M.R.O. 14—18,000—27-6-24

MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No.	1188	Press ~~Mis.~~
11-12 Dated	1 — 5 —	1868.

Not to be folded or roughly handled

Proceedings of the Madras Government, Revenue Department, 1st May 1868.

No. 11. Read the following Proceedings of the Board of Revenue, dated 15th April 1868, No. 2,766 :—

1. With reference to the Proceedings of Government, dated 15th February 1867, No. 378, the Board beg to submit the following general report on the results obtained in the districts to which English Agricultural Implements were supplied both for show and on application by private parties on payment, premising that the greater part of the information now furnished has been already laid before Government from time to time.

1. Ganjam.
2. Vizagapatam.
3. Kistna.
4. Nellore.
5. Madras.
6. North Arcot.
7. South Arcot.

2. The only districts to which English Agricultural Implements were supplied are those named in the margin.

Government Order, 27th February 1865, No. 424.
Official Memorandum to Collector, 8th March 1865.
From Collector, 16th March 1866, No. 239.
To Government, 5th April 1866.
From Government, 19th April 1866.
From Collector, 19th April 1866.
Procs. to Collector, 5th May 1866, No. 3,175.
From Collector, 3rd August 1867.

3. GANJAM.—The implements forwarded to Ganjam consisted of a Plough, Horse Hoe, and two Scythes. These the Collector handed over to Mr. F. Minchin, the Manager of the Aska Factory, who reported that both the Plough and Horse Hoe being made of cast iron snapped on trial, though the ground had been somewhat softened by the recent monsoon, and that the same thing happened to the Scythe when put to use. In his letter dated August 3rd, 1867, the Collector states that the implements had been repaired, wrought iron being substituted for the cast iron; and a report from the Manager of the Aska Factory as to their working is promised, and will be submitted when received.

Government Order, 27th February 1865, No. 424.
Official Memorandum to Collector, 8th March 1865.
From Collector, 28th February 1866, No. 180.
Procs. to Government, 20th March 1866, No 1,962.
From Government, 11th April 1866, No. 824.

4. VIZAGAPATAM.—A Plough, a Horse Hoe, and two Scythes, were similarly forwarded, through the Collector of Vizagapatam, for the Manager of the Maharajah of Vizianagarum, who reported the result of the trials made by him in the following terms:—

"I have received your letter of the 19th instant, and in reply, beg to state that I have been "carrying on cultivation with the English Plough, and other agricultural implements, both in the "'Pulbagh,' and other gardens of the Honourable the Maharajah, and in the neighbouring villages, "by means of the man named Ruben Atkins, whom you were pleased to get from Madras through "Doctor Hunter at my request so soon as those implements had been received here, and whom "I have retained on a salary of Rupees 25 a month. I was present myself on two or three occa- "sions, and observed the operation. I find that the benefit to be derived from the use of the said "Plough, is four times greater than that of the country implements; for, with the latter the land "is usually ploughed four times before the soil could be turned up to a foot in depth, and a foot "in breadth, while the same could be done by half a foot broader with a single operation by the "English Plough; but the drawback is that the ordinary kind of cattle of this country are not "strong enough to drag them; it requires larger description of bullocks, &c., which are of greater "value. If one could afford a large outlay of expense for the first time, it would doubtless prove "beneficial eventually, both in respect of labour and expense. Greater advantage can likewise be "derived by the introduction of the Horse Hoe, and the Scythes, than by the country ones.

"At present, however, there being no rain for a long time, much has not been done by the "English Plough; it has been used only where it has been practicable. In the approaching rainy "season I hope to have done much by these implements, and not only to make the ryots of the "neighbouring villages acquainted with the use of them, but also to get similar instruments made "up here."

From Collector, dated 28th Feb. 1866, No. 180, in Board's Procs., 20th March 1866, No. 1,962.

5. In submitting this report to Government, the Board remarked that "this testimony is valu- "able and interesting, as conveying almost the first assurance of the successful use of the English "implements in native farming."

