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COST OF PRODUCTION OF COTTON AT THE GOVERNMENT FARM, KOILPATTI

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The economics of crop growing is always a subject of great importance to all farmers since the prime object of farming is, as in other industries, to obtain profits. This term expresses the relationship between expenditure and income. The former is greatly influenced, especially in India, by the wages paid to the labour engaged, while the latter is mostly dependent on the prices obtained for the agricultural produce. If the prices paid to labour and to the various commodities grown on a farm move in consonance, a constancy in the profits will result. On the contrary such a simple situation rarely occurs. As the problem stands at present, there is a ruinous slump in the markets for all agricultural products and there is no corresponding change in the labour bill and in the standards of living which have risen considerably during the war. This lag has caused great anxiety in the minds of cultivators. The margin of profit has become very narrow. If only they possess an accurate knowledge of the cost of production of each crop they grow, they can face the crisis by cultivating the crops that will pay them to grow without at the same time impoverishing the natural fertility of the land. But every Indian ryot feels shy to keep accounts of his husbandry and is consequently in a fix to decide intelligently how and where to effect a retrenchment. It is thought desirable at this juncture to present the data relating to cotton—the chief money crop on the black soils.

The figures gathered in this note refer to the Karunganni cottons (*G. indicum*) grown on the black soil block of the Agricultural Research Station, Koilpatti, during the period of 12 years from 1914–5 to 1926–7 excluding those of 1915–6, when the records were not complete. The data are remarkable in that they relate to a block of land where cropping was done in a religiously systematic fashion. A four year rotation of cumbu, cotton, fodder cholam and cotton, was practised during the entire period. The several cultural operations were also regular and uniform. The fields were ploughed by a light plough like the 'monsoon', except in fodder cholam plots, where the stubbles were buried down with the help of deep ploughs. Cotton was invariably manured by penning sheep at 1,000 head per acre. Cumbu received all the available farmyard manure, while fodder cholams had often dressings of concentrated manures like fish manure or oil cake. Irungu cholam for fodder was the first crop to be sown on the onset of the north-east monsoon at a heavy seed rate of 65 to 80 lbs. per acre. These were soon followed by cumbu and cotton sowings which were done with country drills in lines 18″ apart. Intercultivation with danthi was given as often as was found necessary.

It may be pointed out that the operations detailed above are not generally practised by the ryots. All the fields intended for cotton will be ploughed with a country plough about a half a dozen times. Sheep will be folded on them if the farmers are solvent and if flocks are easily available. The seeds are broadcast and covered with a country plough. Two to three

TABLE I

Year	Area	Labour per Acre																		
		Preparatory cultivation			Sowing			After cultivation			Harvesting						Average labour per acre		
											Season			Summer					
		Pairs	Men	Women	Pairs	Men	Women	Pairs	Men	Women	Pairs	Men	Women	Pairs	Men	Women	Pairs	Men	Women
1914–15	53·20	6·2	7·2	...	·56	·88	·06	·62	2·0	13·7	...	...	23·2	...	...	18·1	7·35	10·1	55·1
1916–17	51·50	4·6	5·0	2·0	·57	·70	2·60	·99	3·0	5·2	...	...	22·6	...	...	7·5	6·1	8·7	39·8
1917–18	33·80	4·7	5·5	...	·41	·75	1·05	·41	2·9	5·3	...	...	24·6	...	...	11·8	5·5	8·5	42·5
1918–19	51·28	4·5	4·9	·1	·47	·76	1·03	·69	2·0	12·6	...	...	28·8	...	...	14·7	5·7	7·6	57·3
1919–20	51·64	4·6	5·2	...	·47	·76	...	·71	2·7	7·0	...	...	25·1	...	...	11·8	5·7	8·3	43·9
1920–21	53·51	3·7	3·8	...	·62	1·03	...	·83	10·1	·1	...	·1	25·4	...	...	12·2	5·2	16·0	37·7
1921–22	51·64	4·1	4·6	...	·62	1·03	·03	1·28	3·2	3·5	...	...	27·0	...	...	6·6	5·8	8·8	37·2
1922–23	53·51	5·3	6·4	...	·45	·93	...	·58	3·8	9·4	...	·3	21·9	...	·49	12·7	6·3	11·8	44·0
1923–24	51·65	4·5	5·2	...	·65	·97	...	1·38	4·3	7·8	...	·82	31·2	...	·58	8·2	6·5	12·0	47·3
1924–25	47·11	4·1	4·9	·1	·46	·80	...	·82	3·0	9·7	...	2·2	27·7	...	·63	10·2	5·8	11·5	47·7
1925–26	46·17	4·6	4·9	...	·45	·69	...	·68	2·3	8·4	...	·6	21·9	...	·12	7·7	5·7	8·6	38·0
1926–27	39·75	4·9	5·3	·1	·58	1·45	·28	·64	2·0	4·4	...	·2	26·3	...	·39	12·2	6·11	9·2	43·3
Mean	48·73	4·6	5·2	·2	·53	·90	·4	·80	3·48	7·3	...	·4	25·5	...	·18	11·1	6·0	10·09	44·5
S.D. of mean	...	·64	·86	...	·08	·14	...	·16	·77	3·13	...	...	1·65	...	·204	3·32	·57	2·37	6·7

N.B.—Fields where cotton breeding experiments were carried out, were excluded from this test.

hoeings will be given as the crop grows. The kapas are picked on share system, the picker getting from 1/4 to 1/14 of the quantity picked.

