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PRELIMINARY STUDIES OF IMPORTANT
CROPS IN THE BOMBAY DECCAN IN THE
POST-WAR PERIOD

By

Rao Bahadur P. C. Patil, L. Ag., M. Sc.

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Department of Agriculture, Bombay

BULLETIN No. 168 of 1932

RELIMINARY STUDIES OF IMPORTANT CROPS
IN THE BOMBAY DECCAN IN THE
POST-WAR PERIOD

BY

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NOTICE

Bulletin is published subject to the following reservation
 Government of Bombay :—

Government do not accept responsibility for the
 data used or for the assumptions made in valuing the
 labour of the cultivator, his family members and his
 tools or for the conclusions reached."

In opinion there is a possibility that this bulletin may
 cause confusion of thought upon the obscure issue of
 actual "costs" in the Bombay Presidency. The reader
 bear in mind that the conclusions arrived at are based
 on a selection of isolated examples, too few in the aggregate,
 unrepresentative of seasons and too restricted in territorial
 extent to permit of a scientific estimation of their
 true significance to the Bombay Deccan. In most cases
 from which the income is calculated, differ appreciably
 from the standard yields adopted by the Department of
 Agriculture for the purpose of preparing its forecast and
 reports.

It is, however, the most vulnerable point in this bulletin
 the method adopted for computing the cash equivalent of
 labour. In Part I under (a) "methods of calculating
 production," the author informs us that the labour of
 the cultivator and his family members is charged at current rates
 (for agricultural work) in the village. This may at first sight
 appear to be a very plausible method, but I believe it conceals
 a fundamental fallacy. In India there is no cash market for
 the labour of the great majority of the agricultural population,
 and the actual wage-standards of the small minority
 who are employed, legitimately, in my opinion, be taken ready-made and
 applied to the peasant population as a whole, regardless of
 whether the gross income from agriculture can permit of such
 standards. The author informs us that he has adopted
 the actual wage-standards in his computation of costs pertaining
 to the cultivation in the villages of Pimple and Wagoli,
 plots 6B and 8B ; expressed in annas per day :

Kind of labour	Name of village	
	Pimple	Wagoli
	10	6
	4	3
	5	..
	7	5

In these circumstances it does not seem surprising that the author has arrived at

- (1) a loss of $1\frac{3}{4}$ annas per acre in the case of Pimpla village, plot 6B, and
- (2) a loss of Rs. 10-12-7 per acre in the case of Wagoli village, plot 8B.

The peculiarity of peasant-labour is that there is no alternative market for the labour of the majority of the population, and hence the assumption of arbitrary wage-standards, like 10 annas per day, does not seem to be legitimate. In the master-industry of the country, the wage must be governed by the capacity of that industry to pay. This governing factor has not been recognized by the author. In the north-west of India, as well as in other parts of the country, the aggregate wage bill is fixed in terms of the produce, one-half or two-thirds, according to circumstances. This seems to give us a clue as to how peasant wages should be computed, and this procedure would appear to be more logical, at least for grain and kindred crops, than the arbitrary assumption of a 10-anna wage, merely because a small minority of the people have been fortunate enough to secure that wage.

At any rate it seems to be unsatisfying to the professional mind to be told that, in the Canal-Zone, the cost of producing an acre of *bajri* is Rs. 70 and that there is a loss of Rs. 4 on a crop of 900 lbs. of grain—*vide* Table X, page 101.

T. F. MAIN,

POONA, 18th May 1932.

Director of Agriculture

PREFACE

The present investigation in the cost of production of crops originated in the complaints of the sugarcane growers on the Deccan Canals when the price of *gul* and the incomes from sugarcane cultivation began falling after the World-War boom. During the World-War and soon afterwards the price of *gul* rose. In the year 1920 the price of *gul* rose as high as Rs. 45 to Rs. 55 per *palla*. From 1921, prices began declining and in the year 1923-24 the price of *gul* fell to Rs. 23 per *palla*, while the cost of production was still mounting up. The study in the costs of production of sugarcane and other crops near Poona was, therefore, undertaken to ascertain the facts. It should, however, be borne in mind that this investigation was made when the costs of production were high and the prices of farm products low. The results obtained and the conclusions arrived at hold good under the conditions obtaining during that particular period, and should not be confounded with those obtainable during a normal period.

The investigation was commenced in the year 1925 and was carried out during 1925-28; and the results are embodied in the present bulletin. Part I discusses the general situation of agriculture in the post-war period and describes the methods of calculating costs of production. Parts II and III present the actual results of the investigations.

The total area dealt with in the bulletin comes to 190 acres and 34 gunthas. Investigation in Part II was conducted with the assistance of Mr. T. G. Shirname, B.Ag. in 1925-26 and Mr. T. B. Pawar, B.Ag. in 1926-27 and 1927-28. The plots under observation were regularly visited by them once, oftener twice a week, and detailed information recorded on the spot. The field work for Part III was carried out with the assistance of Agricultural Teachers in Agricultural Bias Schools—Messrs. S. L. Dumbre, G. A. Sankpal and K. T. Patil. These teachers, after passing from the Vernacular Training College and gaining several years' experience as teachers in the village schools, had spent one year at the Agricultural School, Loni. Before entrusting the cost study work to them they were coached up in the methods of crop study and were supplied with detailed instructions. Being on the spot the teachers could visit the farms almost every day. They submitted weekly diaries with returns in the prescribed forms. The returns were duly checked and doubtful points cleared up by correspondence. Agricultural

teachers are expected to teach local crops and interest the students in agricultural business. The agency of Agricultural Bias School Teachers was found suitable as they were interested in such investigations. I visited all the centres of investigation as often as I could.

The material collected by the different investigators was worked up for editing with the help of my collaborators Messrs. T. G. Shirname, T. B. Pawar and K. M. Shah.

This is the first attempt in India, at any rate in the Bombay Presidency, to find out the detailed costs of production of crops. The author makes no claim to perfection in the methods of study he has used nor to any general applicability of the conclusions to which the facts ascertained lead him with regard to the particular farms and localities investigated during the abnormal (i.e. post-war) period. It is, however, hoped that the investigations here reported will be useful in tackling some of the problems that every day confront farmers and agricultural officers and will serve as a stimulus for further similar studies covering larger areas with the result that we shall ultimately be in possession of well-authenticated facts about the economic conditions of Indian agriculture.

If the publication of the results of these preliminary investigations does nothing more than to invite the attention of farmers and economists to the important subject of crop production and to lead them to suggest improvements in the methods of cultivation and also of investigation, the author will have reason to be gratified with his effort.

My thanks are due to my collaborators, the farmers who cooperated in the investigation and other persons who supplied information regarding rainfall, wages, prices, etc. I can never forget the help of Dr. H. H. Mann, D.Sc., who had helped in planning the work in 1925. Mr. T. F. Main, B.Sc., O.B., Director of Agriculture, made several valuable suggestions. My thanks are due to both. When this work was nearly ready for the press I had an opportunity to show the same to Dr. H. Taylor, Ph.D., once a Professor of Agricultural Economics in the Wisconsin University and now the Head of Agricultural Economics Section of the United States of America, who happened to be in Poona. I am obliged to him for the trouble he took in going through the manuscript.

College of Agriculture, Poona, }
May 1932.

P. C. PATIL.

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Part I

GENERAL SITUATION OF AGRICULTURE, COST STUDY, METHODS OF CALCULATING COSTS OF PRODUCTION

AND

GENERAL REMARKS

GENERAL SITUATION OF AGRICULTURE IN THE POST-WAR PERIOD

As a result of the last World War, the prices of farm produce rose steadily from the beginning of the War up to 1920. Effects of the World Costs of production including wages, land rent, equipment and supplies also rose. To some extent land rent and wages lagged behind and farmers, world over, made very good profits. Up to the year 1925, the prices of farm products in India remained remunerative, though by that year the costs overtook the prices. When, by 1925 prices began to decline, the costs, especially land rents and wages, were still mounting, with the result that agricultural incomes began shrinking from 1925. Costs of farm supplies and equipment began to fall in sympathy with the prices of farm produce but their fall was small and slow. At the time of writing (1931) the prices of most farm products have gone below the pre-war level, whereas most of the costs have remained above the pre-war level. Land rent has shown a decided fall only during recent years (from 1929) while the water cess (in the case of sugarcane) was neither increased during the boom period nor reduced when the prices came down. Though day-wages have not much fallen, the annual wage shows a decided fall. Considering the heavy fall in the prices of farm products it can be said that the costs, especially the wages and land rent, have remained high.

Unlike in manufacturing industries, the production in agriculture cannot be controlled by restricting the days of work, nor can the cost of production be much lowered by rationalization. Especially in India, a country of peasant farmers, rationalization cannot be applied to agriculture without producing social disturbances. Agricultural business in India is composed of small units and is the staple industry of the vast masses, and any drastic interference by way of rationalization will not fail to disturb the vast population engaged in it.

The causes of the world agricultural depression seem to be many and complex. The impetus given by the high prices of farm produce during and soon after the war increased the area under crops in all countries. The competition to produce more brought about over-production of farm produce, especially in the newer countries which possessed plenty of good land still available for cultivation. While the production of farm produce was increasing, machinery in the industrial world was increasing with perhaps greater speed. Increase in the labour-saving machinery coupled with rationalization brought about unemployment and loss of purchasing power amongst the masses. While the production of commodities and also the population

of the world were increasing, the supply of gold could not keep pace with the demand created for it. The enormous inflation in the post-war period in a number of countries like Germany was followed by a collapse of their currency system. Later movements towards the reversion to gold standard in the countries of the world in general brought about a deflatory tendency which intensified the depression. Added to this there was maladministration of the available gold supplies, especially in the United States of America and France, which brought about further collapse in the world prices. Further efforts of individual countries to set their houses right could not ease the situation because of the uneven distribution of currency in the world.

Since the present work is concerned with crops it is not necessary to go further into the details of the indirect causes of the agricultural depression. India had been exporting wheat, cotton and oil seeds and though there is not much over-production of farm produce in India (as most of the good land had already come under plough) over-production in other countries has hit the Indian farmer most. The following table gives the pre-war production and the production of 1930-31 of sugar, cotton and wheat in the world.

TABLE I—PRE-WAR AND PRESENT WORLD PRODUCTION OF SUGAR, COTTON AND WHEAT¹

Year	Production of					
	Sugar		Cotton		Wheat	
	Short tons	P. C. increase over pre-war average	Bales of 478 lbs.	P. C. increase over pre-war average	Bushels	P. C. increase over pre-war average
Pre-war average.	19,363,000	....	20,900,000	....	3,041,000	....
1930-31 ..	29,349,000	51·7	26,400,000	26·3	3,778,000	24·2

The increase in production, taking into account the increase in population, is considerable, and naturally at this moment there is more production in relation to demand. The International Congress recently held in Paris complained about the vast increase in cotton. The World Wheat Conference held in London (in June 1931) figured the increase of wheat at 27 per cent.

In Table II index numbers of prices of some of the farm produce and of the important items of costs (especially in connection with sugarcane on the Deccan Canals) are given. Material for preparing index numbers was obtained from different institutions and District Officers as noted in the foot-notes.

¹ Year Book of Agriculture, U.S.A., 1931, pp. 677, 694, 591.

TABLE II—INDEX NUMBERS OF WHOLESALE PRICES OF FARM PRODUCTS AND RETAIL PRICES OF THE IMPORTANT ITEMS OF COSTS OF PRODUCTION

Year	(a) <i>Gul</i>	(b) Seed cotton	(b) <i>Jowar</i>	(b) Wheat	(b) Rice (husked)	(b) Kerosene oil	(c) Day- wages	(d) Annual wages or <i>saidar's</i> wages	(e) Bari- crusher	(f) Kirloskar plough No. 9	<i>Mhote</i>	Ropes
1914.....	100	100	100	100	100	100	100	100	100	100	100	100
1915.....	128	86	103	100	102	100	103	..	102	..	..	..
1916.....	114	163	97	89	100	119	113	..	132	115	122	115
1917.....	112	178	120	101	102	135	123	..	220	..	..	..
1918.....	115	312	260	144	139	145	133	..	240	..	..	..
1919.....	146	234	286	135	128	180	126	..	180	..	155	192
1920.....	215	142	212	119	149	177	143	..	210	..	..	..
1921.....	183	121	190	141	140	185	123	123	220	..	..	..
1922.....	188	206	193	120	131	170	147	124	226	179	194	259
1923.....	145	286	128	88	124	161	176	135	220	85	..	..
1924.....	152	295	129	94	139	163	157	146	172	95	..	..
1925.....	159	219	135	113	134	164	168	144	172	85	194	259
1926.....	125	161	132	104	140	163	150	136	162	85	..	..
1927.....	115	158	140	99	131	158	153	135	140	85	..	..
1928.....	123	184	123	103	131	134	159	140	132	85	166	258
1929.....	139	181	139	113	128	145	163	131	132	85	..	..
1930.....	117	129	113	84	112	144	176	..	120	85	..	..
1931.....	88	103	72	64	73	144	..	..	108	85	111	104

(a) Government Experimental Sugarcane Farm, Mantri. (b) Office of the Director of Agriculture, Bombay Presidency. Bombay prices for all except of seed cotton, which refers to Jalgaon. (c) Average of Baramati, Jalgaon and Kopergaon. (d) Average of six places in Khandesh. (e) Bari and Co., Poona. (f) Kirloskar Bros. Ltd. (It may be noted that the fall is more due to the competition between the Kirloskar Bros. and the Satara Industrial Works in the Satara District.)

It may be noted that the farm products and the items of cost in the above table do not deal with all the crops grown by the farmer nor with all the costs incurred by him. The table deals with only a few crops and a few of the items of costs. In a bulletin like this which is not intended primarily to find out the causes of the general depression, it is sufficient to show that while the prices of farm products fell the costs have not fallen proportionately. It may further be noted that certain items of costs, such as land rent, which are not included in the table, equally affect the costs. Land rents which rose from 1917 remained high till 1927. It will thus be seen that the farmer had very good time from 1917 to 1922. From 1922 to 1925 he was not losing, though he got less profit as compared to 1917-1922. Since 1926 he has been at a disadvantage.

As this investigation originated with the disturbance in sugarcane farming on the Deccan Canals, a few words about the position of this crop will not be out of place here. The question might be raised: Why should sugarcane alone, among the many other crops grown by the farmer, should cause him or the Agricultural Department special anxiety? On the Deccan Canals sugarcane occupies the central place round which the other crops revolve. Other crops grown on a sugarcane farm are only supplementary crops, included in the cropping scheme, to suit the needs of sugarcane and the sugarcane grower. Most of the capital of the sugarcane farmer is engaged in raising sugarcane and purchasing the equipment required for it. Moreover, sugarcane is purely a money crop (the whole of it being disposed of as soon as it is harvested) with which to pay for the daily needs and for the concentrated manure, water cess, land rent or land assessment. In the case of other crops the outlay is not heavy, and, moreover, the larger part of their produce is consumed on the farm. Naturally, the income from *gul* on the Deccan Canals directly affects the well being and the purchasing power of the irrigators. It may further be remembered that vast amounts of public funds are invested in building reservoirs and canals in the Deccan. The financial success of the canal system entirely depends upon how the crop pays.

During the World War the sugar-beet zone of Europe was much disturbed. As a result of the war conditions the prices of sugar and *gul* rose very much up to 1920-21, and the sugarcane area increased in all sugarcane-growing countries including the Deccan Canals. After the War beet stepped in again and, in fact, there was over-production of sugarcane and beet at a time when the purchasing power of the consumer had fallen. Consequently the prices of sugar and *gul* have been falling since 1921 and by 1931 they had fallen to the pre-war level. Sugar, to some extent, is a substitute of *gul* and so the price of *gul* always follows the trend of the price of sugar. Low price of sugar, increase in the production of *gul* and the fall of purchasing power of the masses who are the consumers of *gul* have pulled down the prices of *gul* in India to the rock bottom.

Sugarcane farmers had made very good profits between 1917 and 1925 and they had hoped that prices which were falling after 1922 would recover. Thus the momentum received by the increase of sugarcane area continued till about 1927-28, as will be seen from table III. After 1927-28, the farmer lost immediate hopes of the recovery of *gul* prices and he has been reducing his cane area since. The table gives the area under sugarcane on the Nira Left Bank, Godavery Left and Right Banks and the Pravara Right Bank Canals, from 1916-17 to 1930-31. The Pravara Left Bank Canal was opened in 1920-21 and the Nira Right Bank Canal in 1926-27, while the area on the Mutha Canal was disturbed. These Canals, therefore, have been left out as unlikely to give the true trend.

It will be seen that farmers, on all the canals, have been reducing the area under cane as far as possible, without wasting the equipment and organization built by them in the past.

It may be argued that if sugarcane does not pay in the present circumstances the cane grower might, for the time, shift on to some other crops. Those having any idea of farm organization will realize that it is not as easy to do so as it looks on the surface. The cane farmer has built special equipment and organization by laborious work and at great expense in the past, and he cannot shift without serious loss. At the most he can reduce the area under cane and as a matter of fact he does so. He cannot grow *bajri* and *jowar* as principal crops on high-priced lands, while there is no substitute which can be grown on a large scale like sugarcane. The sugarcane farmer has, therefore, no alternative but to continue in sugarcane-farming, making some adjustments, such as reducing the cost of production of sugarcane and substituting some cane with crops like groundnut, cotton, tobacco or turmeric. It does not mean that the prices of these crops have not fallen. It only means spreading his risk and minimising losses.

What is said of sugarcane holds good about other money crops. The prices of wheat, cotton and groundnut are determined in the world market. As sugar substitutes *gul*, wheat substitutes food grains like *jowar*, *bajri* and rice, and, naturally the prices of *gul*, *jowar*, *bajri* and rice fall in sympathy with the prices of world crops like sugarcane and wheat. The farmer can neither shift from agriculture nor even curtail agricultural production. He has to face the slump in the prices and take care of the present by all possible adjustments and economies till the situation eases. The manufacturer, on the other hand, can, to some extent, restrict production and minimise losses but even he is handicapped as is seen from the slump in the market and the unemployment in factory labour all over the world.

TABLE III—SHOWING ACREAGE OF SUGARCANE ON IMPORTANT CANALS IN THE DECCAN
FROM 1917-18 TO 1930-31

Name of the canal	1917-18	1918-19	1919-20	1920-21	1921-22	1922-23	1923-24	1924-25	1925-26	1926-27	1927-28	1928-29	1929-30	1930-31
Nira Left Bank	7,815	9,018	7,851	7,455	6,322	6,922	7,168	6,775	7,968	9,642	9,341	7,864	7,098	6,023
Godavari Right Bank	4,232	4,224	2,207	3,242	3,348	4,428	4,444	4,034	4,139	3,675	4,133	3,265	2,560	2,322
Godavari Left Bank	2,209	2,880	1,557	2,781	2,703	3,191	3,151	3,108	2,710	2,389	2,791	2,253	1,925	1,987
Pravara Right Bank	854	404	250	152	162	325	1,026	2,070	2,104	2,108	2,357	1,039	791	709
Total	15,110	16,526	11,865	13,580	12,535	14,866	15,784	15,987	16,921	17,814	18,622	14,421	12,374	11,041

Apart from the present (i.e. post-war) difficulties of the sugarcane farmers, the farmer in the Deccan has to face many special difficulties. The size of the holding is generally small, the rainfall is insufficient and often not well distributed and the interest rate on borrowed capital rather high. Fairly large proportion of land farmed is too poor to leave reasonable wages to the farm family, much less net profit. A large number of farmers have to borrow capital. Most farmers under the circumstances stick to farming to keep their body and soul together.