6. With his letter, dated 1st March 1867, No. 75, the Collector forwards translation of a further report on the experiments made during the last season with these implements. In this the Manager states, that he has had five Ploughs made up according to the English pattern, and that a great extent of cultivation both wet and dry has been ploughed with them, with greater ease and less expense, than with the country implements. The Scythes also, he states, have been found to answer exceedingly well.

7. KISTNA.—Only a Rice Hulling Machine to be worked by water power and a Cotton Gin were sent to the Kistna district. After some delay the machine was erected and put in action, under the direction of Captain Smith and Lieut. Croker, R. E., at the Nedumole lock on the Bezwada and Masulipatam Canal eight miles from the latter place. It having been ascertained that the supply of water to the wheel was under perfect control, and that the whole machine worked smoothly and well, two experiments against time, as detailed in the marginal memorandum by Captain Smith, were made when it was found that the second experiment, at a higher speed than the first, was the most successful in every way, and the rice (samples of which were sent to Government) turned out by it far cleaner than when the revolutions of the wheel were slower. The Collector apprehending some difficulty at first in procuring a sufficiency of grain to be brought for hulling, if the machine were retained under Government management, accepted the offer of Messrs. Maiden and Co., of Masulipatam, to take the Mill on trial for one month on condition of their paying all the expenses, and giving free access to all comers to witness its working. This arrangement was approved by the Board and Government, who directed, at the same time, that the working of the machine should be tested comparatively with manual labour.

G. O., 3rd February 1865, No. 207.
From Collector, 24th Nov. 1866, No. 388.
Procs. to Govt., 10th Dec. „ No. 8,769.
From Govt, 21st do. „ No. 3,460.
From Collector, 23rd April 1867, No. 105.

MEMORANDUM.

Time.	Measures of Paddy.	Revolutions of stones.	Measures of rice.	Measures of Nuka, broken rice.
30 Minutes.	102	About 100 per minute.	47	11
31 do	133½	130	70	5

8. In his letter, dated 23rd April 1867, No. 105, the Collector submits a report from Messrs. Maiden and Co. on the working of the machine, from which it will be seen that the attempt made by them to clean rice for the local market proved unprofitable. The opinion expressed by the natives that the Mill splits the rice, which thereby loses considerably in cooking, Messrs. Maiden and Co. consider to be mere prejudice, as the Mill for its size does its work well. They are, however, of opinion that the Mill is too small, and that it cannot be made to pay more than its working expences,* leaving nothing for interest on the original cost, or any allowance for wear and tear.

9. The Collector states that, though the report of Messrs. Maiden and Co. is not very satisfactory, it is not entirely discouraging, and that the unprofitable working of the Mill is to be attributed chiefly to the distance at which it is situated from Masulipatam, as it will not pay to carry grain once delivered at Masulipatam back to Nedumole to be cleaned before shipment, but grain

* *Working Expenses of Hulling Mill at Nedumole.*

With stone making 100 revolutions per minute. Will clean 2 Candies, or 3,034 lbs. of paddy, cost Rs. 85.				*Result by the usual method.* 2 Candies or 3,034 lbs. of paddy, cost Rupees 85.			
3,034 lbs. of paddy will give:	1,968 lbs. rice valued		85 8 0	For cleaning every Rupee worth of paddy is—			
	204 „ broken rice		3 0 0	Given 1 seer of rice valued			5 2 0
	1,922 „ husks		0 6 0	3,034 lbs. of paddy will give	1,926 lbs. rice valued		80 8 0
			88 14 0		186 „ broken rice do.		1 8 0
Working Expenses.					862 „ husks do.		0 10 0
1 Engine Maistry, at Rs. 20 per mensem, a day		0 10 8					93 12 0
4 Coolies ..... Rs. 30 „ a day		1 0 0			Difference		7 0 8
Oil and Contingencies		0 4 0					
		1 14 8			Rupees		100 12 8
Machinery and Buildings at Rs. 3,000-0-0 10-0-0 per annum, per day		10 0 0					
			11 14 8				
	Rupees		100 12 8				

from the interior may be landed at Nedumole, there cleaned, and eventually brought to the market. This, he thinks, is more likely to be effected by some native in connection with the principal traders of Masulipatam, than by a Government Officer, or any other person.

