a happy augury that the Minister for Development, who is in charge of both the agricultural and co-operative portfolios, should open this conference, to-day because the Hon'ble Mr. P. T. Rajan is himself an agriculturist of some standing and is sure to give a sympathetic consideration to the legitimate demands and requirements of the Nilgiris cultivators.

## "INSECTICIDES AND THEIR USE IN INDIA."

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**Introduction.** From those very early days when prehistoric man gave up his nomadic and predatory habits and began to raise crops and tend cattle the struggle between nature and man must have commenced in right earnest, man upsetting the normal conditions prevailing in the universe, and nature asserting herself every time to re-establish her supremacy. Gradually, through centuries of civilization, as this protracted struggle continued, one of the most important changes effected has been a pronounced re-adjustment of the relations that originally existed between man and the lower forms of life. Under the numerous artificial conditions brought about by human agency, what is known as the "balance of life" in nature is constantly upset especially among the lower animals like insects and one of the various resulting phenomena which frequently happens is an abnormal increase in the number of some lower forms of life which affect men—in other words, there is an outbreak of pests. Man has, of course, recognised this self-inflicted but inevitable evil through past decades and in all countries he has been compelled to devise various methods of minimising the toll levied by pests of different

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