COST STUDY¹ AND ITS APPLICATION

This being the general situation of agriculture, it becomes necessary to carry out detailed investigation in the cost of production and profits of crops. Such a study of crops and farms enables the farmers, in a tract, to know which crops are more profitable, and which of them provide more employment to the farm labour and bullocks over a longer period of the year. Similarly, the comparison of labour (human as well as bullock) and supplies (as seed, manure, etc.), used on the same crop, by a number of farmers in the same locality, suggest economies in the methods of production.

There are two kinds of cost studies : (1) the cost study of individual crops and (2) the cost study of whole farms. The study of whole farms, more comprehensive and elaborate as it is, includes the study of crops and at the same time supplies the means for analysing the economic position of the farmer. When, however, temporary adjustments are called for, crop study yields quicker results. Further each of the two kinds of cost studies can be used to find out (a) the net profits or (b) the labour income or (c) the labour and the farm business income of the farmer. The cost study of individual crops, without going in for the study of whole farms, though admirable for finding out the net profits of crops per acre, cannot supply material for finding out the labour and the farm business incomes. On the other hand the cost of whole farms though best suited for finding out the labour income and the farm business income is not well suited for finding out the net profits per acre. On a farm some plots may be worked by the farm family with comparatively less outside help, while others with more of outside help. And if only

¹ Science Bulletin No. 33, Orange Free State, Report on the Cost of Production of Maize investigation for the season 1921-22.

Bulletin No. 1188 of 1924, U.S.A. Department of Agriculture, Cost and Farm Practices in producing Potatoes etc. by W. C. Funk.

Bulletin No. 372 of 1923, University of California, The Cost of Producing market milk and Butterfat etc. by R. L. Adams.

Bulletin No. 277 of 1926, University of Illinois, Cost of Producing field crops in the three areas of Illinois, 1913-1922 by R. C. Ross.

Principles and Practice of Farm Costing with Farm Studies, by P. C. Patil; Merrill K. Bennet, Farm Cost Studies in the U.S.A.; Frank App, Farm Economics; Adams, Farm Management.

the outside labour is charged, the comparison of labour incomes will be vitiated. For the same reason, it is not fair to compare farm business income from a crop on owned land (where no rent is paid) with that of another grown on leased land (where rent is paid).

The most common practice of costing agricultural business is the costing of (individual) crops on a number of plots belonging to a number of farmers with a view to compare profits per acre, though in the United States of America recently some investigators have also been finding out the labour and farm business incomes by studying entire agricultural business on whole farms. An investigation on the latter lines of 21 units is in press. (Principles and Practice of Farm costing with Farm studies.)

The real advantage of the net profit measure lies in its being a most scientific measure for comparison. Some farmers own land, while others have to take land on lease; some farmers command sufficient home labour, while others have to employ outside labour. Unless, therefore, all costs are included a fair comparison of income is not possible.

METHODS OF CALCULATING COST OF PRODUCTION

In the educationally advanced countries, with highly developed agricultural Economics Sections, the cost of production of particular crops is studied by issuing questionnaires and schedule forms to a large number of farmers, who fill in and return these to the investigator. Indian cultivators, being mostly illiterate, keep no accounts and cannot be expected to fill in such schedules and it was, therefore, decided to follow what is called the "route system"¹ of cost investigation in which the investigator visits particular farms periodically and records information on the spot.

The kind of study followed in this bulletin is the cost study of individual crops which still holds the ground in most countries, route system of investigation being adopted.

In calculating costs of production the following items have been taken into account:—

- (a) Human labour.
- (b) Bullock labour.
- (c) Equipment.
- (d) Manure.
- (e) Seed.
- (f) Water charges.
- (g) Marketing charges.
- (h) Interest.
- (i) Land rent.
- (j) Supervision charges.
- (k) Miscellaneous expenses.

¹ Merrill K. Bennet, Farm Cost Studies in the U.S.A., pp. 18-19.

Actual payment in cash, and when part or the whole of the payment is made in kind, its value is charged against the crops on which such labour was used. In the Deccan, especially near Poona, labour is paid in cash. The labour of the farmer and of the other members of his family is charged at the current rates for agricultural work in the village.

As regards payment to *balutedars*, it was not possible to get the actual amounts paid and so they had to be left out in the calculation of cost. But as they have also not been included in the calculation of the outturns, the results are not affected. A man unit is the amount of labour accomplished by one man (or two women or two boys) in one day of about 10 hours.

Daily cost of bullock labour is calculated taking into account the fodder and feed given, together with the depreciation and interest on the value of the animals. In working depreciation, credit is given for the value of the manure produced. Total cost on account of the bullocks, divided by the number of working days, is the daily charge. Bullock labour used for each crop and plot was recorded at the time of the bi-weekly visits of the investigators. When bullocks were hired actual charges paid were debited to the crop.

Charges for equipment are only made in the case of sugarcane where costly equipment is required. The hire of ploughs is included in the contract rate paid for ploughing. Hire of mills, pans, juice-tanks, etc., required for *gul* making is included in the costs. Similarly, charges for furnace and *gurhal* shed are also included. In the case of other crops, where very little capital is invested in implements no note is taken of such petty charges. Unless the whole business of the farmer is studied there is no basis for allocating such charges on the part studied.

The price of manure and seed purchased is debited to the (d) and (e) Manure crop. Manure and seed produced on the farm and seed. are charged at current rates.

Near Poona the rent of land and canal water cess are charged separately. Local-fund cess on water charges is included along with water assessment. On minor canals water cess goes with land assessment and both, therefore, are

¹ Memoir 22 of 1919, Cornell University, An analysis of the Cost of growing Potatoes, by D. S. Fox, pp. 544 and 555.

Bulletin No. 357 of 1915, Cornell University, The Cost of Milk Production, by Hopper and Robertson, pp. 152 and 162.

Bulletin No. 372 of 1923, University of California, The Cost of producing market milk and butterfat etc. by R. L. Adams, p. 9.

Bulletin No. 1188 of 1924, U.S.A. Department of Agriculture, Cost and Farm Practices in producing potatoes etc. by W. C. Funk, p. 16.

Adams R. L., Farm Management, 1921, p. 410.

* See Funk Farm Economics 1924 p. 463

included in the rent of land. Cost of well water goes with the rent of land. Cost of lifting water goes in labour charges.

Where the commodity was actually sold in the market, all the marketing charges such as haulage, octroi, brokerage and usual charities are included in the costs. In the case of commodities used for home purposes marketing charges are not made.

(h) Interest. Interest on fluid capital required for different operations is charged for the time the money was locked. The rate of interest charged varies between 9 to 12 per cent. No interest is charged on water cess, land rent and marketing costs as these are paid after the harvest of crops.

(i) Land rent. In the case of leased land the actual rent paid is charged. In the case of owned land rent is charged at rates current in the community for such lands.

In the case of lands which are cropped twice in the year, two-thirds of the total annual rent is charged to the *kharif* crop and one-third to the *rabi* crop.

(j) Supervision charges. Wages of the owner and of a *mukadam*, when appointed, are included in the labour costs and no separate supervision charges are made. Moreover, the crop or crops studied form only a part of the business of the farmer, and it is not possible to allocate supervision charges.

(k) Miscellaneous expenses. Expenditure which cannot be shown under any of the above headings, and other very small charges, which can go under one or more of them, are included under "miscellaneous".

(l) Valuation of crops. The price of produce (grain, fodder etc.) actually sold is credited to the crop. That part of the produce which is used by the farmer or is held over is credited to the crop at average market rate minus cost of marketing. That part of the produce which is paid as wages in kind is taken into account in the total receipts. The value of the farmyard manure produced by the bullocks is taken into account while working out the cost on account of bullock labour.

Items of Receipt. Receipts include—

(a) cash received for the produce (the main as well as by-products) sold.

(b) Value of the produce used in the household or held over for farm family or for seed.

(c) Value of the produce given over to others gratis or as wages.

(d) Value of the by-products as straw or chaff kept for farm animals.

The produce that is not actually sold is valued at average market rate minus cost of marketing.

GENERAL REMARKS

This is perhaps the first attempt in India, at any rate in the Bombay Presidency to study the detailed cost of production of crops and their actual requirements. The value of such enquiry depends upon getting at the actual day-to-day labour spent and other expenses incurred upon the crops, under observations, and, unless the investigator visits each plot twice—at least once—a week, it is difficult to get such detailed information. Most farmers cannot read and write and very few of those who can read and write take interest in such matters or are prepared to spend some time with the investigator, when he visits them periodically.

The task of collecting cost data is rendered more difficult in India where due to the periodical revision of land assessment, cultivators are generally suspicious and unwilling to give information. It takes some time before cultivators realize that such data are useful to themselves, inasmuch as the investigator uses them in suggesting economies in the costs, and, adjustments in their cropping plans. When cultivators receive useful tips and when their confidence is gained they are willing to give any information and are found anxious to follow the advice given by the investigators.

The success of cost study depends upon the ability and sincerity of the field investigator. Unless he has some farm experience and tact he cannot get at the facts. It takes a long time for a raw man to acquire tact in dealing with illiterate farmers; further much experience is required to verify the data which the farmer supplies. If the chief investigator finds a field investigator slack, insincere or unsuited for the work, it is better to drop him or the work. The importance of checking the field notes, as they come from field investigators, by the chief investigator and his being strict from the beginning cannot be exaggerated. Mistakes in cost study can only be detected and rectified if field notes are scrutinized as they are collected and received.

To make cost study really useful the investigator has to make the different items of the costs of the same crop, studied on the different farms and plots, comparable. If in some cases it is not found possible, he has to go deeper under the surface and explain the variations. At times, it is found more convenient, even at the time of collating the information for final report, to omit such of the plots as would swell the volume without supplying useful information, bearing upon the points in view. For example, if *virayat* plots of *bajri* are chosen for costing and an owner of one of the plots irrigates it, it is better to sacrifice that plot rather than include it in the table of comparison and offer explanation. If there are a number of plots irrigated as well as unirrigated it is another matter, as they can be grouped for comparison. If the investigator, as a result of the analysis of his costs, finds useful tips it is better that he should offer his suggestions to the farmers under observation for their acceptance in the next year's cropping. It helps cost study work immensely. As a result of our work in 1925-26, we made suggestions

to cut down the amount of manure and the number of sugarcane sets and many farmers followed our advice.

It may be noted that the costs, receipts and labour units, shown in the statements of costs, are the actuals for the crops grown on the particular plots, under the conditions of rainfall and market obtaining in the particular years. A critical reader in his perusal of these studies will come across cases in which some crops and some farm operations (in the same locality) have either received too much or too little attention. The explanation of such cases lies in the prices of the items of costs and of the farm produce. The point raised is very important and cannot be disposed of in a few lines. Without traversing the general field of farm management, a few lines of explanation are only given here. In the same locality we find cases in which some farmers have spent more on labour and manure in proportion to the yields and receipts; while there are others in which the farmers spent much less than usual. The explanation of such cases is given at the proper places under each crop. At this place a few general remarks are offered as to why some farmers spend more and others less. When a farmer sees that his crop, especially a crop like sugarcane requiring heavy outlay, due to a fall in the price of farm produce or due to some check received by the crop, is not likely to pay the cost of further instalments of manure or labour he shows neglect towards the crop. On the other hand, a farmer, especially a peasant farmer, looking upon farming as a means of employment, quite often, spends so much home labour as would not bring sufficient additional yield to pay the wages of that labour at current rates. The cause of using more or less labour lies in the peculiar economy of peasant farming. The farmer often cannot find sufficient work to employ his spare labour more gainfully and he, rather than idle away the time, utilizes it without looking to the increasing gains due to that labour. When rains are poor and there are a few fields bearing crop, the question arises whether labour should or should not be employed in watching the crop against birds and stray cattle. If the farmer calculates the cost of such labour and, considering it uneconomical does not watch the crop, what little crop there may be is lost. If he watches the crop the calculated extra cost may not be repaid. If there is spare home labour the farmer, without looking to its cost, makes use of it and he cannot be blamed for doing so.

There may be two farmers in a village growing one and the same crop. One may prepare the land by ploughing and harrowing, while the other may simply harrow and sow the land. The causes of such differences may lie in the previous differential treatment or in the difference in the economic conditions of the farmers. The question of more or less labour and cost under such circumstances has, therefore, to be viewed in the light of individual economy. Costs in agriculture are also influenced by seasons and crop pests, and, hence costs in the same locality may vary from year to year.

Apart from the differences in costs due to climatic changes and individual economic considerations, one finds variations in the use of

labour and seed, which are more due to differences in the nature of soil and rainfall obtaining in the different agricultural zones. In a particular zone plough may require one man and two bullocks, in another one or two men and four bullocks, and in still another three men and eight bullocks. Even in the same zone, for different soils the strength of the team varies. Seed rate also varies from tract to tract. One, therefore, cannot be too careful in his analysis of the expenditure of labour and cost of cultivation. And above all, in the cost study, one is concerned with actuals as to what the farmer has done and not with what he thinks the farmer should have done.

It is important to differentiate between 'Net profit' as understood by the Economists and 'Net produce' as used by the Settlement officers. What is called 'Net produce' by the Settlement officer is not the same as 'Net profit'. 'Net profit' is the remuneration after paying wages of home as well as hired labour, rent of land, whether owned or leased, and depreciation and interest of all kinds of capital, whether actually paid or calculated. Net produce, on the other hand, means gross produce minus cost of production except land rent. Settlement officers, therefore, do not include rent of land in the costs and they are not wrong as they wish to find out the remuneration for the services of land, a part of which is claimed by Government as land assessment.

Net profit, though important from the point of an entrepreneur, is not the limiting factor in Indian agriculture as some economists may think. When prices of farm produce are high the farmer makes a net profit in addition to wages for family labour and rent of owned land. If prices are low he may not be able to make net profit. If a farmer manages to find gainful employment for family labour, over a longer period with a small amount of net profit or even without net profit, one need not be frightened.

It should be clearly borne in mind that the balance sheets of the different crops presented in the bulletin are drawn, as in any other business concern, debiting all costs including rent for the land, whether owned or leased, wages for hired labour as well as home labour, interest on fluid capital, and, in the case of costly implements, their hire charges. As a matter of fact most farmers own land and provide larger proportion of labour and capital. Most of the rent, wages and interest, shown as costs, are thus saved. The net profits of farming are so small that they by themselves never suffice to maintain the farmer. That the farmer continues to follow agriculture with little or no profit is explained by the facts that there is no alternative industry for him, that the greater part of the labour he uses is of his own family for which he does not have to pay and that in the case of owner farmers they pay no land rent. *In short the farmer lives not so much on profits as on the wages of his own labour and the unpaid rent of the land.*

Part II

STUDIES IN THE COST OF PRODUCTION OF CROPS IN THE NEIGHBOURHOOD OF POONA IN THE YEARS 1925-26, 1926-27 AND 1927-28

INTRODUCTORY

Between the three years, 1925-26, 1926-27 and 1927-28, the total area costed was 98 acres and 12 gunthas at Loni-Kalbhori, Nanded, Wagholi and Pimple-Sathyache.

Loni-Kalbhori and Nanded group.—Both these villages are close to Poona City—Loni about 10 miles to the east on the Sholapur road and Nanded about 10 miles to the south-west on the Poona-Khadakwasla road and are served by the Mutha Left Bank Canal. Though sugarcane is the important crop, vegetables and fruit for the market and *bajri* for home requirements are grown. Due to the city influence labour is dear. A number of offices and military cantonment draw upon lot of labour. Poona City affords a good market for farm produce and supplies a fair amount of city refuse as manure for sugarcane. *Jirayat* crops are grown generally in the *kharif* season. Soils are generally rich and cultivation intensive.

Wagholi and Pimple-Sathyache.—These are also close to Poona, Wagholi about 10 miles to the north-east on the Ahmednagar road and Pimple about 7 miles to the north-west. They are purely dry (*jirayat*) villages. Like the first group these are also under the city influence and labour is dear. A fairly large number of people from Wagholi cut wood and grass for sale in Poona. Many from Pimple work in the Kirkee Arsenal. Poona provides good market, especially for *kudbi*, grass, milk and fuel. Soils are thin and light. *Bajri* and *nilwa* are the important crops. In good lands *shalu* (winter *jowar*) is occasionally taken in rabi season as a change.

RAINFALL AND SEASONS

The average rainfall of the last 10 years, from 1921 to 1930, at the College of Agriculture, Poona, is 22.15 inches. This may be taken as the normal rainfall for Nanded, Pimple and Wagholi. The average fall in 1921 to 1930 at the Manjri Farm (20.30") may be taken as the average for Loni-Kalbhori. Table IV gives the rainfall and its distribution at the College of Agriculture and the Dry Farming Station at Manjri, which is close to Loni.

There is good deal of variation in the amount and distribution of rainfall in these years at each of the two recording centres, though they are within a distance of about 14 miles. Rains up to the end of May, though useful for preparing lands, are not much useful to the *kharif* crops sown in June-July. In the year 1925-26 rainfall was insufficient for the *kharif*

TABLE IV—DISTRIBUTION OF RAINFALL (Inches)

(a) College of Agriculture, Poona

Year	Jan.		Feb.		Mar.		Apr.		May		Jun.		Jul.		Aug.		Sept.		Oct.		Nov.		Dec.		Total
	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II			
1925....	0·0	0·0	0·0	0·0	0·06	0·89	0·0	0·0	0·09	0·23	1·43	1·37	1·49	1·58	0·99	0·97	0·06	3·60	0·84	0·07	0·24	0·70	0·0	0·0	14·11
1926....	0·44	0·67	0·0	0·0	0·0	0·0	0·0	0·0	0·33	0·40	1·84	1·32	3·78	3·47	3·68	3·63	1·89	5·29	0·03	0·32	0·14	0·0	0·0	0·0	30·18
1927....	0·0	0·0	0·0	0·0	0·06	0·0	0·0	0·23	0·0	2·33	2·54	3·68	1·98	3·58	0·50	0·67	0·46	5·24	0·41	0·92	3·20	0·0	0·0	0·0	25·75

(b) Dry Farming Station, Manjri

1925....	0·0	0·03	0·0	0·0	0·0	0·02	0·0	0·0	2·08	0·55	0·62	1·96	0·85	1·18	1·94	0·44	0·13	2·93	0·96	0·0	0·53	0·02	0·0	0·0	14·24
1926....	0·12	0·52	0·0	0·0	0·0	0·0	0·0	0·0	0·14	0·74	1·25	0·41	3·22	1·69	1·71	1·69	2·12	5·63	0·72	0·20	0·18	0·0	0·0	0·0	20·34
1927....	0·0	0·0	0·0	0·0	0·17	0·0	0·0	0·06	0·0	0·23	3·30	2·22	1·20	3·43	0·97	0·97	0·46	5·24	0·41	0·92	3·20	0·0	0·0	0·0	25·75

crops; also the late rains were inadequate for the *rabi* crops. In the year 1926-27 and 1927-28 it was too wet for sowing *bajri* in July and the excessive rains of September were harmful to the *kharif* crops. Too much of early rains in 1927-28 spoiled the *kharif* harvests. These two years on the whole were good for *rabi* crops, especially the year 1927-28.

The following table shows the crops and the acreage costed.

TABLE V—CROPS, PLOTS AND ACREAGE

Name of crop	No. of plot	Area		Remarks
		A.	g.	
Sugarcane	8	16	0	On the perennial canal.
<i>bajri</i>	4	4	32	Unirrigated in the sugarcane-zone.
<i>isri</i>	11	2	20	Unirrigated in the dry-zone.
<i>Awa</i>	3	10	10	Irrigated and unirrigated.
<i>Pom</i>	5	5	10	Unirrigated.
<i>gerju jowar</i>	4	9	20	Unirrigated.
Total	35	98	12	

SUGARCANE

During the years 1925-26, 1926-27 and 1927-28 eight plots of sugarcane were costed at Nanded, 10 miles from Poona on the Poona-Khadakwasla and. All the plots received perennial canal water. Irrigators in the cillage generally take some catch-crops like *bhendi*, *khira* and other green vegetables with the main crop of sugarcane while the latter is young. After sugarcane the land is put to some dry-crop like *bajri* or *dudhya*.