10. In this opinion the Board concur, and approve of the Collector's proposal to rent the Mill for next season, and if no suitable person is found willing to take it, to work it on Government account under the superintendence of Captain Smith, District Engineer, who has expressed his willingness to give the Mill a further and full trial. The Collector will report the result.

The Cotton Gin forwarded with the Hulling Machine proved a failure.

From Collector, dated 19th January 1866, No. 24.

Official Memo. to Supt. of Marine, 19th Jan. 1865, No. 29.
From Collector, 2nd February 1865, No. 22.
Procs. to Govt., 20th do. „ „ 1,012.
From Govt., 10th March „ „ 531.
From Collector, 27th February „ „ 27.
Procs. to Govt., 11th March „ „ 1,415.
From Govt., 24th do. „ „ 657.

Winnowing Machine, complete, for hand-power.
2 Drummond Scythes.
2 Ordinary Scythes.
2 Dwarf Ploughs.
1 High Beam Plough.
1 Iron Plough.
2 Horse Hoes (3 tyne) fitted with spare tynes and Grubber tyne.
1 Chain Harrow.

11. NELLORE.—At first a Plough, a Horse Hoe, and a small Chaff Cutter were forwarded to the Collector of Nellore for trial and show. Subsequently the implements entered in the margin were sent for exhibition at the Addanki Cattle Show held on the 23rd and 26th January 1865. On that occasion the Ploughs and Winnowing Machine were worked, but the soil was too light and dry to show the full advantage of the Ploughs. The Winnowing Machine, however, delighted the ryots by the rapidity and precision of its work.

12. In addition to the implements named above, it appears from the Collector's letter, dated 30th January 1866, No. 22, that the following implements were at the same time brought from the Addanki show, and left at Nellore:—

1 Iron Chain Pump.
4 Scythes, two with wooden, two with iron handles.
1 Small Spade.
1 Weeding Spade.
1 do. for cutting grass.
1 Iron Axe.
1 do. with four teeth.
1 Trowel.
1 Hone.

Only two of these implements were then reported on; namely, the Scythes and Chain Pump. Mr. Dykes considered the former ill-adapted for cutting grain so ripe as the ryots cut it, and he adverted to the difficulty of obtaining skilled labour.

The Chain Pump proved a failure owing to the fluctuation in the levels of the wells; but the Collector proposed to continue the experiment with the assistance of the Engineers.

Advantage was also taken of the Machinery passing through Nellore *en route* to Madras to exhibit the Winnowing Machine and Ploughs, &c., to the people. Mr. Pennington, the Acting Head Assistant Collector, under whose superintendence the experiments were conducted, reported that the Winnowing Machine was tried with paddy, and seemed to be fully appreciated by the ryots. One of the light Iron Ploughs was tried, but the result was not so successful as could have been wished, owing to the circumstance of untrained bullocks having been used: still Mr. Pennington remarked "that the difference in "principle between the English and Native Plough was apparent to every one." "Some of the ryots, "however," he observed, "seemed to think that the work was too heavy for the bullocks, and also that "as two men at least were necessary, whilst with the light Native Plough a single man could drive "with one hand and guide the Plough with the other, the expenses of cultivation would be largely "increased." Mr. Pennington considered the first objection not valid, as the bullocks were strong enough if properly trained. The Chain Harrow was also tried, but without much success, as the ground was not sufficiently broken up by the Plough owing to the causes stated above. The remarks of Mr. Pennington regarding the working of the Scythe are similar to those made by Mr. Dykes, the

implement having been fairly tried in a paddy-field. The mowing, Mr. Pennington reported, "was not regarded with much favour. It was considered rough and shook out the ripe ears too "much; the grain was not laid so neatly as by the sickle, and the people were apparently unable to "appreciate the compensating advantage they would derive from the great saving of labour."

13. In submitting this report to Government the Board strongly deprecated any attempts at a public exhibition of the implements until after trials have been made in private, and agreed with the Acting Head Assistant that the effect of such exhibitions is much weakened if the working is not well executed.