For computing the cost of production, the system of expressing the expenditure in units of men, women and pairs of bullocks is adopted in preference to the usual method of noting it in money value, as, the former lends itself for working out the cost at all periods irrespective of the rise or fall in the prices paid to the labour. It may also be observed here that the data having been gleaned from a Government farm will show a higher rate than what actually obtains on a private farm and therefore may be taken to be on the safe side.

Table I gives the average labour expended in the growing of one acre of cotton during the several years. It is remarkable to find that the figures exhibit a fair consistency except during 1920–21. This deviation had to be attributed to the employment of permanent men to do odd jobs in aftercultivation, whenever there was no other suitable agricultural work on hand.

For the conversion of these units of labour into monetary value, the wages paid to the casual coolies around the farm, viz., 7 annas per man and 3 annas per woman were taken. In the case of bullock power, the cost was arrived at, from the cost of feeding the animals on the farm during 1929–30 taking into account the number of pairs worked during the year and the depreciation and interest on the value of animals and the sheds needed to stall them. In Table II the details are furnished.

TABLE II

The charges for working pair per day during 1929–30

	Rs	A	P	
Cost of concentrated food for 6 pairs ...	614	13	0	These were calculated at the lowest prices current for the year.
,, of bulky fodder ,, ,, ...	1,031	5	0	
,, shoeing charges and nose ropes, etc.	31	0	0	
Attendance charges ...	144	1	0	
Interest on the cost of animals Rs. 2,100 at 10 per cent. per annum ...	210	0	0	
Depreciation minus appreciation on 6 pairs	170	0	0	
Interest on the cost of cattle shed at Rs. 1,600 at 10 per cent. ...	160	0	0	
	2,361	3	0	
Deduct the cost of 372 cart-loads of manure at 12 annas per cart-load ...	279	0	0	
Balance ...	2,082	3	0	
Number of pairs actually worked during the year	1,152	0	0	
Therefore the actual charges for working a pair per day	1	13	0	

To the labour bill must be added the value of the seed, the charges for penning sheep, assessment of the land, pay of the watchman employed during the picking season, the cost of hiring the implements, and the interest on the sum needed to meet the expenditure on cultivation.

The average cost of raising one acre of Karunganni cotton works out to Rs. 33-8-0 (vide Table III).

TABLE III

	RS	A	P
6 pairs at Rs. 1-13-0 per pair	10	14	0
10 men at Re. 0-7-0 per man	4	7	0
44·5 women at Re. 0-3-0 per woman	8	6	0
12 lbs. of seeds at Rs. 16 per 250 lbs.	0	12	0
Watchmen	0	13	0
(One man on Rs. 10 for 4 months will watch over 50 acres).			
Cost of sheep penning	5	0	0
Assessment	1	8	0
Hire of implements	0	4	0
Interest on the amount necessary to meet the expenditure during the growing period	1	8	0
Total ...	33	8	0

N.B.—The cost of pulling out stalks will be met from their sale.

Incidentally the cost of producing a pound of cotton at Koilpatti may also be arrived at. The average yield of kapas per acre during the 12 years under study was 356·5 lbs. in the season, and 89 lbs. in the summer pickings. Assuming that the value of the summer picking is two-thirds of that of the season, the yield may be taken as 415·83 lbs. or 416 lbs. If the ginning percentage is taken as 31 and if the price of cotton seed per pothi of 250 lbs. and the charges for ginning 500 lbs. of lint are Rs. 7 and 8 respectively, the cost of production of 1 lb. of Karunganni lint is 3·08 annas at the current rates for farm labour and bullock power.

If a farmer is able to arrive at the correct cost of production of each crop on his farm, it will be easy for him to decide the cropping scheme during the years of falling markets. All the areas which definitely yield below the economic margin of cultivation, should be cropped differently. It is during those years these poor lands must be enriched by growing leguminous crops reserving some of the good lands for his money crops. Around the Koilpatti farm, the ryots are in the habit of growing fodder cholam without any manure on the lighter soils, and cumbu on the manured heavier black soils, so that the poor lighter soils are being exhausted continuously. The present condition of the markets will be quite opportune for them to give up cultivating cotton after fodder cholam in favour of suitable green manures or pulses. Cotton growing may with advantage be confined only to the better manured and richer lands.