It may be remembered that the cost of production includes not only the out-of-pocket expenses but also the wages of home labour and the rent of land, whether owned or taken on lease.

Table VI gives an abstract of the costs and receipts of sugarcane, based on statements 1 to 8 (pp. 23 to 55).

The table is self explanatory. It may, however, be noted that the gross value of the produce as well as the aggregate cost of production went down, the former because the price of *gul* was falling and latter because it did not pay the farmer to spend more, when *gul* was very cheap. As a result farmers have been reducing the quantity of manure. Rents also show a falling tendency. The average rents per acre in the years 1925-26, 1926-27 and 1927-28 were Rs. 82, 62 and 35 respectively.

PRELIMINARY STUDIES OF IMPORTANT CROPS

TABLE VI—COSTS, RECEIPTS AND PROFIT OR LOSS OF THE PLOTS BY YEARS

Year	Plot No.	Area	Outturn of <i>gul</i>	Gross value of <i>gul</i> , catch-crop and by-products	Total cost	Profit or loss	Remarks
		A. g.	Lbs.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
1925-26.	Total ..	8 20	73,214	8,195 14 4	8,084 8 6	+111 10 10	
	1S	1 20	12,258	1,355 14 10	1,460 8 0	-104 9 2	Average price obtained per <i>palla</i> Rs. 26-8-0.
	2S	6 0	52,500	5,867 8 0	5,655 1 0	+212 7 0	
	3S	1 0	8,456	972 7 6	968 10 6	+3 13 0	
	Average per acre.		8,618		964 3 7	951 1 4	+13 2 3
1926-27.	Total ..	4 10	39,222	3,808 9 0	3,681 15 7	+126 9 5	
	4S	3 0	27,648	2,673 0 0	2,617 4 3	+55 11 9	Average price obtained per <i>palla</i> Rs. 20-9-0.
	5S	1 0	11,574	1,135 9 0	1,064 11 4	+70 13 8	
	Average per acre.		9,228.7		896 2 1	866 5 6	+29 12 7
1927-28.	Total ..	8 10	25,728	2,482 8 5	2,794 6 9	-311 14 4	
	6S	2 20	19,200	1,860 6 0	2,138 15 6	-278 9 6	Average price obtained per <i>palla</i> Rs. 20-14-0.
	7S	0 20	4,608	436 6 5	458 14 0	-22 7 7	
	8S	0 10	1,920	186 12 0	201 9 3	-15 13 3	
Average per acre.		7,916.3		763 13 8	859 13 2	-95 15 6	

THREE YEARS' SUMMARY GIVING COMPARATIVE AVERAGE PER ACRE

Year	<i>Gul</i> per acre	Gross income per acre	Total cost per acre	Profit or loss per acre
	Lbs.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1925-26	8,613	964 3 7	951 1 4	+13 2 3
1926-27	9,228·7	896 2 1	866 5 6	+29 12 7
1927-28	7,916·3	763 13 8	859 13 2	-95 15 6

Though in the year 1925-26 the price of *gul* was good, the cost of production also was high and hence the average profit was low (being Rs. 13-2-3 per acre). In the year 1926-27, due to the favourable nature of the season, the yield was higher; besides, the cost of production was lower by 9 per cent. Since, however, the price of *gul* fell by 22 per cent, as compared to the previous year, the advantages of the higher outturn and the lower cost of production were considerably offset, and the average profit per acre was only Rs. 29-12-7. In the year 1927-28, the cost of production was lower than in the previous years but the yield was still lower. There was a slight improvement in the price of *gul* (say 1·4 per cent over that of 1926-27 but 21·7 per cent lower than that of 1925-26); as a result there was no profit.

Before attempting general inferences, it is necessary to compare the different plots studied in the same years. Table VII gives the costs, receipts and profits or losses of the plots studied. Since areas of the plots vary, costs and receipts are reduced to acre-basis. The details will be found in statements 1 to 8. (pp. 23 to 55).

1925-26 (Plot Nos. 1S, 2S and 3S).—Plot No. 2S was lowest in the cost of production and highest in the yield. The rent of the plot was high. Due to the larger size of the plot, the cost of watching per acre was low. The owner, moreover, being a large-scale cane-grower, the rate of brokerage paid was also low; hence the owner of the plot could make a decent profit. The owner of plot No. 3S spent more on manuring, but having no capital of his own, the after-tillage was neglected and he could make only a nominal profit. This man could have saved on sets and also on manuring without affecting the yield and in that case he could have made a fair profit. Plot No. 1S was haunted by pigs, which reduced the yield and increased the cost of watching, as a result the owner suffered a loss.

TABLE VII—COMPARATIVE COSTS, RECEIPTS, PROFITS OR LOSSES OF SUGARCANE

Year	Plot No.	Area	Yield of gur	Per acre											
				Prepara- tory tillage	Manures and manuring	Sete and planting	After care and tillage	Watching against pigs	Marketing charges	Rent of land	Irrigation harvesting, Interest and Miscel- laneous	Total cost	Gross receipts	Profit or loss	
				Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
1925-26	18	1 20	8,172	53 5 4	295 5 4	77 10 8	57 5 4	26 0 0	50 1 2	65 0 0	236 14 10	978 10 8	903 15 3	- 69 11 5	
	28	6 0	8,750	69 0 0	327 0 0	76 0 0	65 2 6	4 0 0	38 4 0	90 0 0	273 1 8	942 8 2	977 14 8	+ 35 6 6	
	38	1 0	8,456	68 0 0	393 8 0	90 0 0	28 0 0	..	40 8 6	68 0 0	232 10 0	968 10 6	972 7 6	+ 3 13 0	
1926-27	48	8 0	9,216	55 0 0	332 8 8	62 14 8	35 11 4	..	29 8 0	62 8 0	294 4 1	872 6 9	891 0 0	+ 18 9 3	
	58	1 10	9,259	40 0 0	269 8 0	82 6 4	37 9 7	22 0 0	57 6 10	57 12 5	275 1 0	851 12 2	908 7 2	+ 56 11 0	
1927-28	68	2 20	7,680	53 8 2	316 14 0	67 12 0	34 6 4	6 6 5	39 8 0	85 0 0	200 7 6	853 9 5	744 2 5	-109 7 0	
	78	0 20	9,216	66 0 0	226 0 0	102 0 0	49 0 0	20 0 0	48 2 0	40 0 0	371 10 0	917 12 0	872 12 10	- 44 15 2	
	88	0 10	7,680	68 0 0	167 8 0	103 8 0	40 0 0	20 0 0	36 12 0	40 0 0	330 9 0	806 5 0	743 0 0	- 63 5 0	

1926-27 (Plot Nos. 4S and 5S).—The crop was good and the yields were better than in the previous year. The situation of plot No. 5S was such as would attract pigs and so the watching charges were high. Due to the small size of the plot, labour charges for watering were proportionately more. The owner, having borrowed loans from a broker, had to pay higher rate of brokerage, whereas, the owner of plot No. 4S having not bound himself to a broker was free to sell his produce where he liked and so he had not to pay much by way of brokerage. The owner of plot No. 4S spent too much on manure for the year of low prices of *gul* and had also to pay high rent. The owner of plot No. 5S, with all the disadvantages due to the smaller unit, fared better.

1927-28 (Plot Nos. 6S, 7S and 8S). Plot Nos. 7S and 8S were superior in quality, while plot No. 6S was thin and light. Of the two plots Nos. 7S and 8S, the latter received very little manure and its yield was less than that of the former. Seed rate in both these plots was unnecessarily high (i.e., 18,000 sets per acre). It has been found that 10,000 sets per acre are quite enough. Due to the larger size of plot No. 6S labour charges on preparatory tillage, inter-tillage and watching against pigs, were comparatively less. The expenditure on manure, however, was too much for the year of low prices of *gul* and hence there was more loss.

Looking to the kinds of manure given to the different plots it seems that city refuse, though cheap, is not economical. Plot No. 6S received a good amount of city refuse and only a small quantity of fish but no Sulphate of Ammonia, whereas plot No. 7S received less city refuse but more fish and Sulphate, as a result the yield of the latter was decidedly more. Bulky manure like city refuse cannot replace quick acting manures like Sulphate of Ammonia. This inference is borne out by the comparison of plot Nos. 4S and 5S, in the year 1926-27.

GENERAL CONCLUSIONS

(1) Prices of *gul* were going down during the years of study. The average price obtained per *palla* in the year 1925-26 was Rs. 26-8-0; whereas, in the years 1926-27 and 1927-28 it was about Rs. 20-12-0. The causes of the low prices of *gul* were the low price of imported sugar and the fall in the purchasing power of the masses, consisting mostly of the poor peasant farmers in India.

(2) The cost of production lagged behind. The average costs in the years 1925-26, 1926-27 and 1927-28 were Rs. 951, 866 and 860 respectively. It seems that the cost of production cannot be much reduced without affecting the yield, unless wages, rents and price of manure go down further.

(a) The prices of Sulphate of Ammonia and fish came down, but that of city refuse rose. During the three years Sulphate came down from Rs. 22 to Rs. 20-8-0 and fish from Rs. 9 to Rs. 7 per bag, whereas, city refuse rose from annas 8 to annas 12 per cart. The cause of the rise in the value of city refuse lies in the want of competition on the supply side and also due to the demand for cheaper manure from the cane-growers.

(b) Rents of land were falling. In the years 1925-26, 1926-27 and 1927-28, average rents per acre were Rs. 82, 62 and 35 respectively. Landowners had to accept less in 1926-27 and 1927-28 than the rents agreed upon for long periods. Some of the disputes are in the court.

(c) There was no fall in day-wages. In fact contract rates for harvesting and crushing cane and making *gul* rose from Rs. 26 to Rs. 32 per *bhargadi*. It may be borne in mind that harvest-season wage does not depend upon the price of *gul*. When crops in the neighbourhood are good the wage of seasonal labour for crushing sugarcane rises. In the years of scarcity, due to poor harvests of grain crops, the wage of seasonal labour falls.

(3) Though it is not quite borne out by the study, pig trouble is getting less acute and in recent years (1930-31) there is very little damage by pigs on the Mutha Canal. Apart from the pig-destruction work by the Agricultural Department and the increase in the number of village *shikaris*, it seems pig has received a natural check on the Mutha Canal. In the year 1926-27 large number of pigs shot by *shikaris* had foot-and-mouth disease.

SUGGESTIONS

The Canal-farmer, instead of trying to be a manager or a gentleman-farmer, must work himself. During the world-war and some years afterwards he attempted to grow larger areas. Though he supervised the business, he or his family rarely worked on the farm. With low prices of *gul* and comparatively high cost of production, he will do better if he changes his plans and grows only as much cane as he and his family can manage and substitute part of sugarcane with other crops. Speculative enterprises like sugarcane are subject to violent ups and downs and generally sugarcane grower, if he depends upon borrowed capital and hired labour stands to lose more in sugarcane than in ordinary crops. Ordinarily farmers make at least small profits on the staple crops. The canal farmer should further cut down the cost of production of sugarcane by adopting the wide planting method and the use of Sabul Plough for earthing-up. So long the price of *gul* is low he had better use less manure. This will effect saving in the cost of seed, manures, manuring and after-tillage. If farmers club together and form cooperative-power-crushing societies they can cut down *gurhal* expenses and at the same time get larger percentage of *gul* from their crop. By joining the Haveli-Taluka *Gul-Sale Society* (Poona) the irrigators on the Mutha Canal can effect a saving in marketing costs. The work of the society has appealed to many. The want of capital and the consequent grip of the *dalal* on the farmers, however, prevent many of them from availing of the facilities afforded by the *gul*-sale society.

The details of the costs, receipts and income from the different plots of sugarcane are given in the following statements (1 to 8).

STATEMENT 1

SUGARCANE—1½ acres in 1925-26

PLOT No. (1 S)

Place—Nanded

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Ploughing and ridging ..	33	..	99	132	88.0	60 0 0	10 0 0	Sixteen and half days for one plough with two men and six bullocks each day. Four ploughings and ridging work was given on contract at Rs. 40 per acre.
(b) Clod crushing, repairing bunds, digging corners etc.	40	..	..	40	26.6	20 0 0	13 5 4	Man at 8 annas a day.
Manure and manuring								
(a) Manures								
Municipal refuse .....	..	..	..	..	..	32 0 0	21 5 4	For the plot 64 cartloads of municipal refuse at 8 annas per cart.
Sulphate of Ammonia ....	..	..	..	..	..	88 0 0	58 10 8	For the plot 4 bags of Sulphate of Ammonia at Rs. 22 per bag.
Fish manure .....	..	..	..	..	..	225 0 0	150 0 0	For the plot 25 bags of fish manure at Rs. 9 per bag.

SUGARCANE

STATEMENT 1—contd.

24

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
(b) Carting manure .....	..	..	..	..	..	88 0 0	58 10 8	Sixty-four carts paid at Rs. 1-6-0 per cart including toll tax.
(c) Spreading manure	8	24	..	20	13.4	10 0 0	6 10 8	Man at 8 annas and woman at 4 annas each.
Seeds and sowing								
(a) Sets .....	..	..	..	..	..	92 8 0	61 10 8	For the plot 18,000 sets at Rs. per 1,000; Rs. 2-8-0 carting charges.
(b) Planting	18	24	..	30	20.0	24 0 0	16 0 0	Contract work at Rs. 16 per acre.
Irrigation								
(a) Canal water charges ....	..	..	..	..	..	71 11 6	47 13 0	At Rs. 45 per acre plus L.F.C.
(b) Labcur.....	30	..	..	30	20.0	15 0 0	10 0 0	At 8 annas per man unit.

PRELIMINARY STUDIES OF IMPORTANT CROPS

After-care and tillage								
(a) Weeding .....	..	240	..	120	80·0	60 0 0	40 0 0	Woman at 4 annas. Five weeding were given.
(b) Earthing up.....	26	..	..	26	17·3	26 0 0	17 5 4	Contract work.
(c) Watching and other miscellaneous work	60	..	..	60	40·0	30 0 0	20 0 0	Charges on account of yearly servant who watched the crop day time and tied cane and did other miscellaneous work on the plot.
(d) Watching.....	90	..	..	90	60·0	24 0 0	16 0 0	Two men for night watching for six weeks at Rs. 8 per mensem each.
Harvesting and making <i>gul</i>								
(a) Contract labour.....	222	..	148	370	246·6	196 13 9	131 3 10	Crushing cane and making <i>gul</i> given on contract at Rs. 26 a <i>bhargadi</i> (i.e. 16 boilings or 4 days' work). The <i>gurhal</i> gang also got three-fourths of cane tops free, the value of which is included in the total cost. <i>Gurhal</i> continued for 18½ days.
(b) Extra day-labour	19	42	..	40	26·8	18 0 6	12 0 4	Man at 8 annas, 21 women at 3½ annas each and the remaining 21 women at 3 annas each.

STATEMENT 1—concl'd.

26

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
(c) Hire of <i>gurhal</i> equipment.	..	..	..	..	..	38 0 0	25 5 4	For 19 days at Rs. 2 per day.
(d) Cost of repairing furnace shed, and of oil, cloth etc.	..	..	..	..	..	18 0 0	12 0 0	Rupees 10 for repairing furnace and <i>gurhal</i> shed and Rs. 8 for oil, cloth and udid flour etc.
(e) Extra fuel .....	..	..	..	..	..	18 0 0	12 0 0	At Rs. 2 per boiling for 9 boilings.
Marketing charges								
(a) Cartage.....	..	..	..	..	..	15 0 0	10 0 0	At Rs. 1-8-0 per cart (distance about 10 miles) including toll and octroi charges.
(b) Commission, charity etc.	..	..	..	..	..	63 1 9	42 1 2	
Interest .....	..	..	..	..	..	88 4 0	58 13 4	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	97 8 0	65 0 0	The land was taken on lease.
Miscellaneous.....	..	..	..	..	..	41 8 6	27 11 0	Miscellaneous expenses, presents and tips etc.
Total	546	330	247	958	638·7	1,480 8 0	973 10 8	

PRELIMINARY STUDIES OF IMPROVING CROPS

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 1½ acres	Per acre	For 1½ acres	Per acre	
	Lbs.	Lbs.	Rs. s. p.	Rs. s. p.	
Gul	12,258	8,172	1,253 12 6	835 13 8	Sold at different rates in the Poona market.
Cane tops	20,430	13,620	102 2 4	68 1 7	Estimated value.
Total....	..	..	1,355 14 10	903 15 3	

(c) Summary

	For 1½ acres	Per acre
	Rs. s. p.	Rs. s. p.
Gross income	1,355 14 10	903 15 3
Expenditure	1,460 8 0	973 10 8
Loss ..	104 9 2	69 11 5

SUGARCANE

STATEMENT 2

28

SUGARCANE—6 acres in 1925-26

PLOT No. (2S)

Place—Nanded

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Preparatory tillage								
(a) Ploughing and ridging ..	132	..	396	428·0	88·00	270 0 0	45 0 0	Sixteen and half days for 4 ploughs with 2 men and 6 bullocks each per day. Four ploughings and ridging work was given on contract at Rs. 45 per acre.
(b) Clod crushing, repairing bunds, digging corners etc.	288	..	..	288·0	48·00	144 0 0	24 0 0	Man at 8 annas a day.
Manure and manuring								
(a) Manures								
Municipal refuse .....	..	..	..	..	..	216 0 0	36 0 0	For the whole area 432 cartloads at 8 annas per cart.
Fish manure .....	..	..	..	..	..	1,116 0 0	186 0 0	For the whole area 84 bags of fish manure at Rs. 9 per bag and Rs. 360 worth of fish powder.
(b) Carting manure .....	..	..	..	..	..	594 0 0	99 0 0	Four hundred and thirty-two carts paid at Rs. 1-6-0 per cart including toll tax.
(c) Spreading manure .....	..	144	..	72·0	12·00	36 0 0	6 0 0	At four annas per woman.

PRELIMINARY STUDIES OF IMPORTANT CROPS

Seeds and sowing									
(a) Sets .....	..	..	..	..	..	880 0 0	60 0 0	For the whole area 60,000 sets at Rs. 6 per 1,000.
(b) Planting	72	96	..	120·0	20·00	96 0 0	16 0 0	Contract work at Rs. 16 per acre.	
Irrigation									
(a) Canal water charges ....	..	..	..	..	..	286 14 0	47 13 0	At Rs. 45 per acre plus L.F.C.
(b) Labour	107	..	..	107·0	17·83	53 8 0	8 14 8	At 8 annas per man unit.
After-care and tillage									
(a) Weeding .....	..	960	..	480·0	80·00	240 0 0	40 0 0	Five weedings were given. Woman at 4 annas per unit.
(b) Earthing up	120	..	..	120·0	20·00	126 0 0	21 0 0	Contract work at Rs. 21 per acre.
(c) Watching	60	..	..	60·0	10·00	24 0 0	4 0 0	One man, for watching the whole area at night against pigs for two months, was paid at Rs. 12 per mensem.
(d) Miscellaneous work, tying canes etc.	33	45	..	55·5	9·25	24 15, 0	4 2 6	Man unit at 8 annas and woman unit at 3 annas.	
Harvesting and making <i>gul</i>									
(a) Contract labour	792	..	528	1,320·0	220·00	790 2 0	131 11 0	Crushing cane and making <i>gul</i> given on contract at Rs. 28 a <i>bhargadi</i> . The <i>gurhal</i> gang also got three-fourths of cane tops free, the value of which is included in the total cost. <i>Gurhal</i> continued for 66 days.	
(b) Extra day-labour	66	..	..	66·0	11·00	33 0 0	5 8 0	At 8 annas per man unit.
(c) Hire of <i>gurhal</i> equipment .....	..	..	..	..	..	132 0 0	22 0 0	At Rs. 2 per day.
(d) Cost of repairing furnace, shed, and of cloth flour etc. ....	..	..	..	..	..	61 0 0	10 2 8	

STATEMENT 2—concl.