14. At the Agricultural show held at Nellore on the 23rd and 24th May 1865, the Chaff Cutter was the only English implement exhibited. It was used on that occasion for cutting up Paddy and Jonna. With regard to the working of the machine the Committee remarked that there was but one opinion, and if the price should be moderate there seems every probability that it could be introduced into the district with much success. The reason assigned for not exhibiting the other Agricultural implements at the Nellore show is explained in the marginal correspondence to have been occasioned by the breaking out of cholera when the Nellore show was at first to have taken place.

Government Order, 5th January 1866, No 25.
Board's Proceedings, 12th do. ,, ,, 284.
From Collector, 20th do. ,, ,, 24, in Board's Procs., 12th February 1866, No. 995.

15. No English Agricultural implements appear to have been exhibited, or tried, at the Agricultural and Cattle shows held at Nellore and Addanky in 1865 and 1867, although the Collector had on hand at the time among other implements a Plough, a Horse Hoe, a Chaff Cutter, and four Scythes. The Collector will now be requested to report what use is made of these.

From Collector, 25th Jan. 1866, No. 20.
Procs. to Govt., 16th Feb. ,, ,, 1,031.
From Collector, 28th Feb. ,, ,, 45.
Procs. to Govt., 23rd March ,, ,, 2,059.
Letters from Collector, dated 2nd August 1867.

16. Madras.—In paragraph 2 of their Order, dated 27th February 1865, No. 424, Government directed that the large Chaff Cutter received from England should be sent to the Remount Agent at Oossoor. Before however doing so, the Board considered it advisable to have it tried at Madras, and for this purpose sent it to Mr. Smith, Deputy Collector in charge of Salt, at the Madras Kotaurs.

17. In his letter, dated 25th April 1865, No. 128, Mr. Smith reported that, as directed by the Board, he had the machine tried in preparing the fodder of the cattle collected at the Salt Kotaur, and the cart stand at Shulay, and that the facility with which the straw was chopped by the machine, and afterwards eaten by the cattle, was readily acknowledged by the spectators, but that the cartmen pleaded that poverty, and the itinerating life they led, precluded their purchasing and conveying about a machine which would itself require a cart and a pair of bullocks for its transport from place to place.

18. Applications having been received by Mr. Smith from four gentlemen, (one East Indian and three Natives,) who were present and witnessed the working of the machine, to be supplied with one each of the smaller description, Government sanctioned the making up at the Mint Foundry of the number required at the actual cost price, namely, 35 Rupees each, *plus* ten per cent.

G. O., 25th August 1865, No. 1,990.

19. Subsequently six more Chaff Cutters of the same pattern were made up at the Mint by Order of Government, and forwarded to the Collector of Nellore for the winners of the prizes for the best bull, the best cow, and the best pair of working cattle at the Addanki and Nellore Agricultural shows held in 1866.

G. O., 5th Jan. 1866, No. 25.

20. North Arcot.—On the application of the Collector of North Arcot, Government authorized the Board to supply a Mr. Willix, who farms some land in the Naggery valley, with two Drummond Scythes at cost price. A report has been lately received on the trials made with the implements, which will be noticed further on.

From Collector, 24th Jan. 1865, in Board's Proceedings, 1st February 1865.
From Govt., 10th Feb. 1865, No. 284.

21. South Arcot.—Only a Plough of Ransome and Sims marked B. F. O. was supplied to the Collector of South Arcot. This was sent by the Collector to Mr. Keess, a gentleman engaged in agricultural pursuits for trial, who reported on its working as follows:—

From Collector, 17th January 1866, No. 10, in Board's Procs., 25th April 1866, No. 2,930.

"The English Plough marked B. F. O. answers remarkably well. I have had it in use at all "times when there was sufficient moisture in the "soil, and am quite satisfied with its performance. It is light, and makes good work, which, "I think, is a fair criterion to judge by. The Plough certainly requires a pair of strong bullocks "to work it; but this is amply compensated for in a way which must be evident to all practical "agriculturists. The handles are too high, and the woodwork might be made more strong, as "the wood has been splintered on the Plough meeting with some resistance in the soil. I would "also suggest the advisability of fitting the Ploughs with steel shares, as those made of cast iron do "not stand more than a month's continuous work: they wear rapidly, and are not especially in the "Mofussil easily replaced. Each Plough should be furnished with either six spare steel shares, or "a dozen of cast iron.

