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G.O. No.	724	Press
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Dated	13-11-	1863.

25-26 *6/7***Not to be folded or roughly handled**

*Proceedings of the Madras Government, Financial Department,
13th November 1863.*

No. 25. Read the following Proceedings of Government in the Revenue Department, dated 6th November 1863, No. 1994.

Communicate orders passed on the Minute by the Honorable the President, on the system of agriculture as carried on in the Madras Presidency generally. (Vide Proceedings Revenue Department, dated 6th November 1863, Nos. 63-66.)

No. 26. ORDER THEREON, 13th November 1863, No. 724.

To be recorded.

(Signed) A. J. ARBUTHNOT,
Chief Secretary.

Read the following Minutes:—

No. 63. MINUTE BY THE HONORABLE THE PRESIDENT.

1. During my absence from Madras I have travelled, in various directions, through much of Mysore; I have visited the Districts of Bellary and Kurnool, and have resided for some time in the higher part of the Salem District. The whole of the country which I have visited is under, what are termed, dry crops. Of course advantage is taken of every opportunity of collecting the drainage of the country into tanks, and the water, thus stopped in its progress to the sea, is utilized to the utmost extent; still, however, by far the largest portion of Mysore, and of the other Districts named, is dependent upon the rains for the moisture required for the crops. In fact, the character of the dry cultivation is analogous to that of England, with, however, this marked difference, that while in England, as a general rule, farming operations can be carried on throughout the year, with only the occasional interruption caused by excess of moisture, in these Districts the rain is periodical, being the product of the two monsoons, and may last for five or six months, and during these wet months the whole work of the farm must be completed, the dry months from January to May putting a stop to all operations upon the baked and burned up surface, with the exception of a few detached fields, where advantage is taken of the casual showers which fall generally about April.

2. The time for farming operations being thus limited, it is a matter of importance that the work should be performed as speedily as possible, that each process should be got over with the utmost rapidity compatible with efficiency; the tools and implements should, therefore, be as effective as possible, regard of course being had to the power at the disposal of the farmer, and no loss of time or of labor should be allowed. The actual state of things, so far as they came under my observation, was widely different from this.

3. The ground being left untouched during the dry season, the weeds have ample time to seed and to develop themselves, and the ground is well covered with a variety of trash, among which a species of couch grass is the commonest, and the most obstinate in resisting removal.

4. The first ploughing, having for its object the clearance of the soil from weeds, is performed with such an indifferent tool as to produce but little effect; it does indeed but scratch the surface, and of course must leave much of the roots of the couch grass in the ground. As this ploughing is ineffective, it has to be repeated several times, while women and children follow the plough for the purpose of picking up the loose weeds.

5. The ground being prepared by frequent ploughings, the seed is sown by a species of drill (I am speaking now more particularly of Raghi, which is the principal crop in this part of Salem and in Mysore); too little attention, however, has been paid to the petty arrangements of this drill, so that much seed is wasted by being sown too thickly. A bush harrow is used to cover the seed, and does its work effectually.

6. When the plant makes its appearance above ground, it comes up much too thick, and it is necessary to cross hoe it with a kind of heavy rake, worked by bullocks, and having four teeth. This operation serves two purposes, it loosens the ground, and by thinning the drills, leaves the plants room to grow. The distance between the drills in Raghi is from 5 to 6 inches, and under the system above detailed it grows, under favourable circumstances as to moisture, strong and healthy.