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Marketing charges								
(a) Cartage.....	..	..	..	..	..	49 8 0	8 4 0	At Rs. 1-8-0 per cart including toll and octroi charges.
(b) Commission, charity etc.	..	..	..	..	..	180 0 0	30 0 0	
Interest .....	..	..	..	..	..	275 0 0	45 13 4	Charged at 9 per cent per annum.
Rent of land .....	..	..	..	..	..	540 0 0	90 0 0	The land was taken on lease. The cultivator has taken a block of 17 acres on lease for Rs. 1,400. Out of this 2 acres are uncultivable waste for which he gets about Rs. 50 worth of grass. The remaining Rs. 1,350 (Rs. 1,400—50) is distributed over the 15 acres of cultivated land.
Miscellaneous.....	..	..	..	..	..	7 2 0	1 3 0	Miscellaneous expenses, presents and tips etc.
Total.....	1,870	1,245	924	3,216·5	536·08	5,655 1 0	942 8 2	

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 6 acres	Per acre	For 6 acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
Gul	52,500	8,750 0	5,430 0 0	905 0 0	Sold at different rates in the Poona market.
Cane tops	87,500	14,583 3	437 8 0	72 14 8	Estimated value.
Total ....	..	..	5,867 8 0	977 14 8	

(c) Summary

	For 6 acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income.....	5,867 8 0	977 14 8
Expenditure	5,655 1 0	942 8 2
Profit	212 7 0	35 6 6

STATEMENT 3

32

SUGARCANE—1 acre in 1925-26

PLOT No. (3 S)

Place—Nanded

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Cost per acre	REMARKS
	Men	Women	Bullocks			
Preparatory tillage					Rs. a. p.	
(a) Ploughing and ridging	22	..	66	88	48 0 0	Eleven days for one plough with 2 men and 6 bullocks each day. Four ploughings and ridging were given on contract at Rs. 48 per acre.
(b) Clod crushing, repairing bunds, digging corners etc. ..	40	..	..	40	20 0 0	Man at 8 annas.
Manure and manuring						
(a) Manures						
Municipal refuse .....	..	..	..	..	50 0 0	For the whole area 100 cart-loads at 8 annas per cart.
Sulphate of Ammonia	46 0 0	Two bags of Sulphate of Ammonia at Rs. 23 each.
Fish manure	102 0 0	Twelve bags of fish manure at Rs. 8-8-0 per bag.

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Oil cake	66 0 0	Six <i>pallas</i> of oil cake at Rs. 11 per <i>palla</i> .
(b) Carting manure	116 8 0	Hundred carts paid at Rs. 1-2-0 and two carts at Rs. 2 each including toll tax. The latter two carts were required for bringing the concentrated manure from Poona.
(c) Spreading manure .. .. .	..	52	..	26	13 0 0	Woman labour at 4 annas each.
Seeds and sowing						
(a) Sets .. .. .	..	..	..	..	75 0 0	For the whole area 15,000 sets at Rs. 5 per 1,000.
(b) Planting	12	16	..	20	15 0 0	Contract work.
Irrigation						
(a) Canal water charges .. .. .	..	..	..	..	47 13 0	At Rs. 45 per acre <i>plus</i> L. F. C.
(b) Labour	21	..	..	21	10 8 0	At 8 annas per man unit.
After-care and tillage						
(a) Weeding .. .. .	..	48	..	24	12 0 0	At 4 annas per woman unit. Three weedings were given.
(b) Earthing up	16	..	..	16	16 0 0	Contract work.
Harvesting and making <i>gul</i>						
(a) Contract labour	120	..	80	200	122 14 0	Crushing cane and making <i>gul</i> given on contract at Rs. 28 a <i>bhargadi</i> . The <i>gurhal</i> gang also got three-fourths of cane tops, the value of which is included in the total cost. <i>Gurhal</i> lasted for ten days.

SUGARCANE

STATEMENT 3—concl'd.

34

ITEM OF EXPENDITURE	Labour units			Total units	Cost per acre	REMARKS
	Men	Women	Bullocks			
Harvesting and making <i>gul</i> —cont'd.					Rs. a. p.	
(b) Extra day-labour	10	10	..	15	12 8 0	Man for supervising <i>gurhal</i> work at Re. 1 per day and a woman at 4 annas per day.
(c) Hire of <i>gurhal</i> equipment ....	..	..	..	..	20 0 0	Rs. 2 per day for ten days.
(d) Cost of repairing furnace, shed and of oil cloth etc.....	..	..	..	..	9 0 0	
Marketing charges						
(a) Cartage .....	..	..	..	..	9 12 0	At Rs. 1-10-0 per cart including toll and octroi charges.
(b) Commission, charity etc. ....	..	..	..	..	33 12 6	
Interest .....	..	..	..	..	57 12 0	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	63 0 0	The land was owned.
Miscellaneous .....	..	..	..	..	2 3 0	Miscellaneous expenses, presents, tips etc.
Total	241	126	146	450	968 10 6	

(b) Yield and Value

NAME OF PRODUCT	Quantity	Value	REMARKS
	For 1 acre	For 1 acre	
	Lbs.	Rs. a. p.	
Gul	8,456	901 15 6	Sold at different rates in the Poona market.
Cane tops	14,100	70 8 0	Estimated value.
Total.....	....	972 7 6	

(c) Summary

	Per acre
	Rs. a. p.
Gross income.....	972 7 6
Expenditure	968 10 6
Profit	3 13 0

SUGARCANE

STATEMENT 4

36

SUGARCANE—3 acres in 1926-27

PLOT No. (4 S)

Place—Nanded

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Preparatory tillage								
(a) Ploughing and ridging ..	60	..	180	240	80·0	150 0 0	50 0 0	Ten days for three ploughs with 2 men and 6 bullocks each per day. Four ploughings and ridging were given on contract at Rs. 5 per plough per day.
(b) Clod crushing, repairing bunds, digging corners etc.	30	..	..	30	10·0	15 0 0	5 0 0	Man at 8 annas.
Manure and manuring								
(a) Manures								
Municipal refuse .....	..	..	..	..	..	140 10 0	46 14 0	For the whole area 225 carts at 10 annas per cart.
Fish manure .....	..	..	..	..	..	628 4 0	209 6 8	For the whole plot 63 bags of fish manure at Rs. 7·4·0 each, 18 bags at Rs. 7 each and Rs. 45·8·0 worth of fish powder (about 4,032 lbs.).
(b) Carting manure .....	..	..	..	..	..	196 14 0	65 10 0	Two hundred and twenty-five carts paid at 14 annas each.
(c) Spreading manure .....	..	170	..	85	28·3	31 14 0	10 10 0	Woman unit at 3 annas each.

PRELIMINARY STUDIES OF IMPORTANT CROPS

Seeds and sowing										
(a) Sets and seeds .....	..	..	..	..	..	168 4 0	56 1 4	For the whole area 33,000 sets at Rs. 5 per 1,000 and Rs. 3-4-0 worth of <i>bhendi</i> , <i>khira</i> and other vegetable seeds.
(b) Planting	23	48	..	47	15.7	20 8 0	6 13 4	Man unit at 8 annas and woman unit at 3 annas each.		
Irrigation										
(a) Canal water charges .....	..	..	..	..	..	143 7 0	47 13 0	At Rs. 45 per acre plus L. F. C.
(b) Labour	73	..	..	73	24.3	36. 8 0	12 2 8	At 8 annas per man unit.
After-care and tillage										
(a) Weeding	14	278	..	153	51.0	59 2 0	19 11 4	Man unit at 8 annas and woman unit at 3 annas. Man labour required for tying lodged cane. Six weeding were given. First weeding required 36 women, second 45, third 50, fourth 71, fifth 37 and sixth 39 women.		
(b) Earthing up	48	..	..	48	16.0	48 0 0	16 0 0	Contract work at Rs. 16 per acre.
Harvesting and making <i>gul</i>										
(a) Contract labour	432	..	288	720	240.0	415 12 6	138 9 6	Crushing cane and making <i>gul</i> given on contract at Rs. 27 a <i>bhargadi</i> . The <i>gurhal</i> gang also got three-fourths of the cane tops, the value of which is included in the total cost. <i>Gurhal</i> lasted for 36 days.		
(b) Extra day-labour .....	..	102	..	51	71.0	19 2 0	6 6 0	For harvesting vegetables and miscellaneous work in <i>gurhal</i> house. Woman unit at 3 annas each.	
(c) Hire of <i>gurhal</i> equipment	..	..	..	..	..	54 0 0	18 0 0	At Re. 1-8-0 per day for 36 days.

STATEMENT 4—concl'd.

38

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Harvesting and making <i>gul-contd.</i>						Rs. a. p.	Rs. a. p.	
(d) Cost of repairing furnace, shed and of oil flour, cloth etc. ....	..	..	..	..	..	30 2 0	10 0 8	
Marketing charges								
(a) Cartage.....	18	..	36	54	18.0	26 14 0	8 15 4	Eighteen carts at Re. 1-7-0 each and one at Re. 1 including octroi charges.
(b) Commission charity, etc.	..	..	..	..	..	61 10 0	20 8 8	<i>Adat</i> was paid at 8 annas per <i>palla</i> .
Interest .....	..	..	..	..	..	174 3 9	58 1 3	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	187 8 0	62 8 0	The land was taken on lease.
Miscellaneous .....	..	..	..	..	..	9 9 0	3 3 0	Miscellaneous expenses, presents and tips etc.
Total	698	598	504	1,501	500.3	2,617 4 3	872 6 9	

(b) *Yield and Value*

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 3 acres	Per acre	For 3 acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Gul</i>	27,648	9,216	2,214 0 0	738 0 0	Sold at different rates in the Poona market.
<i>Bhendi, khira and vegetables</i> ....	..	..	228 10 0	76 3 4	Sold in the Poona market.
Value of sugar-cane tops ....	..	..	230 6 0	76 12 8	Estimated value.
Total ....	..	..	2,673 0 0	891 0 0	

(c) *Summary*

—	For 3 acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	2,673 0 0	891 0 0
Expenditure	2,617 4 3	872 6 9
Profit.....	55 11 9	18 9 3

SUGARCANE

STATEMENT 5

SUGARCANE—1½ acre in 1926-27

PLOT No. (5S)

Place—Nanded

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Ploughing and ridging....	16·0	..	48	64·0	51·2	40 0 0	32 0 0	Eight days for one plough with 2 men and 6 bullocks each day. Ploughing and ridging work was given on contract at Rs. 5 per day. Man at 8 annas.
(b) Clod crushing, repairing bunds, digging corners, etc.	20·0	..	..	20·0	16·0	10 0 0	8 0 0	
Manure and manuring								
(a) Manures								
Municipal refuse .....	..	..	..	..	..	31 14 0	25 8 0	For the whole area 51 cart-loads at 10 annas per cart.
Fish manure .....	..	..	..	..	..	217 8 0	174 0 0	For the whole area 29 bags of fish manure at Rs. 6-8-0 each and four bags at Rs. 7-4-0 each.
(b) Carting manure .....	..	..	..	..	..	61 8 0	49 3 2	Fifty-one carts paid at Re. 1-2-0 per cart including toll tax. Rs. 4-2-0 were paid for carting fish manure.
(c) Spreading manure	12·0	56	12	52·0	41·6	26 0 0	20 12 10	Man and bullock units at 8 annas each and woman units at 4 annas each.

Seeds and sowing									
(a) Sets and seeds.....	..	..	..	..	..	89 0 0	71 3 2	For the whole area 16,000 sets at Rs. 5 per 1,000. Rs. 9 paid for vegetable seed.
(b) Planting	12·0	32	..	28·0	22·4	14 0 0	11 3 2	Man unit at 8 annas and woman unit at 4 annas each.	
Irrigation									
(a) Canal water charges ....	..	..	..	..	..	59 12 3	47 13 0	At Rs. 45 per acre plus L. F. C.
(b) Labour	42·5	..	..	42·5	34·0	21 4 0	17 0 0	At 8 annas per man.
After-care and tillage									
(a) Weeding	8·0	96	..	56·0	44·8	22 0 0	17 9 7	Man at 8 annas and woman at 3 annas. Four weeding were given. First weeding required 16 women, second 40, third 23 and fourth 17. Man labour required for cleaning and repairing bunds, etc.	
(b) Earthing up.....	25·0	..	..	25·0	20·0	25 0 0	20 0 0	Contract work at Rs. 20 per acre.
(c) Watching	104·0	..	..	104·0	83·2	27 8 0	22 0 0	Two men for watching at Rs. 8 per mensem. One man worked for two months and the other for one month and 14 days (one month=32 days).
Harvesting and making <i>gul</i>									
(a) Contract labour	168·0	..	112	280·0	224·0	166 13 3	133 7 5	The work of crushing cane and making <i>gul</i> was given on contract at Rs. 27 a <i>bhargadi</i> . The <i>gurhal</i> gang also got three-fourths of the cane tops, the value of which is included in the total cost. <i>Gurhal</i> lasted for 14 days.	

SUGARCANE

STATEMENT 5—concl'd.

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Harvesting and making <i>gurhal</i> —cont'd.						Rs. a. p.	Rs. a. p.	
(b) Extra day-labour .....	..	42	..	21·0	16·0	7 14 0	6 4 10	At 3 annas each. Labour required for harvesting vegetables and miscellaneous work in the <i>gurhal</i> house.
(c) Hire of <i>gurhal</i> equipment.	..	..	..	..	..	28 0 0	22 6 5	At Rs. 2 per day.
(d) Cost of repairing furnace, shed, and of oil, cloth, flour, etc. ....	..	..	..	..	..	15 0 0	12 0 0	
Marketing charges								
(a) Cartage	8·0	..	16	24·0	19·2	13 8 0	10 12 10	At Rs. 1-11-0 per cart, including toll and octroi charges.
(b) Commission, charity, etc.	..	..	..	..	..	58 4 6	46 10 0	
Interest .....	..	..	..	..	..	56 8 0	45 3 2	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	72 3 7	57 12 5	The land was taken on lease.
Miscellaneous .....	..	..	..	..	..	1 1 9	0 14 2	Miscellaneous expenses, presents and tips, etc.
Total.....	415·5	226	188	716·5	573·2	1,064 11 4	851 12 2	

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 1½ acre	Per acre	For 1½ acre	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
Tul	11,574	9,259.2	938 8 0	750 12 9	Sold at different rates in the Poona market.
Value of sugarcane tops .....	..	..	96 7 0	77 2 5	Estimated value.
Value of khira, dhendi, etc. ..	..	..	100 10 0	80 8 0	
Total ..	..	..	1,135 9 0	908 7 2	

(c) Summary

—	For 1½ acre	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	1,135 9 0	908 7 2
Expenditure	1,064 11 4	851 12 2
Profit	70 13 8	56 11 0

SUGARCANE

SUGARCANE—2½ acres in 1927-28

Previous crop—Sann hemp

Place—Nanded

STATEMENT 6

PLOT No. (68)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Ploughing and ridging ..	59·0	..	177	236·0	94·4	112 8 0	45 0 0	Fourteen and three-fourth days for two ploughs with 2 men and 6 bullocks each per day. Four ploughings and ridging work was given on contract at Rs. 45 per acre.
(b) Clod crushing, repairing bunds, digging corners, etc.	29·0	..	12	41·0	16·4	20 8 0	8 3 2	Man and bullock unit charged at 8 annas each.
Manure and manuring								
(a) Manures								
Municipal refuse .....	..	..	..	..	..	184 8 0	73 12 10	For the whole area 246 carts at annas 12 per cart at the Dépôt.
Fish manure .....	..	..	..	..	..	354 9 0	141 13 2	For the whole area 48 bags of fish manure at Re. 1-8-0 per bag, 33 bags of fish powder at Rs. 1-9-0 per bag and 33 bags of fish manure at Rs. 7 per bag.

(b) Carrying manure.....	123·0	..	246	369·0	147·6	230 10 0	92 4 0	At 13 annas a cart. Rs. 30-12-0 paid as toll tax on 246 carts.
(c) Spreading manure	18·0	72	..	54·0	21·6	22 8 0	9 0 0	Man at 8 annas and woman at 3 annas a day.
Seeds and sowing								
(a) Sets and seed .....	..	..	..	..	..	148 8 0	59 6 5	For the whole area 25,000 sets at Rs. 5 per 1,000; Rs. 23-8-0 paid for vegetable seed.
(b) Planting	21·5	54	..	48·5	19·4	20 14 0	8 5 7	Man. at 8 annas and woman at 3 annas a day.
Irrigation								
(a) Canal water charges ....	..	..	..	..	..	119 8 6	47 13 0	At Rs. 45 per acre plus L. F. C. at one anna per rupee.
(b) Labour	108·0	..	..	108·0	43·2	54 0 0	21 9 8	Man at 8 annas per day.
After-care and tillage								
(a) Weeding .....	..	176	..	88·0	35·2	33 0 0	13 3 2	For the whole area five weedings were given. Women charged at 3 annas each. First weeding required 36 women, second 32, third 40, fourth 36 and fifth required 32.
(b) Earthing up.....	40·0	..	..	40·0	16·0	40 0 0	16 0 0	Contract work at Rs. 16 per acre.
(c) Watching	60·0	..	..	60·0	24·0	16 0 0	6 6 5	Two men at Rs. 8 each for one month.
(d) Miscellaneous work as repairing canals, bunds, etc.	26·0	..	..	26·0	10·4	13 0 0	5 3 2	Man at 8 annas.
Harvesting and making gul								
(a) Contract labour	300·0	..	200	500·0	200·0	320 0 0	128 0 0	Crushing cane and making gul given on contract at Rs. 32 a <i>bhargadi</i> . The gang got three-fourths of the cane tops free, value of which is included in the total cost. <i>Gurhal</i> lasted for 25 days.

STATEMENT 6—concl'd.

