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MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

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Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
21st July 1874.*

Read the following papers:—

No. 449. From the District Engineer, Trichinopoly, dated 5th June 1874,
No. 82.

No. 413.

No. 450. *Note by the Chief Engineer for Irrigation.*

THE report of the Irrigation experiments carried on in the Trichinopoly Range in 1873-74 contains much definite information of value. An acre and a half of black loam, classed in the Revenue Settlement Department as third-class nunjah, was divided into four plots, two of half an acre each, and two of quarter of an acre each. One of these, No. 3, was given over to an experienced native to cultivate as he pleased, and the results, all of which have been reduced to the unit of an acre, were as follow:—

No. of Plot.	WATER-SUPPLY.			PRODUCE.						Green manure used.
				PADDY.			STRAW.		Total Value.	
	Artificial.	Rain-fall.	Total.	Measure of 100 Cubic Inches.	Weight.	Value.	Weight.	Value.		
	C. YDS.	C. YDS.	C. YDS.		lbs.	RS. A. P.	lbs.	RS. A. P.	RS. A. P.	lbs.
1 ...	7,430	2,634	10,064	1,480	3,469	73 8 8	5,550	4 10 0	77 13 8	800
2 ...	6,760	2,634	9,394	1,248	2,886	61 12 0	4,500	3 12 0	65 8 0	800
3 ...	8,256	2,634	10,890	1,400	3,325	69 4 4	6,000	5 0 0	74 4 4	800
4 ...	8,666	2,634	11,300	1,624	3,908	80 5 8	6,300	5 4 0	85 9 8	800

2. The artificial water-supply is large, being 71·3 cubic yards per day on the average, or nearly 3 cubic yards per hour for the whole period of 109 days. This is partially accounted for by the small rainfall. The outturn was good in all cases, and very good as regards No. 4 plot. The quantity of seed-grain used has not been stated.

(Signed) JOHN MULLINS, Lieut.-Colonel, R.E.,
Chief Engineer for Irrigation.

OOTACAMUND,
16th June 1874.

Report on the Irrigation Experiments in the Trichinopoly District during the year 1873-74.

THE land upon which the experiments were carried out was 1½ acres in extent adjoining the Yelcudavoithalay channel at the same locality as was experimented upon the year previous.

The operations were resumed agreeably to the instructions given by the Irrigation Chief Engineer in memorandum, No. 364A, of 4th June last, introducing the changes as suggested by him.

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The land was divided into four plots, namely, No. 1, half acre, No. 2, half acre, No. 3, one-fourth acre, No. 4, one-fourth acre, and their relative surface levels above datum were for No. 1, 10.40, No. 2, 10.35, No. 3, 10.10, No. 4, 10.10, respectively, and the process of distributing water, etc., was the same as that given in the report of 1872-73.

The system of sowing the seed broad cast as practised the year previous not having answered well, it was thought advisable to treat the plots this year by rearing young plants by seedlings and again transplanting them, to effect which plot No. 4 of one-fourth acre was subdivided into two halves of one-eighth acre each and prepared for seedlings; one for transplanting plots Nos. 1, 2, and 3, and the other half for plot No. 4. The amount of water used for the purpose is as under—

For plots Nos. 1, 2, and 3, 269 cubic yards. For plot No. 4, 65 cubic yards.
Deduct surplus let out... 29 " "

240 cubic yards.

All the plots were prepared by ploughing eleven times and levelling twice.

The quantity of water used for preparing the plots were, respectively, No. 1, cubic yards 595, No. 2, cubic yards 626, No. 3, cubic yards 321, No. 4, cubic yards 223½.

After the plots had been allowed to temper and the manure to be absorbed for a period of twenty days, the plots were transplanted with the description of paddy known as "Motagu Samba" (முதுகுச்சம்பா); water was then baled artificially on to the plots as below except on such days when the fall of rain equalled or exceeded 3 inches in depth when no water was supplied:—

No. 1—3,024 cubic yards or ¼ cubic yard less per hour than No. 3.
" 2—2,658 " or ¼ " " " 3.
" 3—1,695 " given to the choice of an experienced cultivator.
" 4—1,878 " or ½ cubic yard more than No. 1.

The quantity of water for plot No. 3 was regulated by the experienced cultivator.