From Collector, 14th September 1865, in Board's Procs., 29th September 1865, No. 6,121.

22. Salem.—None of the English Agricultural implements were sent to the Salem district. But Mr. Thomas, the Sub-Collector, procured three Scythes, and a dwarf Plough, from the Remount Agent, for exhibition to the landholders and ryots of Oossoor. The trials made with these implements proved very successful, and Mr. Thomas took this opportunity of pointing out the superiority of the Plough over the Native Ploughs. Mr. Thomas's interesting report was submitted to Government in Board's Proceedings, dated 18th October 1864, No. 1,860.

23. Steam Plough.—At their request the Remount Agent at Oossoor furnished the Board with an account of the experiments made at the Depôt with the Steam Plough. In this letter, (which was submitted to Government in Board's Proceedings, dated 21st September 1865, No. 5,915,) Colonel Thompson reported that the working of "the engine and cultivator has been most successful, "so far as the opening up of the soil thoroughly to a depth of at least a foot;" and that from experiments he has ascertained that on ground previously cultivated, and free of interruption from stones, the engine would work seven hours a day with four cwt. of coal and 800 lbs. of firewood, and with a fine tyne the cultivator would plough up about six acres. The Plough was not used in these trials because the ground selected to be ploughed was not suited to it.

24. On an application from the Municipal Commissioners for the Town of Madras, the Steam Plough was recalled from Oossoor and placed at their disposal for the purpose of ploughing up the esplanades for planting grass.

Vide G. O., 8th September 1865, No. 2,149.

25. A report on its working was submitted direct to Government by the Commissioners, and a copy of this was communicated to the Board in Government Order, dated 16th January 1866, No. 119. From this it appeared that after a fortnight's labour about 16 Acres of land were turned over, and this unsatisfactory result was attributed by the Engineer to the many obstacles on the ground, such as underground drains, telegraph posts, wells, &c., which necessitated the frequent shifting of the gear.

26. Subsequently the Board were requested by Government to arrange for the employment of the Steam Plough near Madras, and also to communicate with the Collector of North Arcot regarding its exhibition in the neighbourhood of the Railway Stations at Arcot and Vellore. In pursuance of these orders, the Board directed the Collector of Madras to make the necessary

G. O., dated 16th Jan. 1866.

Board's Proceedings, 18th January 1866, No. 415.

sion the Plough was duly set to work, but the ground was found much too hard even for the scarifiers to be worked with any satisfactory result. The Plough has been placed under charge of the Sydapett Farm Committee, and so far as the Board are aware no further trial has been made with it.

Government Order, dated 8th March 1867, No. 578.
Do. do. 16th April 1867, No. 876.
Board's Proceedings, dated 26th April 1867, No. 2,531.

27. With regard to the proposal to have the Plough tried in the vicinity of the Railway Stations at Arcot and Vellore, the Collector reported that, after consulting with his Sub-Collector and Head Assistant on the subject, he is of opinion that "the experiment should be deferred till "the early rains have fallen, as all Punjah soils are already so hard that its experiment could not be "tried under even moderately favourable conditions." In this opinion the Board and Government concurred.

28. The subjoined statement shows the number and description of implements made up at the Gun Carriage Manufactory and Mint from English patterns, and supplied to private individuals on application through Collectors. No report had, until the 1st November 1867, been received as to how these implements have answered, excepting in regard to the Plough supplied to Mr. Willix of North Arcot, who reported that he tried it with perfect success:—

Districts.	To whom supplied.	Number and description of Implements.
Kistna	Proprietor of Bullipurru	1 Plough of Medium size.
North Arcot	Do. of Punganur	1 small sized Plough.
	Do. of Bungari	1 Do.
	J. J. Corbett, Esq.	1 Do.
	Mr. J. H. Willix	1 Do.
	Zemindar of Carvetnaggur	1 Do.
	Do. of Calastry	2 Do.
	Collector	1 Do.
Tanjore	Aroonachella Moodelly	1 large Plough.
Madras	Proprietor of Chumambet	1 small Chaff Cutter.
	Veerapermal Pillay	1 Do.
	T. Venkatanarrain Pillay	1 Do.
	Mr. D. D'Rozario	1 Do.
Nellore	For the Exhibition	6 Do.
South Arcot	Mr. Keess	2 Ploughs.
	Sub-Collector for distribution	7 Do.