46

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Harvesting and making <i>gul</i> —cont'd.						Rs. a. p.	Rs. a. p.	
(b) Extra day-labour .....	..	160	..	80·0	32·0	30 0 0	12 0 0	Includes the additional labour, required in the <i>gurhal</i> house, as also the labour required for gathering vegetables from the field. Woman labour charged at 3 annas per day. Charged at Rs. 1-8-0 per day.
(c) Hire of <i>gurhal</i> equipment.	..	..	..	..	..	37 8 0	15 0 0	
(d) Cost of repairing furnace, shed and of cloth, oil, flour, etc. ....	..	..	..	..	..	25 2 0	10 0 10	
Marketing charges								
(a) Cartage.....	14·0	..	28	42·0	16·8	22 12 0	9 1 7	Fourteen carts at Rs. 1-10-0 per cart, including toll and octroi charges.
(b) Commission, charity, etc.	..	..	..	..	..	76 0 0	30 6 5	Includes charges for <i>adat</i> , <i>dharmadaya</i> (charity), <i>bazar-kasar</i> , etc.
Interest .....	..	..	..	..	..	140 0 0	56 0 0	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	87 8 0	35 0 0	The land was leased.
Miscellaneous .....	..	..	..	..	..	25 0 0	10 0 0	Miscellaneous expenses, presents, tips, etc.
Total	798·5	462	663	1,692·5	677·0	2,133 15 6	853 9 5	

PRELIMINARY STUDIES OF IMPORTANT CROPS

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 2½ acres	Per acre	For 2½ acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
Gul	19,200	7,680	1,575 0 0	630 0 0	Sold at different rates in the Poona market.
Bhendi, khira and other vegetables .....	..	..	125 6 0	50 2 5	Do.
Cane tops	32,000	12,800	160 0 0	64 0 0	Estimated value.
Total ..	..	..	1,860 6 0	744 2 5	

(c) Summary

	For 2½ acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	1,860 6 0	744 2 5
Expenditure	2,133 15 6	853 9 5
Loss	273 9 6	109 7 0

SUGARCANE

SUGARCANE—20 gunthas in 1927-28
Previous crop—Bajri, 1926-27
 Place—Nanded

STATEMENT 7

PLOT No. (78)

(a) *Cost of Production*

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Ploughing and ridging	16	..	48	64	128	25 0 0	50 0 0	Eight days for one plough with 2 men and 6 bullocks per day. Four ploughings and ridging work was given on contract at Rs. 50 per acre. Man at 8 annas.
(b) Clod crushing, repairing bunds, digging corners, etc.....	16	..	..	16	32	8 0 0	16 0 0	
Manure and manuring								
(a) Manures								
Municipal refuse .....	..	..	..	..	..	7 8 0	15 0 0	For 20 gunthas 10 carts at 12 annas per cart.
Sulphate of Ammonia.....	..	..	..	..	..	20 8 0	41 0 0	224 lbs. of Sulphate of Ammonia (price at the farm Rs. 20-8-0).
Fish manure.....	..	..	..	..	..	64 12 0	129 8 0	For the whole plot 3 bags of fish manure at Rs. 5-4-0 per bag and 7 bags of fish manure at Rs. 7 per bag.
(b) Carting manure	5	..	10	15	30	10 0 0	20 0 0	Ten carts were paid at Re. 1 per cart including toll tax.

(c) Spreading manure	10	28	..	24	48	10 4 0	20 8 0	Man and woman at 8 and 3 annas respectively.
Seeds and sowing								
(a) Sets and seeds .....	..	..	..	..	..	42 12 0	85 8 0	For the whole area 9,000 sets at Rs. 4 per 1,000. Price of seeds such as <i>bhendi</i> , <i>khira</i> and vegetables Rs. 6-12-0.
(b) Planting	6	28	..	20	40	8 4 0	16 8 0	Man at 8 annas and woman at 3 annas a day.
Irrigation								
(a) Canal water charges .....	..	..	..	..	..	23 14 6	47 13 0	At Rs. 45 per acre plus L. F. C.
(b) Labour	33	..	..	33	66	16 8 0	33 0 0	Man at 8 annas per day.
After-care and tillage								
(a) Weeding .....	..	88	..	44	88	16 8 0	33 0 0	Woman labour charged at 3 annas each. For the whole area 5 weedings were given.
(b) Earthing up	8	..	..	8	16	8 0 0	16 0 0	Contract work at Rs. 16 per acre.
(c) Watching	38	..	..	38	76	10 0 0	20 0 0	One man at Rs. 8 per mensem for $1\frac{1}{2}$ months.
Harvesting and making <i>gul</i>								
(a) Contract labour	72	..	48	120	240	76 8 0	153 0 0	Crushing was given on contract at Rs. 32 a <i>bhargadi</i> . <i>Gurhal</i> lasted for six days. The value of cane tops was Rs. 28-8-0.
(b) Extra day-labour .....	..	68	..	34	68	12 12 0	25 8 0	Includes the additional labour required in the <i>gurhal</i> house, as also the labour required for gathering vegetables from the field. Woman labour paid at 3 annas a day.

STATEMENT 7—concl'd.

50

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Harvesting and making <i>gul-</i> <i>contd.</i>						Rs. a. p.	Rs. a. p.	
(c) Hire of <i>gurhal</i> equipment ..	..	..	..	..	..	12 0 0	24 0 0	Charged at Rs. 2 per day.
(d) Cost of repairing furnace, shed, of cloth, oil, flour, etc.	..	..	..	..	..	8 0 0	16 0 0	
Marketing charges								
(a) Cartage.....	3	..	6	9	18	4 14 0	9 12 0	Three carts at Rs. 1-10-0 per cart, including toll and octroi charges.
(b) Commission, charity, etc...	..	..	..	..	..	16 11 0	33 6 0	Includes charges for <i>adat</i> , commission, <i>dharmadaya</i> (charity), <i>bazar-kasar</i> , etc.
Interest .....	..	..	..	..	..	28 10 6	57 5 0	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	20 0 0	40 0 0	The land was rented.
Miscellaneous .....	..	..	..	..	..	7 8 0	15 0 0	Miscellaneous expenses, presents, tips, etc.
Total..	207	212	112	425	850	458 14 0	917 12 0	

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For acre	Per acre	For $\frac{1}{4}$ acre	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
Gul	4,608	9,216	368 0 0	736 0 0	Sold at different rates in the Poona market.
Bhendi, khira and other vegetables .....	..	..	30 0 0	60 0 0	Do.
Cane tops	7,680	15,360	38 6 5	76 12 10	Estimated value.
Total....	..	..	436 6 5	872 12 10	

(c) Summary

—	For $\frac{1}{4}$ acre	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	436 6 5	872 12 10
Expenditure.....	458 14 0	917 12 0
Loss	22 7 7	44 15 2

STATEMENT 8

SUGARCANE—10 gunthas in 1927-28

PLOT No. (88)

Previous crop—Bajri, 1926-27

(a) Cost of Production

Place—Nanded

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Ploughing and ridging ..	8.5	..	25.5	34.0	136	12 8 0	50 0 0	One plough with 2 men and 6 bullocks per day for 4½ days. Four ploughings and ridging work was given on contract at Rs. 50 per acre.
(b) Clod crushing, repairing bunds, digging corners, etc.	9.0	..	..	9.0	36	4 8 0	18 0 0	Man at 8 annas.
Manures and manuring								
(a) Manures								
Sulphate of Ammonia .....	..	..	..	..	..	10 4 0	41 0 0	For the whole area 112 lbs. of Sulphate of Ammonia (price at the farm).
Fish manure .....	..	..	..	..	..	29 12 0	119 0 0	For the whole plot one bag of fish manure at Rs. 5-4-0 and 3½ bags of fish manure at Rs. 7 each.
(b) Spreading manure .....	..	10	..	5.0	20	1 14 0	7 8 0	Woman at 3 annas each.

Seeds and sowing									
(a) Sets and seeds .....	..	..	..	..	..	21 6 0	85 8 0	For the whole plot 4,500 sets at Rs. 4 per 1,000. Price of seed such as <i>bhendi</i> and <i>khira</i> Rs. 3-6-0.
(b) Planting	3·0	16	..	11·0	44	4 8 0	18 0 0	Man at 8 annas and woman at 3 annas a day.	
Irrigation									
(a) Canal water charges .....	..	..	..	..	..	11 15 3	47 13 0	At Rs. 45 per acre plus L. F. C.
(b) Labour	16·0	..	..	16·0	64	8 0 0	32 0 0	Man at 8 annas per day.
After-care and tillage									
(a) Weeding .....	..	32	..	16·0	64	6 0 0	24 0 0	Woman labour charged at 3 annas each. For the whole area, four weedings were given. First and second weedings required 10 women each, third 8 and fourth 4 women.
(b) Earthing up	4·0	..	..	4·0	16	4 0 0	16 0 0	Contract work at Rs. 16 per acre.
(c) Watching	19·0	..	..	19·0	76	5 0 0	20 0 0	Two women each at Rs. 8 per mensem for 1½ months, were watching one acre of sugarcane. The charge for 10 gunthas comes to Rs. 5.
Harvesting and making <i>gul</i>									
(a) Contract labour	30·0	..	20·0	50·0	200	32 0 0	128 0 0	Crushing was given on contract at Rs. 32 a <i>bhargadi</i> . The gang got one-fourth of cane tops free, the value of which is included in the total cost. <i>Gurhal</i> lasted for 2½ days.	

SUGARCANE

STATEMENT 8—concl'd.

54

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Harvesting and making <i>gul—cont'd.</i>						Rs. a. p.	Rs. a. p.	
(b) Extra day-labour .....	..	30	..	15.0	60	5 10 0	22 8 0	Includes the additional labour required in the <i>gurhal</i> house as also the labour required for gathering vegetables from the fields. Woman at 3 annas.
(c) Hire of <i>gurhal</i> equipment ..	..	..	..	..	..	5 0 0	20 0 0	Charged at Rs. 2 per day.
(d) Cost of repairing furnace, shed, of cloth, oil, flour, etc. ....	..	..	..	..	..	4 0 0	16 0 0	
Marketing charges								
(a) Cartage	1.5	..	3.0	4.5	18	2 7 0	9 12 0	One and half carts at Rs. 1-10-0 per cart including toll and octroi charges.
(b) Commission, charity, etc.	..	..	..	..	..	6 12 0	27 0 0	Includes charges for <i>adat</i> , <i>dharmadaya</i> (charity), <i>bazar-kasar</i> , etc.
Interest .....	..	..	..	..	..	12 5 0	49 4 0	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	10 0 0	40 0 0	The land was rented.
Miscellaneous .....	..	..	..	..	..	3 12 0	15 0 0	Miscellaneous expenses, presents, tips, etc.
Total	91.0	88	46.5	181.5	726	201 9 3	806 5 0	

PRELIMINARY STUDIES OF IMPORTANT CROPS

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For $\frac{1}{4}$ acre	Per acre	For $\frac{1}{4}$ acre	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Gul</i>	1,920	7,680	157 8 0	630 0 0	Sold at different rates in the Poona market.
<i>Bhendi, khira and other vegetables</i> .....	..	..	12 4 0	49 0 0	Do.
Cane tops	3,200	12,800	16 0 0	64 0 0	Estimated value.
Total ...	..	..	185 12 0	743 0 0	

(c) Summary

	For $1\frac{1}{4}$ acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	185 12 0	743 0 0
Expenditure	201 9 3	806 5 0
Loss	15 13 3	63 5 0

SUGARCANE

BAJRI (UNIRRIGATED) IN THE SUGARCANE-ZONE

Bajri is an important food crop in the neighbourhood of Poona both in the *girayat* villages (i.e. dry-zone), also as a rotation crop and in the villages served by the perennial canal (i.e. the sugarcane-zone). In the *bagayat* villages sugarcane receives copious irrigation and heavy manuring and *bajri*, succeeding sugarcane, naturally gets the benefit. Unless rains hold for long periods *bajri* in the sugarcane-zone is not irrigated. Yet the yields of *bajri* in the sugarcane-zone are always higher than in the dry-zone.

Two plots were costed in 1926-27, and two in 1927-28 at Loni Kalbhor in the sugarcane-zone. Table VIII gives the abstracts of costs, receipts and averages.

TABLE VIII—YIELDS, COSTS AND RECEIPTS OF *Bajri*
FOR 1926-27 AND 1927-28

Year	Plot No.	Area of the plot	Yield of grain	Value of grain and	Cost of cultivation	Profit or
			per acre	fodder per acre	per acre	loss per acre
		A. g.	Lbs.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1926-27	1B	1 2	1,617	118 5 2	109 8 10	+ 8 12 4
	2B	2 0	711	54 6 0	68 13 3	-14 7 3
	Average per acre*.		1,023	76 6 3	82 13 6	- 6 7 3
1927-28	3B	1 0	640	41 0 0	44 5 0	- 3 5 0
	4B	0 30	880	56 1 1	50 6 4	+ 5 10 9
	Average per acre*.		743	47 7 4	46 14 8	+ 0 3 8

*Actual averages for the acreage costed and not the averages of groups.

The comparison of the averages, read with the details given in the statements 9 to 12, shows that the cost of production, in 1927-28, was controlled. Had the price of *bajri* not fallen in 1927-28, the economy in the cost of production would further have reflected in the net returns. It may be noted that *bajri* in the sugarcane-zone is a supplementary crop taken to give some kind of rest to the irrigated lands; moreover, *bajri*-growing provides work to farm labour when it is not much demanded by sugarcane.

1926-27.—Plot 2B was inferior in quality (as will be seen from the comparatively lower land rent) to plot 1B. The previous crop in either case was sugarcane. Though the cost of production of plot 1B was greater, its yield was much higher than that of plot 1B. As a result plot 1B left net profit, while the other plot was responsible for some loss.

1927-28.—The previous crop in plot No. 3B was wheat while in the case of plot 4B it was sugarcane which received the usual manures. Though the cost of production of plot 4B was higher than in the case of plot 3B, the value of larger yield in the former, after meeting the higher cost, left a surplus of Rs. 5.

Details of costs, receipts and income appear in the following pages under statement Nos. 9 to 12 (pp. 57 to 67).

STATEMENT 9

BAJRI—1 acre and 2 gunthas in 1926-27.

Previous crop—Sugarcane, 1925-26

PLOT No. (1B)

Place—Loni Kalbhor

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Preparatory tillage								
(a) Ploughing	18·0	...	42	60·00	57·15	21 0 0	20 0 0	First ploughing with 3 men and 8 bullocks and second with 3 men and 6 bullocks each day. Man at 7 annas and bullock at 5 annas.
(b) Harrowing and levelling ..	11·0	..	22	33·00	31·40	11 11 0	11 2 1	Charges as above.
(c) Collecting and removing stubbles.....	4·0	12·0	2	12·00	11·43	4 10 0	4 6 6	Women collected stubbles. Cart was used for removing stubbles. Some men dug corners and repaired bunds. Man at 7 annas, woman at 3 annas, and bullock at 5 annas.

BAJRI (UNIRRIGATED)

STATEMENT 9—concl'd.

58

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Seeds and sowing						Rs. a. p.	Rs. a. p.	
(a) Seeds .....	..	..	..	..	..	1 8 0	1 6 10	For the whole plot 15 lbs. of <i>bajri</i> seed worth Rs. 1-4-0 and 2½ lbs. of <i>udid</i> seed worth four annas.
(b) Sowing and covering	1·0	0·5	2	3·25	3·10	1 2 6	1 1 7	Man at 7 annas, woman at 3 annas, and bullock at 5 annas each.
After-care and tillage								
(a) Weeding .....	..	12·0	..	6·00	5·70	2 4 0	2 2 3	Woman at 3 annas. Only one weeding.
Harvesting and preparing for market								
(a) Harvesting, tying, cutting earheads and thrashing ..	35·0	17·0	12	55·50	52·80	27 9 0	26 4 0	Twenty-three man-units at 10 annas and the remaining at 7 annas each; 16 woman-units at 4 annas each and the remaining at 3 annas each. Bullock units at 5 annas each.
Marketing charges	0·5	..	1	1·50	1·40	0 9 0	0 8 7	Man-unit at 8 annas and bullock at 5 annas.
Interest .....	..	..	..	..	..	2 11 0	2 9 0	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	42 0 0	40 0 0	The land was owned. The land is near a well and so the rent was high.
Total	89·5	41·5	81	171·25	162·98	115 0 6	109 8 10	

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 1 acre and 2 gunthas	Per acre	For 1 acre and 2 gunthas	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Bajri</i> (5½ <i>pallas</i>)	1,650	1,571	96 4 0	91 10 8	Sold at Rs. 17-8-0 per <i>palla</i> (300 lbs.)..
<i>Udid</i>	48	46	4 0 0	3 12 10	Sold at 12 lbs. per rupee.
<i>Sarmad</i>	1,100 bundles	1,047 bundles	22 0 0	20 15 3	Sold at Rs. 2 per 100 bundles.
<i>Bhoos</i> .....	..	..	2 0 0	1 14 5	Estimated value.
Total .....	..	..	124 4 0	118 5 2	

(c) Summary

	For 1 acre and 2 gunthas	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	124 4 0	118 5 2
Expenditure	115 0 6	109 8 10
Profit	9 13 6	8 12 4

BARI (UNIRRIGATED)

BAJRI—2 acres in 1926-27

Previous crop—Sugarcane, 1925-26

Place—Loni Kalbhori

STATEMENT 10

PLOT No. (2B)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Ploughing	33	..	78	111·0	55·5	38 13 0	19 6 6	Ploughed twice. First with 3 men and 8 bullocks for 6 days and second with 3 men and 6 bullocks for 5 days. Man at 7 annas and bullock at 5 annas.
(b) Breaking clods	4	..	12	16·0	8·0	5 8 0	2 12 0	Two men and six bullocks for 2 days. Charges as above.
(c) Harrowing and levelling....	4	..	8	12·0	6·0	4 4 0	2 2 0	Three harrowings and one levelling. Charges as above.
(d) Collecting and removing stubbles	9	12·0	2	17·0	8·5	6 13 0	3 6 6	Man at 7 annas, woman at 3 annas, bullock at 5 annas. One man and two bullocks required for removing stubbles.

Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	3 6 0	1 11 0	For the whole plot 20 lbs. of <i>bajri</i> , 5 lbs. <i>udid</i> and 9 lbs. of <i>mug</i> .
(b) Sowing and covering	2	0·5	4	6·2	3·1	2 3 6	1 1 9	Man at 7 annas, woman at 3 annas, and bullock at 5 annas each.
After-care and tillage								
(a) Weeding .....	..	24·0	..	12·0	6·0	4 8 0	2 4 0	Woman at 3 annas each. Only one weeding.
Harvesting, tying, cutting earheads and thrashing, etc. ...	51	12·0	18	75·0	37·5	38 3 0	19 1 6	Thirty-nine man-units at 10 annas each and the remaining at 7 annas each. Eleven woman-units at 4 annas each and the remaining at 3 annas each, bullock units at 5 annas each.
Interest .....	..	..	..	..	..	4 0 0	2 0 0	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	30 0 0	15 0 0	The land was owned. (The land was far away from the well.)
Total	103	48·5	122	249·25	124·6	137 10 6	68 13 3	

BAJRI (UNIRRIGATED)

STATEMENT 10—concl'd.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 2 acres	Per acre	For 2 acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Bajri</i> (4½ <i>pallas</i>)	1,350	675	78 12 0	39 6 0	Valued at Rs. 17-8-0 per <i>palla</i> (300 lbs.)
<i>Udid</i> and <i>mug</i> ..	72	36	6 0 0	3 0 0	Valued at 12 lbs. per rupee. <i>Chavali</i> failed.
<i>Sarmad</i>	1,100 bundles	550 bundles	22 0 0	11 0 0	Valued at Rs. 2 per 100 bundles.
<i>Bhoos</i> .....	..	..	2 0 0	1 0 0	Estimated value.
Total ....	..	..	108 12 0	54 6 0	

(c) Summary

	For 2 acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income.....	108 12 0	54 6 0
Expenditure	137 10 6	68 13 3
Loss	28 14 6	14 7 3

BAJRI—1 acre in 1927-28

Previous crop—Wheat, 1926-27

Place—Loni Kalbhor

STATEMENT 11

PLOT No. (3B)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Cost per acre	REMARKS
	Men	Women	Bullocks			
					Rs. s. p.	
Preparatory tillage						
(a) Ploughing	5	..	15	20.00	6 14 0	Two and half days for one plough with 2 men and 6 bullocks each day; man at 7 annas and bullock at 5 annas.
(b) Harrowing	1	..	2	3.00	1 1 0	Three harrowings. Charges as above.
Seeds and sowing						
(a) Seeds .....	..	..	..	..	1 8 0	Bajri seed 11 lbs. (Re. 1) and <i>udid</i> seed 5½ lbs. (8 annas) for one acre.
(b) Sowing and covering	1	0.5	2	3.25	1 3 0	Man labour at 7 annas, woman at 4 annas, and bullock at 5 annas.
After-care and tillage						
(a) Weeding .....	..	8.0	..	4.00	1 8 0	Only one weeding. Woman at 3 annas.
Harvesting, tying, cutting earheads, thrashing, etc.....	12	21.0	2	24.50	11 1 0	Ten men at 9 annas each, 2 men at 7 annas each, woman at 3 annas and bullock at 5 annas each.
Interest .....	..	..	..	..	1 2 0	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	20. 0 0	The land was owned. Only two-thirds of the rent is charged to <i>bajri</i> crop; the remaining one-third is charged to gram taken after <i>bajri</i> in the same year.
Total	20	29.5	26	60.75	44 5 0	

BAJRI (UNIRRIGATED)

STATEMENT 11—concl'd.