7. The Native, however, is not contented with one or even two strings to his bow; having sown the Raghi he proceeds to insert the seeds of various other plants in rows at distances of about $3\frac{1}{2}$ or 4 feet apart; that is, about every eighth drill of Raghi has other plants, interpolated, and I have seen in one field as many as five different kinds of plants; Raghi being the staple, Mustard is found growing irregularly, then in the drills there are varieties of Beans which are pressed for oil; then a variety of Cholum or Millet is found, and not unfrequently plants of Castor Oil; in some Districts Cotton is planted in this way. All these come to maturity at different times, and of course the ground must not only be gone over in reaping as many times as there are kinds of

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same field must be employed for that purpose. In a meadow, carrying a heavy crop of Doab or Hurreala grass, two equal strips of land were marked off; to one of these an Englishman with a scythe was allotted, while alongside of the other twenty-two women, each with a small reaping hook, were posted. These latter were encouraged to do their best by the promise of a Rupee in addition to their ordinary wages. At a given signal both parties commenced to work, and the women in consequence of the extra stimulus applied, won the race. On looking over the land it was evident that the man would have beaten sixteen women, even under the excitement of the stimulus, and I believe that, at the ordinary rate of working, the scythe would go over as much ground in a day as twenty men, or rather women, would go over with the reaping hook. If then a Native, who by the way is very quick in learning the mode of handling these implements, be considered to be physically equal to half an European, and if he is rewarded for his intelligence in learning the use of a scythe by the receipt of double wages, he would in fact do the work of ten labourers, receiving the payment of two, and a saving of eight workers would be made.

20. From what I have mentioned above as the result of the cursory observations made by me during the last few months, it is evident that great improvements might be made in carrying out the commonest agricultural processes. I think, too, that better implements, if properly adapted to the circumstances of the country, and the means and powers of the people, would soon save their cost by the saving of labor which would result from employing them.

21. The mere importation of implements, however, or their exhibition at an agricultural show, will not be sufficient to induce the Natives to purchase or use them; they will naturally require to see the implement, whatever it may be, fairly at work; to be able to criticise its performances, and to compare these with the work of their own tools. The Government then should be not only in a position to exhibit the working of the different implements, but it should show them worked by Natives, so that no doubt should exist as to the power of these latter to employ them beneficially.

22. Luckily the Government has an establishment at Oosoor which offers all these advantages. There is already a farm of about 240 Acres attached to the Remount Establishment, and it has been proposed to add to this 150 or 200 Acres, so as to give to the Remount Agent the means of making a profitable use of the power he has at his disposal, by raising produce of different kinds, either for the food of his horses or for sale.

23. There is at the establishment a fair proportion of the different kinds of soil; the upland is similar to the great mass of the land in Mysore, a red sandy loam; while in the bottom there are some acres of irrigated land. On this farm, therefore, experiments might be made with most if not with all of the new implements sent out, with the certainty that every really good tool is not only paying its cost in diminishing the expense of cultivation, and enhancing the produce of the farm, but that it is making its way in the estimation of the people, and will be the parent of many contingent benefits to the Government which introduces it.

24. Natives, in certain numbers might be permitted to attend at the District, for the purpose of examining the tool and witnessing its action, but to learn the use of it. The number of these pupils must of course be limited, but the instruction given by the Remount Agent would be to the effect that the object of the Government would be to give a wide diffusion among the Natives of the knowledge of the mode of using the implement. It would also be as well that, at the two periods of seed time and harvest, when the implements are in full operation, a sort of exhibition should take place. A plough match might be held in June or July, and some trifling prizes given to the best Native ploughman. At Christmas the various reaping and threshing machines might be exhibited, and eventually, such improved machinery for oil pressing, &c., &c., as is available, might be exhibited, and compared, as to their efficiency, with the old machines.

25. Looking upon this Minute as supplemental to my former one on the introduction of machinery, I should wish to add the following to the list of implements and machines therein contained:—

- (1.) 6 Light Ploughs with wheels.
- (2.) 1 Read's sub-soil Plough.
- (3.) 6 Sets Harrows, wooden, Rhomboidal.
- (4.) 1 Horse Hoe.
- (5.) 1 Do. expanding.
- (6.) 1 Slight's improved Drill prepared for sowing seeds of different sizes, from Mustard up to Wheat.
- (7.) 30 Scythes for short people and light weight.
- (8.) 12 Hay Rakes, wooden, American.
- (9.) 1 Horse Rake.
- (10.) 1 Good one-horse Cart.
- (11.) 1 Reaping Machine.