29. Being desirous of laying before Government a complete report, the Board, in September last, called upon the Collectors to whom implements had been sent, to report what further trials had lately been made. The replies noted in the margin have been received, and are herewith submitted for the information of Government. (The Sydapett Farm Committee have, it is presumed, reported separately on the implements in their charge.)

Letter from the Collector of Ganjam, dated 25th October 1867, No. 3,801.
Letter from the Collector of South Arcot, dated 14th October 1867, No. 265.
Letter from the Collector of Vizagapatam, dated 18th October 1867, No. 1,356.
Letter from the Collector of North Arcot, dated 1st November 1867, No. 308.

30. The report promised by the Collector of Ganjam will be submitted to Government when received by the Board.

31. The Collector of South Arcot forwards a report from Mr. Keess, to whom two of the nine Ploughs sent from the Gun Carriage Manufactory (as shown in the Statement) were supplied.

32. The Sub-Collector, to whom the other seven Ploughs were sent, has furnished no report, but Mr. Reade promises to forward it when received by him.

33. Mr. Keess reports as follows:—"The Iron Plough thoroughly turned up the soil, and "exposed it to the action of the sun and air, which is believed to be of great advantage.

"It turns out work quite equal to four Country Ploughs, and the advantage resulting from this "is so obvious will need no further remark. By the raising or lowering of the wheel in front "of the Plough, it can be adapted to the power of the cattle used, and in this respect possesses

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"an advantage over that of 'Ransome and Sims,' for the depth to which the share is required to "enter the soil can be adjusted to the strength of the cattle as well as to the nature of the soil. A "good strong pair of bullocks will turn out a fair day's work, but they must be well fed, the work "being of a very trying and exhausting nature. Working by relays would, of course, economize "the strength of the cattle, and show more than a corresponding increase of work.

"The Iron Plough enables cattle to work with great ease, as the increased length of the pole "apparently lightens the labour of the drag.

"The ordinary ploughing cattle of this country are physically very inferior, and are barely "equal to being worked with Ploughs of the description now reported on. A better kind might "be used, and the depth to which the share is required to enter the soil adapted to the strength "of the bulls. The Plough might with advantage be used a third and even a fourth time over "the same patch, the share each time being made to enter more deeply: there is perhaps an "advantage in this, as a thorough exposure of every part of the turned-up soil is in this way "secured.

"The labour is considerably lightened as the front wheel materially relieves the ploughmen, "and there is not the same necessity that there is in a Ransome's Plough for the application of "persistent pressure on the handles, and the irregularities in the depth of the furrows are thus "obviated. The Plough answers admirably for light soils, but it is unsuited for heavy loam, and "stiff clay, and useless for Nunjah lands.

"The replenishing of the shares will always be a matter of much difficulty, as Mofussil stations "do not offer facilities for making them, and those made of cast iron wear away very rapidly.

"Half a dozen or a dozen steel shares should be supplied with each Plough, for as soon as the "cast-iron share becomes worn, the plough becomes practically useless.

"If the Country Plough could be improved, (and it is well worth the while of Government "to offer a large prize to secure the highly desiderated acquisition,) a great boon would be conferred "upon the agricultural population of India. It ought to be simple and light in draught."

34. Mr. Keess considers the Iron Plough too heavy for the cattle generally procurable; although he acknowledges its superiority to Ransome and Sim's Plough inasmuch as by means of the front wheel, the depth to which the share enters the soil can be regulated, and the labour in some degree apportioned according to the strength of the cattle employed. He also makes the same recommendation that steel shares should be substituted for cast-iron ones, as he did with regard to Ransome's Plough, in his letter submitted with the Collector's report in September 1865. He further suggests that Government should offer a prize for an improved kind of Country Plough, which should be simple and light in draught.