The cultivation began on the 21st July 1873 and lasted till 26th January 1874 (109 days). The plots were laid dry for eleven days, and the crops of paddy allowed to mature, and all the crops were then cut on the 26th January 1874, and the outturn was found to be as tabulated below:—

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21st July 1874.*

Statement showing the Produce of Paddy Cultivation, etc., carried out at Alloor.

No. of Plot.	MEASUREMENTS OF EACH PLOT.		CONTENTS.		Green manure used in Vias of Madras, 8½ lbs.	PADDY PRODUCED AND MEASURED.			Weight of one Mercial of Paddy.	Net Quantity of Paddy in Weight.		ONE Mercial OF PADDY PRODUCED.			Bundles of straw tied up with straw rope of 6 cubits girth.	Weight per bundle in lbs.	Total weight of Straw in lbs.
	Length in Feet.	Breadth in Feet.	In square Feet.	In Acre.		Madras Columns.	Madras Mercial.	Madras Measures.		lbs. Ozs.	lbs. Ozs.	Rice, Measure.	Rice, weight in lbs.	Husk, weight in lbs.			
Plot No. 1	427½	51	21,730	½	400	15	5	740	9 6	1,734 6	2½	6½	2½	2½	37	75	2,775
" 2	330	66	21,780	½	400	13	..	624	9 4	1,413 ..	2½	6½	6½	2½	30	75	2,950
" 3	165	66	10,890	¼	200	7	3½	350	9 8	831 4	2½	6½	6½	2½	29	75	1,500
" 4	165	66	10,890	¼	200	8	5½	406	9 10	976 15	2½	6½	6½	2½	21	75	1,575
Total	..	..	..	1½	1,200	44	2	2,120	..	4,985 9	..	..	..	..	108	..	8,100

N.B.—The measure used is of the Madras standard of 100 cubic inches, 4 measures of which = 1 Mercial, and 12 Mercials = 1 Colum.

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During the whole period of cultivation the water-level in the Yelcudavoithalay channel stood for three days only above the level of the lowest plot, namely:—

3rd September 1873	...	...	...	...	...	...	...	...	...	10.50.
4th "	"	"	"	"	"	"	"	"	"	11.00.
5th "	"	"	"	"	"	"	"	"	"	11.60.

whilst on other days it was below that level.

The rainfall during the period under review amounted to 19.59 inches, distributed as follows:—

July 1873	...	...	...	1.75	Nov. 1873	...	...	...	0.76
Aug. "	...	...	...	1.68	Dec. "	...	...	...	0.70
Sept. "	...	...	...	3.35	Jan. 1874	...	...	...	0.00
Oct. "	...	...	...	11.35					

The daily average of evaporation during the period of cultivation was as under—

July 1873	...	...	...	.2127	Nov. 1873	...	...	...	.0926
Aug. "	...	...	...	.1767	Dec. "	...	...	...	.1038
Sept. "	...	...	...	.1453	Jan. 1874	...	...	...	.1304
Oct. "	...	...	...	.0853					

The amount of surplus water let off plot No. 4 while rearing plants was 29 cubic yards on account of rain on the 28th July last.

The method for measuring off the surplus and determining the amount of evaporation was the same as was given in the previous report.

The total amount of water used to the several plots during the period of cultivation from 21st July 1873 to 26th January 1874 is as follows:—

	No. 1, ½ Acre.	No. 2, ½ Acre.	No. 3, ½ Acre.	No. 4, ½ Acre.
Seedlings ...	C. YARDS. 96	C. YARDS. 96	C. YARDS. 48	C. YARDS. 65
Preparation ...	595	626	321	223½
Artificial cultivation ...	3,024	2,658	1,695	1,878
Rainfall ...	1,316½	1,316½	658½	658½
Total...	5,031½	4,696½	2,722½	2,824½

and that distributed to the unit of an acre is as shown below:—

Reduced to the Unit of an Acre.	Plot No. 1.	Plot No. 2.	Plot No. 3.	Plot No. 4.
Seedlings ...	C. YARDS. 192	C. YARDS. 192	C. YARDS. 192	C. YARDS. 260
Preparation ...	1,190	1,252	1,284	894
Artificial cultivation ...	6,048	5,316	6,780	7,512
Rainfall ...	2,633½	2,633½	2,633½	2,633½
Total...	10,063½	9,393½	10,889½	11,299½

The produce valued at the wholesale price current was sold as follows:—

30 Cols given to the Puttadars as agreed upon in the muchilka executed, at Rupees 2 Annas 6 per Colum...	Rs. A. P.
14½ Cols sold departmentally, at Rs. 2 As. 6 per Colum...	71 4 0
108 Bundles straw, at 1 Anna per bundle ...	33 10 4
	6 12 0
Total...	111 10 4

TRICHINOPOLY,
5th March 1874.