(b) *Yield and Value*

NAME OF PRODUCT	Quantity	Value	REMARKS
	For one acre	For one acre	
	Lbs.	Rs. a. p.	
<i>Bajri</i>	600	28 0 0	Valued at Rs. 14 per <i>palla</i> of 300 lbs.
<i>Udid</i>	40	2 0 0	Valued at 20 lbs. a rupee.
<i>Sarmad</i>	500 bundles	10 0 0	Valued at Rs. 2 per 100 bundles.
<i>Bhoos</i> .....	....	1 0 0	Estimated value.
Total .....	....	41 0 0	

(c) *Summary*

	Per acre
	Rs. a. p.
Gross income	41 0 0
Expenditure	44 5 0
Loss	3 5 0

BAJRI—30 gunthas in 1927-28
Previous crop—Sugarcane, 1926-27
 Place—Loni Kalbhor

STATEMENT 12

PLOT No. (4B)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Preparatory tillage								
(a) Ploughing	4·00	..	8·0	12·00	16·0	4 4 0	5 10 8	Two days for one plough with two men and four bullocks each day. Man at 7 annas and bullock at 5 annas.
(b) Breaking clods and harrowing	1·25	..	2·5	3·75	5·0	1 5 3	1 12 4	Charges as above.
(c) Collecting stubbles .....	..	8	..	4·00	5·3	1 4 0	1 10 8	Woman labour at 2½ annas each.
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	0 12 0	1 0 0	Nine lbs. of <i>bajri</i> seed.
(b) Sowing and covering	1·00	..	2·0	3·00	4·0	1 1 0	1 6 8	Man at 7 annas and bullock at 5 annas.

BAJRI (UNIRRIGATED)

STATEMENT 12—concl'd.

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
After-care and tillage								
(a) Weeding .....	..	27	..	13.50	18.0	4 3 6	5 10 0	Only one weeding. Woman at 2½ annas each.
Harvesting, tying, removing ear-heads and thrashing etc.	12.00	13	6.0	24.50	32.7	11 2 0	14 13 4	Eight men at 9 annas each and the remaining four men at 8 annas each. Six women paid in cash at 3 annas each and the remaining seven women paid in kind, the value of produce paid being Rs. 1-10-0. Bullock at 5 annas each.
Interest .....	..	..	..	..	..	1 5 0	1 12 0	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	12 8 0	16 10 8	The land was owned. Only two-thirds of the rent is charged to <i>bajri</i> ; the remaining one-third is charged to gram taken after <i>bajri</i> in the same year.
Total.....	18.25	48	18.5	60.75	81.0	37 12 9	50 6 4	

(b) *Yield and Value*

NAME OF PRODUCT	Quantity		Value		REMARKS
	For $\frac{1}{2}$ acres	Per acre	For $\frac{1}{2}$ acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Bajri</i>	660	880	30 12 10	41 1 1	Valued at Rs. 14 per <i>palla</i> of 300 lbs. The produce paid for harvesting is entered in the quantity.
<i>Sarmad</i>	500 bundles	666 bundles	10 0 0	13 5 4	Valued at Rs. 2 per 100 bundles.
<i>Bhoos</i>.....	..	..	1 4 0	1 10 8	Estimated value.
Total.....	..	..	42 0 10	56 1 1	

(c) *Summary*

—	For $\frac{1}{2}$ acre	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	42 0 10	56 1 1
Expenditure	37 12 9	50 6 4
Profit ..	4 4 1	5 10 9

BAJRI (UNIRRIGATED) IN THE DRY-ZONE

Dry *bajri* was also studied in two jirayat villages (Wagholi and Pimple-Sathyache) near Poona, during the years 1925-26, 1926-27 and 1927-28. Most of the land in these villages is thin medium black and rainfall generally insufficient. Usually *bajri* is followed by *nilwa jowar* or *bajri*, though occasionally, *shalu* takes the place of *nilwa* in better class of lands. One or two kinds of legumes such as *tur*, *matki*, *udid* or *hulga* enter as a mixture in the *bajri* crop. If late rains are received *tur* does well. Usually, however, the yield of *bajri* and the mixed crops is not high. The cost of production in the dry-zone, as compared to the sugarcane-zone, is low and yet for the poor yields it is high. Due to the influence of the city (Poona), wages are high. Land rents, as compared to sugarcane-zone, are low.

From the rainfall figures (at Poona) given on page 16, one is likely to expect failure of *bajri* in the year 1925-26, as the rainfall of the year was only 14 inches. This rainfall, however, was better distributed for the *kharif* crops and the yield of *bajri* was not very bad. On the other hand, in the years 1926-27 and 1927-28 there was too much rain in the growing period and on the thin soil *bajri* was damaged. In the year 1925-26, though *bajri* came up somehow *shalu* was a total failure. Due to the late rains in 1926-27 and 1927-28, *shalu* crops were good.

It may be noted that the price of *bajri* fell considerably in 1927-28, as compared to the prices obtained in the previous two years.

In the year 1925-26 four plots, measuring $19\frac{3}{4}$ acres were studied (Table IX and Statements 13 to 16). The outturn of the four plots together was 5,854 lbs. of grains (i.e., 296.4 lbs. per acre) at a total cost of Rs. 462-15-9. The value of the total produce (including by-products) being Rs. 459-11-7, there was a loss of Rs. 3-4-2 or Re. 0-2-8 per acre.

In the year 1926-27, four plots, measuring $17\frac{1}{4}$ acres were under observation. These four plots together yielded 5,976 lbs. of grains (i.e., 346.43 lbs. per acre) at a total cost of Rs. 454-4-6. The value of the total produce was Rs. 487, thus leaving a net profit of Rs. 32-11-6 or Rs. 1-14-5 per acre.

In the year 1927-28 three plots, measuring in all $15\frac{1}{2}$ acres were costed. The total yield obtained from these three plots was 4,742 lbs. (i.e., 305.93 lbs. per acre). The value of the produce (including by-products) was Rs. 303-1-5 at a cost of Rs. 311-9-8. There was thus a loss of Rs. 8-8-3 or Re. 0-8-10 per acre.

Table IX gives the abstract of the costs yields etc., for the three years under consideration.

TABLE IX—COMPARATIVE STATEMENT OF YIELDS, COSTS,
RECEIPTS AND NET INCOME OF BAJRI IN THE
DRY-ZONE

Year	Plot No.	Area of the plot	Yield of grains per acre	Value of grains and fodder per acre	Cost of cultivation per acre	Profit or loss per acre
		A. g.	Lbs.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1925-26	5B	2 20	538·0	43 0 9	30 9 10	+12 6 11
	6B	3 10	287·4	24 13 5	24 15 2	- 0 1 9
	7B	4 20	606·2	46 15 8	31 15 5	+15 4 1
	8B	9 20	88·0	6 5 3	17 1 10	-10 12 7
	Average per acre*			296·4	23 4 5	23 7 1	- 0 2 8
1926-27	9B	4 20	433·0	37 7 0	19 13 9	+17 9 3
	10B	3 0	260·0	23 5 4	19 10 8	+ 3 10 8
	11B	4 20	588·0	45 7 0	30 6 0	+15 1 10
	12B	5 10	123·8	8 6 0	32 3 6	-23 13 6
	Average per acre*			346·4	28 3 9	26 5 4
1927-28	13B	3 0	614·6	37 8 0	28 15 5	+ 8 8 7
	14B	9 0	205·3	13 12 3	15 11 11	- 1 15 8
	15B	3 20	300·0	19 0 10	23 11 5	- 4 10 7
	Average per acre*			306·0	19 8 10	20 1 8	- 0 8 10

*Actual averages per acre for the area costed and not averages of groups.

Though one might expect fall in the cost of production, the figures do not show such decided tendency. Wages did not fall with the fall in prices. Due to the variation in the yields of the different years, caused by the variation in the rainfall, the effect of falling prices is not much reflected in the incomes.

1925-26.—It was a year of insufficient rainfall. Of the four plots of the year, two plots (5B and 6B) were at Pimple. The cause of the lower yield and consequent loss in plot No. 6B was the neglect shown in watching the crop against birds. Most of the able-bodied men in the village (Pimple) seek work at the Kirkee Arsenal and unless there is spare home labour, fields are generally neglected. Plot No. 5B left net profit of Rs. 12-6-11 per acre. Plot Nos. 7B and 8B were at Wagholi. For a year of moderate rainfall, the low lying position of plot No. 7B was an advantage and it gave better yield and left good surplus. It will be seen from the low rent of plot No. 8B that it was a poor piece. The crop was poor and yield of grain very low.

1926-27.—Two plots (9B and 10B) were at Pimple. Neither of them was watched against birds. Plot No. 10B was light and thin, and hence the yield was lower than that of 9B. The owner of plot No. 9B held his produce till late and sold as seed. He, therefore, secured higher price and made better profits. Plot Nos. 11B and 12B were from Wagholi. It will be seen from the land rents that plot No. 11B was superior. It produced an average crop and left a profit of over Rs. 15. Plot No. 12B was poor *mal*-land and the yield was low. Since the cost of clearing the land was high there was heavy loss.

1927-28.—Out of the three plots of the year, two plots (13B and 14B) were at Wagholi. Plot No. 13B was fertile. Though the rent of the plot was higher it could leave a surplus of Rs. 8-8-7. Since the yield of plot No. 14B was very low it could not leave any profit. The cost of cultivation of plot No. 15B was high as it had received ploughing. The out-turn of 300 lbs. could not meet the cost of production. It may be noted that in the year 1927-28 price of *bajri* fell very considerably.

The following statements 13 to 23 (pp. 71 to 100) give the details of costs and receipts of the *bajri* plots in the dry-zone.

BAJRI--2½ acres in 1925-26

STATEMENT 13

PLOT No. (5B)

Place—Pimple

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage.....						Rs. a. p.	Rs. a. p.	
(a) Ploughing.....	8	..	32	40·0	16·0	19 0 0	7 9 5	One plough with one man, two boys and eight bullocks for four days. Man at 10 annas and bullock at 7 annas. (Two boys equal to one man).
(b) Harrowing	2	..	4	6·0	2·4	3 0 0	1 3 2	Three harrowings with two-bullock harrow for two days. Charges as above.
(c) Collecting stubbles	8	..	4·0	1·6	2 0 0	0 12 10	Woman at 4 annas each.

BAJRI (UNIRRIGATED)

STATEMENT 13—concl'd.

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ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Seeds and sowing						Rs. a. p.	Rs. a. p.	
(a) Seeds .....	..	..	..	..	..	3 8 0	1 6 5	For the whole area 20 lbs. of <i>bajri</i> seed and 15 lbs. of <i>tur</i> seed each at 10 lbs. per rupee.
(b) Sowing and covering	2	1	4	6.5	2.6	3 4 0	1 4 10	Man unit at 10 annas, woman unit at 4 annas and bullock unit at 7 annas each.
After-care and tillage								
(a) Interculturing	3	..	3	6.0	2.4	3 3 0	1 4 5	Only one interculturing. Charges as above.
(b) Watching .....	..	30	..	15.0	6.0	8 0 0	3 3 2	One woman paid at Rs. 8 per mensem for watching the crop.
Harvesting, cutting ear-heads, thrashing, etc.	3	48	5	32.0	12.8	19 1 0	7 10 0	Man at 10 annas, woman at 5 annas, bullock at 7 annas.
Tying bundles	2	..	..	2.0	0.8	1 3 6	0 7 9	Tying bundles at 3 annas per 100 bundles.
Interest .....	..	..	..	..	..	1 12 6	0 11 5	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	12 8 0	5 0 0	The land was owned.
Total	20	87	48	111.5	44.6	76 8 0	30 9 7	

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 2½ acres	Per acre	For 2½ acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Bajri</i>	960	384	64 0 0	25 9 7	Valued at 15 lbs. per rupee.
<i>Tur</i>	385	154	27 8 0	11 0 0	Valued at 14 lbs. per rupee.
<i>Sarmad</i>	650 bundles	260 bundles	13 0 0	5 3 2	Valued at Rs. 2 per 100 bundles.
<i>Bhoos</i> .....	..	..	3 2 0	1 4 0	Estimated value.
Total .....	..	..	107 10 0	43 0 9	

(c) Summary

	For 2½ acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	107 10 0	43 0 9
Expenditure	76 8 0	30 9 7
Profit	31 2 0	12 7 2

BAJRI (UNIRRIGATED)

STATEMENT 14

BAJRI—3½ acres in 1925-26

PLOT No. (6B)

Place—Pimple

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Ploughing	12·0	..	32	44·0	13·5	21 8 0	6 9 10	Two acres ploughed. Three men and eight bullocks on a plough for 4 days. Man at 10 annas and bullock at 7 annas.
(b) Harrowing	3·0	..	6	9·0	2·8	4 8 0	1 6 2	Three harrowings with 2-bullock harrow. Charges as above.
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	4 0 0	1 2 8	For the whole plot 25 lbs. of bajri and 15 lbs. of tur seed at 10 lbs. per rupee.
(b) Sowing and covering	2·0	..	4	6·0	1·8	3 0 0	0 14 9	Man at 10 annas and bullock at 7 annas.
After-care and tillage								
(a) Interculturing	4·0	..	4	8·0	2·5	4 4 0	1 4 11	Two days for two interculturings with a set of hoes with 2 men and 2 bullocks each days. Charges as above.
Harvesting, tying, cutting ear-heads, thrashing, etc.	26·5	8	9	39·5	12·1	22 8 0	6 14 9	Man at 10 annas, woman at 4 and bullock at 7 each.
Interest .....	..	..	..	..	..	1 13 6	0 9 1	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	19 8 0	6 0 0	The land was owned.
Total	47·5	8	55	106·5	32·7	81 1 6	24 15 2	

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 3½ acres	Per acre	For 3½ acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Bajri</i>	800	248·0	53 5 4	16 6 7	Valued at 15 lbs. per rupee.
<i>Tur</i>	128	39·4	9 2 3	2 13 0	Valued at 14 lbs. per rupee.
<i>Sarmad</i>	bundles 750	bundles 231	15 0 0	4 9 10	Valued at Rs. 2 per 100 bundles.
<i>Bhoos</i> .....	..	..	3 4 0	1 0 0	Estimated value.
Total .....	..	..	80 11 7	24 13 5	

(c) Summary

—	For 3½ acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income.....	80 11 7	24 13 5
Expenditure	81 1 6	24 15 2
Loss	0 5 11	0 1 9

BAJRI (UNIRRIGATED)

BAJRI—4½ acres in 1925-26

STATEMENT 15

PLOT No. (7B)

Place—Wagholi

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Preparatory tillage								
(a) Ploughing	21·0	..	58	79·00	17·55	26 0 0	5 12 5	One plough with 2 men and 6 bullocks for 8 days and another with 2 men and 4 bullocks for 2½ days. Man at 6 annas and bullock at 5 annas.
(b) Harrowing	4·0	..	8	12·00	2·70	4 0 0	0 14 3	Three harrowings. Four days' work. Charges as above.
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	6 8 0	1 7 1	For the whole area 30 lbs. of bajri, 15 lbs. of <i>udid</i> , 15 lbs. of <i>tur</i> and 5 lbs. of other seeds.

(b) Sowing	2.5	1.25	5	8.12	1.80	2 11 9	0 9 9	Man, woman and bullock labour at 6, 3 and 5 annas respectively.
After-care and tillage								
(a) Weeding .....	..	42.00	..	21.00	4.67	6 9 0	1 7 4	Woman units at 2½ annas. Only one weeding was given.
(b) Interculturing	16.0	..	8	24.00	5.34	8 8 0	1 14 3	Bullock-hoe with two bullocks and two men; while hand-hoe with two men only. Two operations took four days. Man at 6 annas and bullock at 5 annas.
(c) Watching	48.0	15.00	..	55.50	12.34	20 13 0	4 10 0	Man and woman at 6 and 3 annas respectively. Two men were watching the whole area for 24 days and one woman was watching <i>tur</i> after the harvest of <i>bajri</i> for 15 days.
Harvesting, tying, cutting earheads, thrashing, etc.	39.0	31.00	24	78.50	17.40	38 10 0	8 9 4	Twenty-four man units at 8 annas and the remaining at 6 annas each; woman units at 4 annas each, bullock units at 5 annas. Besides Rs. 5-12-0 worth of <i>bajri</i> was paid for cutting earheads.
Interest .....	..	..	..	..	..	3 0 6	0 10 9	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	26 0 0	5 12 5	The land was owned.
Total	130.5	89.25	103	278.12	61.80	142 12 3	31 11 7	

BAJRI (UNIRRIGATED)

STATEMENT 15—concl'd.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 4½ acres	Per acre	For 4½ acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Bajri</i> /	2,366	520·8	157 12 0	35 1 11	Sold at 15 lbs. per rupee. The quantity and value includes the amount paid in kind for cutting earheads.
<i>Udid</i>	120	27·0	8 0 0	1 12 6	Valued at 15 lbs. per rupee.
<i>Tur</i>	240	54·0	16 0 0	3 9 0	Valued at 15 lbs. per rupee.
<i>Matki</i>	20	4·4	1 5 4	0 4 9	Valued at 15 lbs. per rupee.
<i>Sarmad</i>	bundles 2,300	bundles 289	23 0 0	5 1 9	Valued at Re. 1 per 100 bundles.
<i>Bhoos</i> .....	..	..	5 0 0	1 1 9	Estimated value.
Total ....	..	..	211 1 4	46 15 8	

(c) Summary

	For 4½ acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	211 1 4	46 15 8
Expenditure	142 12 3	31 11 7
Profit	68 5 1	15 4 1

BAJRI—9½ acres in 1925-26

STATEMENT 16

PLOT No. (8B)

Place—Wagholi

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Ploughing	30	..	90	120	12·6	39 6 0	4 2 3	Seven acres were ploughed once. Plough had two men and 6 bullocks each day for 15 days. Man at 8 annas and bullock at 5 annas each.
(b) Harrowing	9	..	18	27	2·8	9 0 0	0 15 2	Ploughed portion was harrowed twice, remaining four times. Labour charges as above.
(c) Digging corners	3	..	..	3	0·3	1 2 0	0 1 11	Men at 6 annas.
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	13 0 0	1 5 11	For the whole area 80 lbs. of <i>bajri</i> and 60 lbs. of <i>hulga</i> at 10 and 12 lbs. per rupee respectively.
(b) Sowing and covering	4	2	8	13	1·4	4 6 0	0 7 4	Man at 6 annas, woman at 3 annas and bullock at 5 annas each.

BAJRI (UNIRRIGATED)

STATEMENT 16—concl'd.