26. These would be fair specimens of the class of tools and implements for which use might be found on the farm at Oosoor, and modifications of these in material easily procurable in India, might be soon manufactured here by Native workmen. What we ought to seek to impress on the Native mind is the principle or the idea. When once this is fairly engrafted, it will soon grow and produce the required fruit.

27. There is one subject in connection with those discussed in this Minute, to which I wish to direct the special attention of the Government. It forms part, it is true, of a general question, but may, with advantage, be dealt with separately, and form a suitable introduction to the remainder. I mean the collection of agricultural statistics.

28. From the nature of our connection with the country we have hitherto either found, or fancied, difficulties in the prosecution of statistical enquiries. I cannot, however, but think that these difficulties are gradually disappearing; even as regards those questions which have a more close relation to the domestic arrangements of the people, I mean those which require a record to be kept of births, deaths, and marriages, would not now be so distasteful as used to be anticipated.

29. The difficulties, however, which impede the collection of a variety of useful agricultural facts, are not greater here than elsewhere. The Government has here far better means of arriving at them, and they are of much greater importance to the Government here than they can be in other parts of the world, where the revenue does not bear so direct a relation to the produce of the soil as it does in India. The field is so wide and the information in our possession so scanty that the sooner a methodical system of collecting, arranging and registering these facts can be established, the better.

30. I see no reason why the Collector in each District should not be called upon to forward a Report annually upon all matters connected, directly or indirectly, with the agriculture of a portion of his District, a Talook for instance, or a portion of a Talook. To ask him for a report upon more than a small portion would but ensure the return of a general sketch of the district, instead of a finished microscopical analysis of a portion; more information, such as that which is required, would be got from an exhaustive report upon one village than from a sketch of a district.

31. The information derived from these reports would be valuable in two ways, it would give to the members of Government a vast mass of facts of which they are at present ignorant, and it would be the means of inducing the Collectors to look closely into many matters to which, as not directly affecting the execution of their duties, they now pay but little attention.

32. A general form might be prepared, noticing the subjects to which attention should be paid, more, however, as a Memorandum for the use of the Officers employed than as a check upon the

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introduction of any subsidiary information. I here mention the subjects which immediately occur to me, of course it would be easy to make additions from year to year:—

- (1.) Description of Talook or of village in full detail, physical aspect, number of population, means of communication, &c., &c.
- (2.) Area of cultivation, of cultivable waste, jungle, &c., &c.
- (3.) Character of soil, of sub-soil, quarries, mines, presence of minerals, metals, &c.
- (4.) Quantity of irrigation, mode of increasing this.
- (5.) Quantity of stock, cattle, sheep, donkeys; prices of each; size and weight of cattle, do of sheep, load for each bullock, for each donkey, power of draught, &c., &c.
- (6.) Cultivation, wet and dry crops; mode of cultivation; number of ploughings; state of soil; quantity of seed, quantity of produce, grain straw, length of time in ground, how reaped, how threshed; price, wages of labor, how paid.

These are mere general heads, as soon as the Collector begins to make his enquiries he will be struck with the mode in which subsidiary enquiries interpolate themselves; the more the subject is looked into the more interesting will it become, and a marked difference will be seen between the reports sent in at first, and those which will be the result of three or four years' experience.

33. In order to produce as beneficial effects as possible, a summary of the facts placed before the Government should be drawn up with every attention to the details, and not too much condensed, and printed in the different vernacular languages for general circulation; while the report of each Collector should be published, in full, in the District Gazette. There is one most important preliminary to the collection of statistical information or rather to the comparison of the facts collected, which has already attracted the attention of Government, I mean the improvement of our system of Weights and Measures. Unless these can be simplified, the bare facts will require so much calculation and reduction to bring them into a form to admit of comparison as will render them practically useless. I would suggest then that a reference be again made to the Supreme Government, calling its attention to the substance of the recommendation of this Government in the letter dated 13th May 1863, No. 834, and requesting to know whether there is any intention on the part of the Government of India to adopt the suggestion therein contained, or to make any effort to bring about anything in the shape of an uniform system of Weights and Measures. Should the reply be in the negative, the Government may then take up the subject so far as the Madras Presidency is concerned, and do its best to methodize and arrange upon some simple basis the relation between the different Weights and Measures now in use.