35. The Collector of Vizagapatam forwards an original report from the Maharajah of Vizianagram, which is as follows:—

"The Agricultural implements have been in use in some of my own farms and garden, and "we have caused duplicates of some to be made, so as to increase their usefulness as far as practicable "with reference to the present condition.

"The drawbacks in respect to the general use of the improved Agricultural implements of "English manufacture are chiefly their expensiveness, and the unimproved breed of cattle which the "people now use for all agricultural purposes.

"The cattle shows, which are now generally held in the Mofussil from time to time, have "imparted a new stimulus for improving the existing breed of cattle. This movement, combined "with the increased light of intelligence which is now penetrating the darkest caves of ignorance, and "the enriching streams of commerce, which passing the cottage doors, have been steadily improving the "general condition of the ragged rural population, will do much to enable the people to appreciate "the superiority of English implements, and to incline them to use them in preference to their "present ones.

"I might suggest that, if these implements are adapted in shape, durability, and cost, to "the climate, present wants, and condition of the people, they will find a better demand than they "do now."

36. It thus appears that the opinion of the Maharajah, regarding the unsuitableness of the cattle at present procurable, for working English implements, is an accordance with that expressed by Mr. Keess. The Maharajah further observes that their cost is against their introduction to a large extent, and he suggests that, both in shape and durability, they should be constructed more with reference to the ideas of the people, and the requirements of the climate.

37. The Board, however, observe that no individual implements are specified. The report also is general, and does not state whether any, and if any, what trials have recently been made, and with what implements and what results.

38. The Collector of North Arcot reports on the two Drummond Scythes supplied to Mr. Willix in 1865, and mentioned in paragraph 20 of this report.

Mr. Willix says of these: "The Drummond Scythes I have not been able to try on my last crop "of Ragghi in consequence of their not having been ground. On the crop of Indian Corn, "however, they did their work with perfect success. Stalks, an inch in diameter and seven feet "high, were removed to the ground at the rate of a dozen per stroke."

39. Of the eight small Ploughs supplied from the Gun Carriage Manufactory, one only (that sent to the Collector himself) is reported on.

40. Mr. Robinson finds the same fault with it as Mr. Keess and the Maharajah of Vizianagrum, namely, that it is too heavy for the breed of cattle at present available.

41. He proposes, should an Agricultural Exhibition be held in 1868, to bring these implements to the notice of the local farmers.

42. The Board observe that the want of skilled labour has no doubt interfered with the success of many of the implements tried, and the want of sufficiently powerful cattle has notably been the cause of the comparatively small success of the ploughs.

43. Indeed, when it is considered that these Ploughs are in England worked by powerful cart horses, it is scarcely to be wondered at, that they should have been found too heavy for the small bullocks employed for ploughing in this Presidency. Upon the whole, however, the Board are of opinion that the introduction of English farm implements has not been altogether unsuccessful, and if they continue to be employed, with satisfactory results, at the Experimental Farms of Sydapett and Oossoor, their adoption and adaptation to the wants of the country will yearly become more frequent.

No. 12. ORDER THEREON, 1st May 1868, No. 1,188.

Miscellaneous.

The Government concur with the Board. They hope that the introduction of these implements has given an impetus to improvement, which is likely to produce very beneficial results in agriculture, whether in the way of economising labor, or improved cultivation. They trust that the Board will ensure full use being made of the articles on hand, so as to make them widely known.

(True Extract.)

(Signed) W. HUDLESTON,
Secretary to Government.

To the Board of Revenue.

Exd. S. T. Augustin.

To the Secretary to Government, Revenue Department.

Copy to all Collectors.

Exd. J. Wright.

Dated 15th April 1868.
Received 22 April 1868.

No. 2,706.

Submitting to Government general report on results obtained in working of English Agricultural Implements in districts to which those Implements were supplied.

PROCEEDINGS OF THE BOARD OF REVENUE,

No. 1337.

Dated 1st May 1868.

Secretary.