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ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
After-care and tillage						Rs. a. p.	Rs. a. p.	
(a) Weeding .....	..	38	..	19	2.0	7 2 0	0 12 0	Woman at 3 annas. Only one weeding was given.
(b) Interculturing	8	..	8	16	1.7	5 8 0	0 9 3	Man at 6 annas and bullock at 5 annas. Only one hoeing was given. A set of hoes required two men and two bullocks.
(c) Watching .....	..	116	..	58	6.1	21 12 0	2 4 8	Two women were watching for 23 days while third woman was watching the crop for 70 days. Woman unit charged at 3 annas
Harvesting, tying, thrashing, etc.	18	22	6	35	3.7	18 1 0	1 14 5	Seven man units at 8 annas and the rest at 6 annas each; 13 woman units at 4 annas each and the rest at 3 annas each. Bullock units at 5 annas. Besides Rs. 3-10-0 worth of <i>bajri</i> was given for breaking earheads.
Interest .....	..	..	..	..	..	5 4 6	0 8 11	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	38 0 0	4 0 0	The land was owned.
Total	72	178	130	291	30.6	162 9 6	17 1 10	

(b) Yield and Value

MO-III Bk Q 27-6

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 9½ acres	Per acre	For 9½ acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
Bajri	655	69	43 10 8	4 9 5	Valued at 15 lbs. per rupee. The quantity and value includes the amount paid in kind for breaking earheads.
Hulga	180	19	9 0 0	0 15 0	Valued at 20 lbs. per rupee.
Sarmad	bundles 1,125	bundles 118.42	5 10 0	0 9 6	Valued at 8 annas per 100 bundles.
Bhoos of bajri....	..	..	0 8 0	0 0 10	Estimated value.
Bhoos of hulga ..	..	..	1 8 0	0 2 6	Estimated value.
Total .....	..	..	60 4 8	6 5 3	

(c) Summary

	For 9½ acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	60 4 8	6 5 3
Expenditure	162 9 6	17 1 10
Loss	102 4 10	10 12 7

BAJRI (UNIRRIGATED)

STATEMENT 17

BAJRI—4½ acres in 1926-27

PLOT No. (9B)

Place—Pimple

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Harrowing	3	..	6	9.00	2.0	4 8 0	1 0 0	Two harrowings were given. Man and bullock units at 8 annas each.
(b) Collecting stubbles .....	..	6.0	..	3.00	0.6	1 8 0	0 5 4	Woman units at 4 annas each.
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	6 0 0	1 5 4	For the whole area 20 lbs. of <i>bajri</i> and 40 lbs. of <i>tur</i> seed were used.
(b) Sowing and covering	3	1.5	6	9.75	2.2	4 14 0	1 1 4	Man and bullock units at 8 annas each and woman at 4 annas.
After-care and tillage								
(a) Interculturing	6	..	6	12.00	2.6	6 0 0	1 5 4	Three hoeings were given. Hoe required 2 men and 2 bullocks. Charges as above.
Harvesting, tying, cutting ear-heads, thrashing, etc.	24	54.0	20	71.00	15.8	38 0 0	8 7 1	Twelve man units at 10 annas each and the remaining at 8 annas each; 16 woman units at 5 annas each and the remaining at 4 annas each; bullock units at 8 annas.
Interest .....	..	..	..	..	..	1 8 0	0 5 4	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	27 0 0	6 0 0	The land was owned.
Total	36	61.5	38	104.75	23.2	89 6 0	19 13 9	

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 4½ acres	Per acre	For 4½ acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Bajri</i>	1,050	233	80 8 0	17 14 2	At Rs. 23 per <i>palla</i> (300 lbs.). <i>Bajri</i> was good for seed.
<i>Tur</i>	900	200	66 0 0	14 10 8	Valued at Rs. 22 per <i>palla</i> (300 lbs.).
<i>Sarmad</i>	900 bundles	200 bundles	18 0 0	4 0 0	Valued at Rs. 2 per 100 bundles. Bundle weighed about 2 lbs. each.
<i>Bhoos</i> .....	..	..	4 0 0	0 14 2	Estimated value.
Total .....	..	..	168 8 0	37 7 0	

(c) Summary

	For 4½ acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	168 8 0	37 7 0
Expenditure	89 6 0	19 13 9
Profit	79 2 0	17 9 3

STATEMENT 18

84

BAJRI—3 acres in 1926-27

PLOT No. (10B)

Place—Pimple

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Ploughing	2·0	..	6	8·0	2·7	4 0 0	1 5 4	One day for ploughing 20 gunthas with 2 men and 6 bullocks. Man and bullock units at 8 annas each.
(b) Harrowing	4·0	..	8	12·0	4·0	6 0 0	2 0 0	One harrow worked for four days. Charges as above.
(c) Collecting stubbles .....	..	3	..	1·5	0·5	1 8 0	0 8 0	Contract work.

PRELIMINARY STUDIES OF IMPORTANT CROPS

(a) Seeds .....	..	..	..	..	..	4 0 0	1 5 4	For the whole area 22½ lbs. of <i>bajri</i> seed and 20 lbs. of <i>tur</i> seed were used.
(b) Sowing and covering	2.0	1	4	6.5	2.2	3 8 0	1 2 8	Man units at 10 annas and bullock units at 8 annas each and woman unit at 4 annas.
After-care and tillage								
(a) Weeding .....	..	6	..	3.0	1.0	1 8 0	0 8 0	Woman units at 4 annas each. One weeding.
(b) Interculturing	3.0	..	3	6.0	2.0	3 0 0	1 0 0	One and half days for two hoeings with 2 men and 2 bullocks on the hoe. Man and bullock at 8 annas each.
Harvesting, tying, cutting ear-heads, thrashing, etc.	6.5	32	9	31.5	10.5	19 2 0	6 6 0	Three man units at 10 annas each and the remaining at 8 annas each; 24 man units at 6 annas each and the remaining at 4 annas each; bullock units at 8 annas each.
Interest .....	..	..	..	..	..	1 6 0	0 7 4	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	15 0 0	5 0 0	The land was owned.
Total	17.5	42	30	68.5	22.9	59 0 0	19 10 8	

BAJRI (UNIRRIGATED)

STATEMENT 18—concl'd.

86

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 3 acres	Per acre	For 3 acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Bajri</i>	480	160	32 0 0	10 10 8	Sold as seed at Rs. 8 per maund (120 lbs.). Crop was poor.
<i>Tur</i>	300	100	22 0 0	7 5 4	Sold as seed at Rs. 22 per <i>palla</i> (300 lbs.).
<i>Sarmad</i>	400 bundles	133 bundles	10 0 0	3 5 4	Valued at Rs. 2-8-0 per 100 bundles.
<i>Bhoos (of bajri)</i>..	..	..	2 0 0	0 10 8	Estimated value.
<i>Bhoos (of tur)</i>....	..	..	4 0 0	1 5 4	Do. do.

(c) Summary

	For 3 acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income.....	70 0 0	23 5 4
Expenditure	59 0 0	19 10 8
Profit	11 0 0	3 10 8

BAJRI—4½ acres in 1926-27

PLOT No. (11B)

Place—Wagholi

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Ploughing	30.0	..	78	108.00	24.0	35 10 0	7 14 8	Ploughing took 10 days for a plough with 3 men and 8 bullocks (except one day when six bullocks were in the team). Man at 6 annas and bullock at 5 annas.
(b) Harrowing	4.5	..	9	13.50	3.0	4 8 0	1 0 0	Four harrowings in 4½ days with 2-bullock harrow. Charges as above.
(c) Collecting stubbles	3.0	..	..	3.00	0.6	1 2 0	0 4 0	Man at 6 annas.
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	6 12 0	1 8 0	For the whole area 35 lbs. of bajri seed, 15 lbs. of tur, 5 lbs. of malki and 15 lbs. of hulga.
(b) Sowing and covering	3.0	1.5	6	9.75	2.2	3 4 6	0 11 8	Man and bullock labour charged as above. Woman at 3 annas per day.

BAJRI (UNIRRIGATED)

STATEMENT 19—concl'd.

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ITEM OF EXPENDITURE	Labour Units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
<i>After-care and tillage</i>						Rs. a. p.	Rs. a. p.	
(a) Weeding .....	..	63·0	..	31·50	7·0	11 13 0	2 10 0	Women at 3 annas. Only one weeding.
(b) Interculturing	6·0	..	6	12·00	2·7	4 2 0	0 14 8	Three days for two hoeings with 2 men and 2 bullocks each day. Man at 6 annas and bullock at 5 annas.
Harvesting, tying, cutting ear-heads, thrashing, etc.	51·0	35·0	18	86·50	19·2	36 13 0	8 2 10	Thirty man units at 8 annas each and the remaining at 6 annas each; 28 women at 4 annas each and the remaining at 3 annas each; bullock units at 5 annas.
Interest .....	..	..	..	..	..	5 11 0	1 4 2	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	27 0 0	6 0 0	The land was owned.
Total	97·5	99·5	117	264·25	58·7	136 11 6	30 6 0	

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 4½ acres	Per acre	For 4½ acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Bajri</i>	2,520	560	147 0 0	32 10 8	Valued at Rs. 17-8-0 per <i>palla</i> (300 lbs.).
<i>Hulga and udid</i> ..	126	28	10 8 0	2 5 4	Valued at 10 lbs. per rupee. <i>Matki</i> failed.
<i>Sarmad</i>	2,100 bundles	466 bundles	42 0 0	9 5 4	Valued at Rs. 2 per 100 bundles (average weight of a bundle 2 lbs.).
<i>Bhoos</i> .....	..	..	5 0 0	1 1 8	Estimated value.
Total .....	..	..	204 8 0	45 7 0	

(c) Summary

—	For 4½ acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	204 8 0	45 7 0
Expenditure	136 11 6	30 6 0
Profit	67 12 6	15 1 0

BAJRI (UNIRRIGATED)

STATEMENT 20

BAJRI—5½ acres in 1926-27

PLOT No. (12B)

Place—Wagholi

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Ploughing.....	68	..	250	318	60.6	103 10 0	19 11 10	The plot was lying fallow for three years and was overgrown with bushes. One plough with one man, two boys and eight bullocks each day for 23 days and another plough with two men and six bullocks for eleven days. Three ploughings were given. Man at 6 annas, boy at 3 annas and bullock at 5 annas each. Two boy units=one man unit.
(b) Harrowing.....	4	..	8	12	2.2	4 0 0	0 12 2	Three harrowings with two-bullock harrow.
(c) Collecting and removing stubbles.....	1	10	..	6	1.1	2 4 0	0 6 10	Man at 6 annas and woman at 3 annas each.

Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	7 12 0	1 7 7	For the whole area 37.5 lbs. of <i>bajri</i> and 40 lbs. of <i>tur</i> were required.
(b) Sowing and covering	4	2	8	13	2.5	4 6 0	0 13 4	Man at 6 annas, woman at 3 annas and bullock at 5 annas each.
After-care and tillage								
(a) Interculturing	8	..	8	16	3.0	5 8 0	1 0 9	Two interculturings were given. A set of hoes required two men and two bullocks. Man at 6 annas and bullock at 5 annas.
Harvesting, tying, thrashing, etc.								
(a) Day-labour	6	6	9	18	3.5	6 3 0	1 2 10	Man at 6 annas, woman at 3 annas and bullock at 5 annas each.
(b) Contract labour	14	..	..	14	2.7	7 0 0	1 5 4	The work of harvesting was given on contract for Rs. 7.
Interest .....	..	..	..	..	..	7 8 0	1 6 10	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	21 0 0	4 0 0	The land was owned.
Total	105	18	283	397	75.6	169 3 0	32 3 6	

BAJRI (UNIRRIGATED)

STATEMENT 20—*concl.*

(b) *Yield and Value*

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 5½ acres	Per acre	For 5½ acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Bajri</i> (2 <i>pallas</i>).	600	123·8	34 0 0	6 7 7	Crop was poor. Valued at Rs. 17 per <i>palla</i> (300 lbs.).
<i>Tur</i> .....	..	..	....	....	Failed.
	Bundles	Bundles			
<i>Sarmad</i>	500	95	10 0 0	1 14 5	Valued at Rs. 2 per 100 bundles.
Total .....	..	..	44 0 0	8 6 0	

(c) *Summary*

—	For 5½ acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	44 0 0	8 6 0
Expenditure	169 3 0	32 3 6
Loss	125 3 0	23 13 6

STATEMENT 21

BAJRI—3 acres in 1927-28
Previous crop—Bajri, 1926-27
 Place—Wagholi

PLOT No. (13B)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Preparatory tillage								
(a) Ploughing.....	14	..	56	70	23.3	22 12 0	7 9 4	Seven days for one plough with two men and eight bullocks each day. Man at 6 annas and bullock at 5 annas.
(b) Harrowing	6	..	12	18	6.0	6 0 0	2 0 0	Five harrowings were given. Charges as above.
Seeds and sowing								
(a) Seeds.....	..	..	...	..	..	3 6 0	1 2 0	For the whole area 24½ lbs. of <i>bajri</i> seed (Rs. 1-12-9) and 22 lbs. of <i>udid</i> seed (Rs. 1-9-3).
(b) Sowing and covering	3	2	6	10	3.3	3 6 0	1 2 0	Man at 6 annas, woman at 3 annas and bullock at 5 annas each.

BAJRI (UNIRRIGATED)

STATEMENT 21—concl'd.

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ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
After-care and tillage						Rs. a. p.	Rs. a. p.	
(a) Weeding and interculturing.	4	56	4	36	12.0	13 4 0	4 6 8	One weeding and two hoeings. Man at 6 annas, woman at 3 annas and bullock at 5 annas each.
Harvesting, tying, breaking ear-heads, thrashing, etc.....	24	26	13	50	16.7	20 0 0	6 10 8	Fifteen men charged at 7 annas each and the remaining nine men at 6 annas each; seven women at 4 annas, four women at 3 annas and the remaining 15 women paid in kind, the value of total produce paid to them being Rs. 3-8-0. Bullock at 5 annas each.
Interest .....	..	..	..	..	..	3 2 3	1 0 9	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	15 0 0	5 0 0	The land was owned.
Total	51	84	91	184	61.3	86 14 3	28 15 5	

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 3 acres	Per acre	For 3 acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Bajri</i>	1,800	600.0	84 0 0	28 0 0	Valued at Rs. 14 per <i>palla</i> of 300 lbs. Produce paid for women labour engaged for harvesting is entered in the receipts.
<i>Udid</i>	44	14.6	2 0 0	0 10 8	Valued at 22 lbs. per rupee.
<i>Sarmad</i>	Bundles 1,500	Bundles 500	22 8 0	7 8 0	Valued at Rs. 1-8-0 per 100 bundles. Average weight of a bundle 2 lbs.
<i>Bhoos</i> .....	..	..	4 0 0	1 5 4	Estimated value.
Total .....	.....	.....	112 8 0	37 8 0	

(c) Summary

	For 3 acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	112 8 0	37 8 0
Expenditure	86 14 3	28 15 5
Profit	25 9 9	8 8 7

BAJRI (UNIRRIGATED)

BAJRI—9 acres in 1927-28
 Previous crop—Nilwa, 1926-27
 Place—Wagholi

STATEMENT 22

PLOT No. (14B)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Harrowing.....	12	..	24	36·0	4·00	12 0 0	1 5 4	Twelve days for four harrowings with a man and 2 bullocks each day. Man at 6 annas and bullock at 5 annas.
Seeds and sowing								
(a) Seeds.....	..	..	..	..	..	12 5 0	1 5 10	For 9 acres 82 lbs. of <i>bajri</i> seed (Rs. 5), 55 lbs. of <i>tur</i> (Rs. 5-8-0), 11 lbs. of <i>matki</i> (Rs. 0-13-0) and 14 lbs. of <i>hulga</i> seed (rupee one).
(b) Sowing and covering	6	3	12	19·5	2·17	6 9 0	0 11 8	Man at 6, woman at 3 and bullock at 5 annas each.
After-care and tillage								
(a) Weeding and interculturing.	12	79	12	63·5	7·06	23 1 0	2 9 0	For weeding once 79 women were required. Woman at 3 annas. Two hoeings were given. Man labour at 6 annas and bullock labour at 5 annas.
Harvesting, tying, cutting ear-heads, thrashing, etc.....	64	53	36	126·5	14·05	47 13 8	5 5 1	Twenty-nine men at 8 annas each and the remaining 35 at 6 annas each. Thirty-three women at 3 annas each and the remaining 20 were paid in kind, the value of the total produce being Rs. 2-12-8. Bullock at 5 annas.
Interest .....	..	..	..	..	..	3 14 9	0 7 0	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	36 0 0	4 0 0	The land was owned.
Total.....	94	135	84	245·5	27·28	141 11 5	15 11 11	

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 9 acres	Per acre	For 9 acres	Per acre	
<i>Bajri</i>	Lbs. 1,350	Lbs. 150	Rs. a. p. 63 0 0	Rs. a. p. 7 0 0	Valued at Rs. 14 per <i>palla</i> of 300 lbs. Produce paid for harvesting is entered in the out-turn.
<i>Tur</i>	300	33.3	16 0 0	1 12 5	Valued at Rs. 16 per <i>palla</i> of 300 lbs.
<i>Matki</i>	198	22.0	9 14 5	1 1 7	Valued at Rs. 15 per <i>palla</i> of 300 lbs.
<i>Sarnad</i>	2,000 bundles.	222 bundles.	30 0 0	3 5 4	Valued at Rs. 1-8-0 per 100 bundles.
<i>Bhoos</i> .....	..	..	5 0 0	0 8 11	Estimated value.
Total .....	..	..	123 14 5	13 12 3	

(c) Summary

	For 9 acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income.....	123 14 5	13 12 3
Expenditure.....	141 11 5	15 11 11
Loss.....	17 13 0	1 15 8

BAJRI—3½ acres in 1927-28
Previous crop—Shalu, 1926-27
 Place—Pimple

STATEMENT 23

PLOT No. (15B)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Preparatory tillage								
(a) Ploughing.....	8	..	24	32.0	9.1	16 0 0	4 9 2	Four days for ploughing 2 acres by 2 men with a 6-bullock plough. Man and bullock at 8 annas each.
(b) Harrowing.....	5	..	10	15.0	4.3	7 8 0	2 2 3	Five days for clod crushing and four harrowings, with a 2-bullock harrow. Charges as above.
(c) Collecting stubbles.....	..	17	..	8.5	2.4	5 5 0	1 8 4	Woman at 5 annas each.

Seeds and sowing									
MO-JII Bk Q 27-7a	(a) Seeds	2 0 0	0 9 2	For 3½ acres 11 lbs. of <i>bajri</i> seed (Re. 1) and 10 lbs. of <i>tur</i> seed (Re. 1).
	(b) Sowing and covering	2	1	4	6.5	1.9	3 5 0	0 15 1	Man at 8, woman at 5 and bullock at 8 annas each.
After-care and tillage									
(a) Weeding and interculturing	2	4	2	6.0	1.7	3 4 0	0 14 10	Four women for weeding at 5 annas each. Hoeing was done once. Man and bullock labour at 8 annas.	
Harvesting, tying, removing ear-heads, thrashing, etc.....	7	52	6	39.0	11.1	25 6 0	7 4 0	Man and bullock labour at 8 annas each; 19 women paid at 6 annas, 28 women at 5 annas each and the remaining 5 women were paid in kind, the value of the total produce paid to them being Rs. 2. The total cost includes Re. 1 paid for contract labour for tying bundles.	
Interest.....	..	..	..	..	..	2 12 0	0 12 7	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	17 8 0	5 0 0	The land was owned.
Total.....	24	74	46	107.0	30.5	83 0 0	23 11 5		

BAJRI (UNIRRIGATED)

STATEMENT 23—concl.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 3½ acres	Per acre	For 3½ acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Bajri</i>	570	163	28 8 0	8 2 3	Valued at Rs. 15 per <i>palla</i> of 300 lbs. Produce paid for harvesting is included in the out-turn.
<i>Tur</i>	480	137.1	27 3 0	7 12 3	Valued at Rs. 17 per <i>palla</i> of 300 lbs.
<i>Sarmad</i>	400 bundles.	114.3 bundles.	8 0 0	2 4 7	Valued at Rs. 2 per 100 bundles.
<i>Bhoos</i>.....	..	..	3 0 0	0 13 9	Estimated value.
Total .....	..	..	66 11 0	19 0 10	

(c) Summary

	For 3½ acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	66 11 0	19 0 10
Expenditure	83 0 0	23 11 5
Loss	16 5 0	4 10 7

**BAJRI IN THE SUGARCANE-ZONE AND DRY-ZONE, NEAR
POONA, COMPARED**

Before leaving the subject of *bajri*, a few words by way of comparing the conditions and their effects on the crop in the two zones may be interesting. *Bajri* in the sugarcane-zone is a supplementary crop, while in the dry-zone it is the main crop. Table X gives the averages for the two groups of *bajri* in the years 1926-27 and 1927-28.