1st October 1863.

(Signed) W. T. DENISON.

No. 64.

MINUTE BY THE HONORABLE MR. MALTBY.

1. This Minute of the President forms a supplement to his former one on the introduction of machinery, and the implements and machines detailed in paragraph 25 should be added to the list of those for which application has been made to the Secretary of State.

2. In paragraphs 1 to 18 His Excellency comments on the imperfect system of agriculture carried on in those Districts which he has lately visited. The subject is an important one, and has long engaged the attention of Government and its officers. I would refer more especially to the elaborate details collected by Dr. Buchanan in the agricultural tour which he was directed to undertake for the purpose of obtaining information, and the records of the Revenue Board will be found to contain more recent reports from many intelligent officers, which throw much light on the subject.

3. In my opinion the apparently backward state of agriculture arises less from ignorance or from unwillingness to use improved methods than from poverty and the discouragement of small gains. In Districts where a handsome profit is obtainable from the land, as in Cuddapah, Malabar, &c., the agriculture will be found to be of a superior description, and I argue from

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this that the surest way of promoting improvement is to render land valuable and attract capital to it, by such methods as fixing a light and permanent assessment, giving security of title, enlarging the means of irrigation and facilitating the conveyance of produce to market towns and ports by improving the communications of the country. In proportion as efficient measures are carried out for making land valuable, the mode of farming will, I am confident, become better, and I should wish to see the chief energies of the Government directed to measures of the above description.

4. In support of my remarks I would point out the readiness with which the people have improved their lands and introduced new products, such as indigo, ground-nut, &c., where the state of the assessment and the power of disposing of their produce permitted them to do so without imprudence. It seems to me also that although poverty often obliges them to the best farming on a humble scale, they exhibit much aptitude for turning their means to the best account. English commercial houses, for example, seem generally to purchase the produce which they require for their sugar, indigo and other factories, although they have made attempts to grow it for themselves with the appliances of European skill and art.

5. But even should it be conceded that I have pointed out the primary method of advancing the agriculture of the country, I by no means wish to undervalue the means which His Excellency proposes for the same purpose. Improved implements placed by Government, for use as models, in the hands of some of the more enlightened Native land-holders may lead to important results; but they should be tried in our more advanced Districts. Manuals adapted to the climate and soils of this Presidency and explaining the principles of agriculture in simple language, might also produce much benefit when circulated in the native languages. Hints for the cultivation of cotton and indigo have, if I mistake not, been published in this manner.

6. On the subject of statistics, I propose that His Excellency's suggestions be referred to the Revenue Board for their consideration and report. My impression is that statistical details already abound in their records. Elaborate enquiries have been made from time to time by various officers to ascertain the yield of the land and the cost of cultivation. The quinquennial returns show the more important statistics of each Province. All the sources of irrigation are carefully registered in the Public Works Department, and under instructions approved by Government the Survey Land Registers now being prepared will contain a statistical Memoir for each village. The question is attended with some difficulty and requires careful treatment, as attempts to obtain agricultural returns have been found to give the lower Native Revenue servants an opening for interference and exaction.

(Signed) E. MALTBY.

15th October 1863.

No. 65.

MINUTE BY THE HONORABLE MR. PYCROFT.

Minute by His Excellency the President, dated 1st October 1863.

1. His Excellency the President in the above interesting Minute has correctly described the present condition of native agriculture generally in this Presidency, and the defects incident to it.