(Signed) G. D. WYBROW, C.E.,
Assistant Engineer, Trichinopoly.

*Proceedings of the Madras Government, Public Works Department,
21st July 1874.*

No. 451. ORDER THEREON, 21st July 1874, No. 1,956.

IRRIGATION, No. 39.

ORDERED to be communicated to
all District Engineers.

(True Extract.)

Lieut.-Colonel, R.E.,
Joint Secretary to Government.

To District Engineer, *[Signature]*
To the Chief Engineer for Irrigation,
„ Revenue Department.

Exd. E. C. Shunker.

25 spare Copies will follow from *[Signature]*.

No 413. 41

Note by the Chief Engineer for Irrigation

The report of the irrigation experiments carried on in the Tschinopoly Range in 1873-74 contains much definite information of value. An acre and a half of Black loam, clasped in the Revenue settlement Department as 3rd class murjah, was divided into 4 plots 2 of $\frac{1}{2}$ an acre each, and 2 of $\frac{1}{4}$ acre each. One of these, No 3, was given over to an experienced native to cultivate as he pleased, and the results, all of which have been reduced to the unit of an acre, were as follows.

No of Plot.	Water supply			Produce						Green manure used.
	Arti- ficial	Rain fall	Total	Paddy		Wheat		Total value		
				Quantity of 100 bushels inches	Height Value	Height Value	Value			
	Cy	Cy	Cy		th		th			th
1	74.30	26.34	100.64	1480	34.69	73.38	5.55	4.10	77.13.8	800
2	67.60	26.34	93.94	1248	28.86	61.12	4.50	3.12	65.2.0	800
3	82.56	26.34	108.90	1400	33.25	69.44	6.00	5.0	74.4.4	800
4	86.66	26.34	113.00	1624	39.08	80.58	6.30	5.4	85.9.8	800.

2. The artificial water supply is large, being 71.3 cubic yards per day on the average, or nearly 3 cubic yards per hour for the whole period.

period of 109 days. This is
 partially accounted for by the
 small rainfall. The matter was
 good in all cases, and very
 good as regards #4 Plot.
 The quantity of seed grown
 and has not been stated.

Stacianus Lumbinus. L.H.M.
 16 June 1894
 Chiefly for irrigation

To the Secretary. D. G. M. D.

Stacianus Lumbinus L.H.M.
 16 June 1894

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and

Stacianus Lumbinus L.H.M.
 16 June 1894

Stacianus Lumbinus L.H.M.
 16 June 1894

S.S.

Stacianus Lumbinus L.H.M.

Stacianus Lumbinus L.H.M.

P. W. 1874 Dept.
No: 3903

From

The Chief Engr.
for Irrigation

Del 16 June 1874
Rd 26 —

E. 3.
+ 3 E. 3. to Chief Engr.
Side by side 1875-
No: 413

Note on the
paddy cultivation
experiments in the
Trichinopoly Dist
in 1873-74-

G.O. No: 1956. 21-7-74.

~~No: 450~~

No 450

Proceedings of the Public Works Department
Madras Government
1956 Read the following
The St Engr Trichinopoly (P. O. No 82 dated 5 June 1874)
to Chief Engr for Madras (P. O. No — dated 15 June 1874)

Ordered to be
communicated to
all District Engineers

Wm. 18/6/74
G.M.

To District Engrs.
The Chief Engr for Madras
Rev. Secy
S. Capins despt. 30/7/74.

Resd Hrs on
Farm Engr. d
all Cds

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Cie 20/6/14 Rd 23/6/14

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3903
Govt. of Madras.
PUBLIC WORKS

To Dist. Engr.
Date
Recd
Encl. 3

G. O. 21 July 1874, No. 1056

No. 451.

Paddy Cultivation

Note by Chief Engr.
for Irrigation on the
Paddy cultivation ex-
periments in the Trichin-
opoly District in 1873/74
Comd to all District Engrs.

See 20/1/74

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