2. Those defects can, as it seems to me, only be remedied gradually as the general improvement of the country proceeds, and as the people become more enlightened. The main remedies are the lowering of the land assessment where unduly high, and placing it on a permanent footing, security of tenure, development of internal communications, roads, canals, tramways and light railways, extension of irrigation, reduction of the interference of subordinate Revenue officials to a minimum, cheaper and more prompt administration of justice, and diffusion of education—every thing in fact which promotes the free action of the cultivator, opens out to him fresh markets, brings him into communication with the European merchant and settler, and by creating a greater and more certain demand for his produce gives him the strongest stimulus to raise it in the best state, and with the utmost economy of time and labor. This has already been

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effected to some extent as respects exports for foreign countries, Indigo, Ground-nut, &c., and the progress is likely to continue.

3. At the same time I see no objection to the immediate agency of Government towards the desired end in the way proposed by His Excellency. The implements which he specifies should be applied for in addition to those in the list already sent home. Agricultural exhibitions should be encouraged, and the improved machines, tools and implements shown in practical operation, and their uses, modes of action and results explained to the assembled Ryots. A model farm in which these several machines and tools should be seen in constant use may also be established, but I would not place it at Ossoor which is on the very frontier of the Madras Presidency, nor under the Remount Agent who, however zealous and intelligent he may be, cannot have that intimate knowledge of the natives, their ways, prejudices, and feelings, which is only to be acquired by long residence in the Provinces, and constant intercourse with the people. I would rather locate it in some central spot on a line of Railway, say at Coimbatore, where it would have the best chance of success under the present able and energetic Collector. If a second farm were required for the Northern Division of the Presidency, I would suggest Cuddapah as the best site.

4. The promotion of the growth of trees is on many accounts an object of first-rate importance. His Excellency's views on this head might be communicated to Captain Beddome, for his suggestions as to the best mode in which they could be practically carried out.

5. Paragraphs 27 to 33 of His Excellency's Minute might be referred to the Board of Revenue for their remarks. I must confess myself averse to adding to the number of reports and returns at present laid before Government, and to throwing more labor on the Collectors, who are over-worked already, but the matter may be considered more fully when we are in possession of the Board's sentiments.

6. The Supreme Government may be requested to favor us with an early answer to our letter of 13th May last, on the adoption of an uniform set of Weights and Measures. I continue of opinion that the simplest and easiest course would be to introduce the English standards, which are now (practically) in use on the Railways and at the Sea Custom Houses. The question however has no doubt been complicated by the late Resolution of the House of Commons in favor of the Decimal system.

24th October 1863.

(Signed) T. PYCROFT.

No. 66.

ORDER THEREON, 6th November 1863, No. 1,994.

1. Resolved that the Minutes above recorded be forwarded to the Home Government with a request that the additional implements, noted in paragraph 25 of His Excellency the President's Minute, may be sent out with those applied for on the 13th July 1863.

2. The Board of Revenue will be instructed to communicate with the Acting Conservator of Forests and the Acting Director of Revenue Settlement on the subject of encouraging the growth of firewood on waste lands. By the existing rules such land is granted free of assessment for twenty years, and the planter is also allowed to cultivate the land in the spaces between the trees, without any charge. At the end of that period, the land assessment only is chargeable. These are liberal terms, but assistance might also be afforded in the way of supplying seeds and young plants, and the importance of not employing valuable manure, as fuel, should be explained to the people.

3. The Board will provide in the Budget of next year as already desired, for agricultural exhibitions in those Districts where there is a reasonable prospect of their being appreciated, and will take care that suitable prizes are offered for cattle and improved agricultural implements.

4. Paragraphs 23 and 24 of His Excellency's Minute will be communicated to the Military Department, with a view to instructions being issued accordingly to the Remount Agent. Funds for the grant of prizes will be provided in the Revenue Department.

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5. The Board of Revenue will report on the general question of agricultural statistics, and suggest the best mode of procuring them after communicating with a few of the Collectors on the subject.

6. The Government of India will be requested to favor this Government with an early reply to their letter of May last on the subject of "Weights and Measures."

(True Extract.)

S. Pycroft
Secretary to Government.

To the Board of Revenue,
" Conservator of Forests.
" Director of Revenue Settlement,
" Military Department.
" Financial Department.
" Accountant General.

Exd. S. T. Augustin.

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