**TABLE X—BAJRI IN THE SUGARCANE-ZONE AND DRY-ZONE
COMPARED**

Zone	Yield per acre	Value of grain and fodder per acre	Cost of production per acre	Profit or loss per acre
	Lbs.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Sugarcane-zone	921	65 13 6	69 12 0	- 3 14 6
Dry-zone	327	24 2 0	23 6 2	+ 0 11 10

As explained on pages 56 and 69 the yield of *bajri* in sugarcane-zone is much higher than in the dry-zone. Even when rainfall is less, the previous moisture and the residual manure help *bajri* in the sugarcane-zone. *Bajri* in the dry-zone does not receive much cultivation and rarely any manuring. Rents are also low; hence the cost of production is low too. It may, however, be remembered that due to the influence of the city, close by, the cost of production, in the dry-zone near Poona, is more than in the remote villages.

Despite the low yield in the dry-zone, so far as net income is concerned, *bajri* in that zone left some profit.

NILWA (JOWAR)

Nilwa is an important fodder crop in the neighbourhood of Poona City, which has a good demand for dry fodder. *Nilwa*, therefore, finds place in the cropping of the *jirayat* as well as in the irrigated villages near Poona. The crop is sown thick for fodder, grain being only a secondary object. On irrigation, the yield is naturally higher than under dry conditions.

In the year 1925-26, two plots (Nos. 1N1 and 2N1) of irrigated *nilwa* were studied at Saijpurwadi (statement Nos. 24 and 25). In the year 1926-27 one plot (No. 3N1) of dry *nilwa* was studied at Wagholi (statement No. 26). Table XI gives an abstract of the statements referred to above.

TABLE XI—COMPARATIVE OUTTURNS, RECEIPTS, COSTS AND INCOMES FROM NILWA

Year	Plot No.	Area	Per acre				Remarks
			Yield of fodder and grain	Value of produce	Cost of cultivation	Profit	
		A. g.	Lbs.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
1925-26 ..	1N1	2 0	Fodder . 5,335	44 10 0	33 8 6	11 1 6	} Irrigated on the seasonal canal.
1925-26 ..	2N1	0 30	Fodder . 7,000	55 0 0	35 14 8	19 1 4	
1926-27 ..	3N1	7 20	Fodder . 1,024 Grain . 253	27 11 7	19 1 10	8 9 9	Unirrigated in dry-zone.

It may be noted from the table and statement Nos. 24, 25 and 26 that the outturns under irrigation were much higher than under *jirayat* conditions. The cost of *kharif* irrigation was not much but the rent of land, with facilities of irrigation, was much higher than in the dry-zone. All the plots left net profits.

STATEMENT 24

NILWA JOWAR—2 acres in 1925-26

PLOT No. (1N1)

Place—Sajipurwadi

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Seed and sowing								
(a) Seed .....	..	..	..	..	..	9 0 0	4 8 0	For 2 acres 90 lbs. of seed at 10 lbs. per rupee.
(b) Harrowing, sowing and covering	4	..	8	12	6.0	4 0 0	2 0 0	Man unit at 6 annas and bullock unit at 5 annas.
Irrigation								
(a) Labour	6	..	..	6	3.0	2 4 0	1 2 0	Man unit at 6 annas.
(b) Canal water charges .....	..	..	..	..	..	6 6 0	3 3 0	Water cess at Rs. 3-3-0 per acre, including L. F. C.
Harvesting, tying and carting ...	29	..	6	35	17.5	12 12 0	6 6 0	Man unit at 6 annas and bullock unit at 5 annas.
Interest .....	..	..	..	..	..	0 11 0	0 5 6	Charged at 9 per cent per annum.
Rent of land	30 0 0	15 0 0	The land was owned.
Miscellaneous	2 0 0	1 0 0	
Total....	39	..	14	53	26.5	67 1 0	33 8 6	

NILWA JOWAR

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STATEMENT 24—concl.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 2 acres	Per acre	For 2 acres	Per acre	
	Bundles	Bundles	Rs. a. p.	Rs. a. p.	
<i>Nilva</i> fodder	1,785	892.5	89 4 0	44 10 0	Valued at Rs. 5 per 100 bundles (average weight of a bundle 6 lbs.).
Total....	..	..	89 4 0	44 10 0	

(c) Summary

	For 2 acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	89 4 0	44 10 0
Expenditure	67 1 0	33 8 6
Profit.....	22 3 0	11 1 6

NILWA JOWAR—30 gunthas in 1925-26

Place—Saijpurwadi

STATEMENT 25

PLOT No. (2N1)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Seed and sowing								
(a) Seed .....	..	..	..	..	..	3 0 0	4 0 0	For the plot 30 lbs. of seed at 10 lbs. per rupee.
(b) Harrowing, sowing and covering	2	..	4	6	8.0	2 0 0	2 10 8	Man unit at 6 annas and bullock unit at 5 annas.
Irrigation								
(a) Labour	2	..	..	2	2.6	0 12 0	1 0 0	Man at 6 annas.
(b) Canal water charges .....	..	..	..	..	..	3 3 0	4 4 0	Water cess at Rs. 3-3-0 per acre including L. F. C. Charges for full acre are made.
Harvesting, tying and carting ..	11	..	4	15	20.0	5 6 0	7 2 8	Man unit at 6 annas and bullock unit at 5 annas.
Interest .....	..	..	..	..	..	0 5 0	0 6 8	Charged at 9 per cent per annum.
Rent of land	11 4 0	15 0 0	The land was owned.
Miscellaneous	1 1 0	1 6 8	
Total ..	15	..	8	23	30.6	26 15 0	35 14 8	

NILWA JOWAR

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STATEMENT 25—concl'd.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For $\frac{1}{2}$ acre	Per acre	For $\frac{1}{2}$ acre	Per acre	
<i>Nilua</i> fodder	Bundles 825	Bundles 1,100	Rs. a. p. 41 4 0	Rs. a. p. 55 0 0	Valued at Rs. 5 per 100 bundles. (Bundles weighed between 6 and 6 $\frac{1}{2}$ lbs.)
Total....	..	..	41 4 0	55 0 0	

(c) Summary

	For $\frac{1}{2}$ acre	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	41 4 0	55 0 0
Expenditure	28 15 0	35 14 8
Profit.....	14 5 0	19 1 4

STATEMENT 26

NILWA JOWAR—7½ acres in 1926-27

PLOT No. (3N1)

Place—Wagholi

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Preparatory tillage								
(a) Ploughing	26·0	..	52	78·0	10·4	26 0 0	3 7 6	Thirteen days for one plough with 2 men and 4 bullocks. Man at 6 annas and bullock at 5 annas.
(b) Harrowings	5·0	..	10	15·0	2·0	5 0 0	0 10 8	Five days for one harrow with one man and 2 bullocks. Man at 6 annas and bullock at 5 annas.
(c) Levelling	3·5	..	7	10·5	1·4	3 8 0	0 7 5	Three and half days for one leveller. Man at 6 annas and bullock at 5 annas.
(d) Collecting stubbles	13·5	..	..	13·5	1·8	5 1 0	0 10 9	Man at 6 annas.
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	18 0 0	2 6 5	For the whole plot 225 lbs. of seed at 12·5 lbs. per rupee.
(b) Sowing and covering	2·0	..	4	6·0	0·8	2 0 0	0 4 3	Man unit at 6 annas and bullock unit at 5 annas.

NILWA JOWAR

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STATEMENT 26—concl'd.

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ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
After-care and tillage								
(a) Interculturing	8·0	..	8	16·0	2·1	5 8 0	0 11 9	Man and bullock labour charged as above. For the whole area two hoeings were given.
(b) Watching .....	..	20	..	10·0	1·3	3 12 0	0 8 0	Woman unit at 3 annas. A woman was watching the crop for 20 days.
Harvesting and preparing for market	33·0	67	7	73·5	9·8	40 8 0	5 6 4	Twenty-seven man units at 9 annas each and the remaining at 6 annas each. Thirty-three woman units at 6 annas each and 34 at 4 annas each. Bullock unit at 5 annas each.
Interest .....	..	..	..	..	..	4 2 0	0 8 9	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	30 0 0	4 0 0	The land was owned.
Total....	91·0	87	88	222·5	29·6	143 7 0	19 1 10	

PRELIMINARY STUDIES OF IMPORTANT CROPS

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 7½ acres	Per acre	For 7½ acres	Per acre	
			Rs. a. p.	Rs. a. p.	
Grain	1,900 lbs.	253·3 lbs.	76 0 0	10 2 1	Valued at 25 lbs. per rupee.
Kadbi	3,200 bundles.	466·6 bundles.	128 0 0	17 1 0	Valued at Rs. per 100 bundles.
Bhoos .....	..	..	4 0 0	0 8 6	Estimated value.
Total ..	..	..	208 0 0	27 11 7	

(c) Summary

	For 7½ acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	208 0 0	27 11 7
Expenditure	143 7 0	19 1 10
Profit.....	64 9 0	8 9 9

NILWA JOWAR

GRAM

During the years 1925-26 and 1927-28 five plots, measuring 5 acres and 10 gunthas, were costed. Gram usually follows *bajri* in the same year in the neighbourhood of Poona.

TABLE XII—COMPARATIVE YIELDS, COSTS, RECEIPTS AND NET INCOME OF GRAM

Year	Plot No.	Area	Per acre.				Remarks
			Yield of grain	Value of grain and fodder	Cost of cultivation	Profit or loss	
		A. g.	Lbs.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
1925-26	1 G	1 00	310	20 14 0	38 13 3	17 15 3	At Loni.
1927-28	2 G	0 30	400	24 0 0	27 8 0	3 8 0	Do.
" "	3 G	1 00	600	35 8 0	22 9 0	12 15 0	Do.
" "	4 G	1 20	500	30 5 4	25 4 0	5 1 4	At Saijpurwadi.
" "	5 G	1 00	420	25 4 9	15 3 0	10 1 9	At Pimple.

The *rabi* season of 1925-26 was very unsatisfactory and naturally the yield of plot No. 1G was poor. The higher yield of plot No. 3G was responsible for higher profits. The lower cost of production of plot No. 5G was due to the comparatively lower rent at Pimple. Rents at Saijpurwadi, which gets seasonal canal water, are higher than at Pimple. At Loni where cane growing is allowed, rents of lands, suitable for cane, are still higher. The cost of cultivation of plot No. 1G was further increased by the ploughing given.

Details of costs, receipts and income appear in the following pages, under statement Nos. 27 to 31 (pp. 111 to 120).

GRAM—1 acre in 1925-26
 Previous crop—*Bajri* in 1925-26
 Place—Loni Kalbhor

STATEMENT 27

PLOT No. (1G)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Cost per acre	REMARKS
	Men	Women	Bullocks			
					Rs. a. p.	
Preparatory tillage and sowing						
(a) Ploughing	4	..	16	20·0	7 0 0	Two days for one plough with two men and eight bullocks each day. Man at 8 annas and bullock at 5 annas.
(b) Harrowing	1	..	4	5·0	1 12 0	One day's work charges as above.
(c) Sowing	1	3	4	6·5	2 5 0	One man and four bullocks for one small plough. One woman sowed behind and two collected stubbles before sowing. Man at 8, woman at 3 and bullock at 5 annas each.
(d) Seeds .....	..	..	..	..	6 0 0	
Harvesting and preparing for market	1	15	1	9·5	3 10 0	Man unit at 8, bullock unit at 5 and woman unit at 3 annas each.
Interest .....	..	..	..	..	0 10 3	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	17 8 0	The land was owned. Only half of the annual rent is charged, the remaining half goes to <i>bajri</i> .
Total	7	18	25	41	38 13 3	

GRAM

STATEMENT 27—concl'd.

(b) Yield and Value

NAME OF PRODUCT	Quantity	Value	REMARKS
	For 1 acre	Per acre	
	Lbs.	Rs. a. p.	
Gram	310	19 6 0	Valued at 16 lbs. per rupee.
Bhoos	48	1 8 0	Estimated value.
Total .....	....	20 14 0	

(c) Summary

	Per acre
	Rs. a. p.
Gross income	20 14 4
Expenditure	38 13 8
Loss	17 15 4

MO-1 Bk Q 27-8

GRAM—30 gunthas in 1927-28
Previous crop—Bajri in 1927-28
 Place—Loni Kalbhor

STATEMENT 28

PLOT No. (2G)

(a) *Cost of Production*

ITEM OF EXPENDITURE	Labour units *			Total units	Units per acre	Total cost	Cost per acre	
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Sowing and seed								
(a) Sowing after plough	6·0	..	12	18·0	24·0	6 6 0	8 8 0	Two days for one plough with two men and six bullocks each day. One man sowed behind the plough. Man at 7 and bullock at 5 annas.
(b) Seeds	4 0 0	5 5 4		For 30 gunthas 48 lbs. of gram seed at 12 lbs. per rupee.
Harvesting and preparing for market	1·5	6·5	4	8·75	11·6	3 3 6	4 4 8	Man at 8, woman at 3 and bullock at 5 annas.
Interest .....	..	..	..	..	..	0 12 6	1 0 8	Charged at 12 per cent per annum.
Rent of land	6 4 0	8 5 4	The land was owned. Only one-third of the rent is charged to gram and the remaining two-thirds charged to <i>bajri</i> crop taken before gram in the same year.
Total	7·5	6·5	16	26·75	35·6	20 10 0	27 8 0	

GRAM

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STATEMENT 28—concl'd.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For $\frac{1}{2}$ acre	Per acre	For $\frac{1}{2}$ acre	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
Gram	300	400	17 0 0	22 10 8	Valued at Rs. 17 per <i>palla</i> of 300 lbs. Estimated value.
Bhoos .....	..	..	1 0 0	1 5 4
Total.....	..	..	18 0 0	24 0 0

(c) Summary

	For $\frac{1}{2}$ acre	Per acre
	Rs. a. p.	Rs. a. p.
Gross income.....	18 0 0	24 0 0
Expenditure	20 10 0	27 8 0
Loss.....	2 10 0	3 8 0

MO-1 BR 27-86

GRAM—1 acre in 1927-28
 Previous crop—*Bajri* in 1927-28
 Place—Loni Kalbhor

STATEMENT 29

PLOT No. (3G)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Cost per acre	REMARKS
	Men	Women	Bullocks			
					Rs. a. p.	
Seeds and sowing						
(a) Seeds .....	..	..	..	..	5 0 0	For one acre plot 60 lbs. of gram seed at 12 lbs. per rupee.
(b) Sowing and covering	3	..	6	9	3 3 0	Man at 7 and bullock at 5 annas. One day and half were required for sowing and covering.
Harvesting and preparing for market	2	10	4	11	4 0 0	Man at 7, woman at 3 and bullock at 5 annas each.
Interest .....	..	..	..	..	0 6 0	Charged at 12 per cent per annum.
Rent of land	10 0 0	The land was owned. Only one-third of the rent is charged to gram, the remaining two-thirds being charged to <i>bajri</i> , taken before gram in the same year.
Total	5	10	10	20	22 9 0	

GRAM

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STATEMENT 29—*concl.*

(b) *Yield and Value*

NAME OF PRODUCT	Quantity	Value	REMARKS
	For 1 acre	Per acre	
	Lbs.	Rs. a. p.	
Gram	600	34 0 0	Valued at Rs. 17 per <i>palla</i> of 300 lbs.
<i>Bhoos</i> .....	....	1 8 0	Estimated value.
Total .....	....	35 8 0	

(c) *Summary*

	Per acre
	Rs. a. p.
Gross income	35 8 0
Expenditure	22 9 0
Profit.....	12 15 0

GRAM—1 acre and 20 gunthas in 1927-28

Previous crop—*Bajri* in 1927-28

Place—Saijpurwadi

STATEMENT 30

PLOT No. (4G)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Sowing and seed						Rs. a. p.	Rs. a. p.	
(a) Sowing	6	3	18	25·5	17	8 11 6	5 13 0	Three days for one plough with 2 men and 6 bullocks each day. One woman sowed behind the plough. Man at 7, woman at 2½ and bullock at 5 annas.
(b) Seed .....	..	..	..	..	..	8 8 0	5 10 8	For the plot 106½ lbs. of gram seed at 12½ lbs. per rupee.
Harvesting and preparing for market	10	24	14	36·0	24	12 8 0	8 5 4	Man at 7, woman at 2½ and bullock at 5 annas each.
Interest .....	..	..	..	..	..	0 10 6	0 7 0	Charged at 9 per cent per annum.
Rent of land .....	..	..	..	..	..	7 8 0	5 0 0	The land was owned. Only one-third of the total rent is charged to gram. The remaining two-thirds is charged to <i>bajri</i> crop taken before gram in the same year.
Total	16	27	32	61·5	41	37 14 0	25 4 0	

GRAM

STATEMENT 30—concl.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 1½ acres	Per acre	For 1½ acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
Gram	750	500	42 8 0	28. 5 4	Valued at Rs. 17 per <i>palla</i> of 300 lbs.
<i>Bhoos</i> .....	..	..	3 0 0	2 0 0	Valued.
Total....	..	..	45 8 0	30 5 4	

(c) Summary

	For 1½ acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	45 8 0	30 5 4
Expenditure	37 14 0	25 4 0
Profit.....	7 10 0	5 1 4

GRAM—1 acre in 1927-28

Previous crop—*Bajri* in 1927-28

Place—Pimple

STATEMENT 31

PLOT No. (5G)

(a) Cost of Production

ITEM OF EXPENDITURE.	Labour units			Total units	Cost per acre	REMARKS
	Men	Women	Bullocks			
Preparatory tillage					Rs. a. p.	
(a) Collecting stubbles .....	..	4	..	2	1 4 0	Woman at 5 annas.
Seeds and sowing						
(a) Seeds .....	..	..	..	..	2 8 0	For one acre 30 lbs. of gram seed at 12 lbs. per rupee.
(b) Sowing and covering	2	..	4	6	3 0 0	Man and bullock labour at 8 annas each. More labour was required because of <i>bajri</i> stubbles.
Harvesting and preparing for market	3	8	4	11	6 0 0	Man at 8, woman at 5 and bullock at 8 annas each per day.
Interest .....	..	..	..	..	0 7 0	Charged at 12 per cent per annum.
Rent of land	2 0 0	The land was owned. Only one-third of the total rent is charged to gram and the remaining two-thirds to <i>bajri</i> crops taken before gram in the same year.
Total	5	12	8	19	15 3 0	

GRAM

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STATEMENT 31—concl'd.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS	
	For 1 acre		Per acre			
	Lbs.		Rs. a. p.			
Gram	420		23 12 9		Valued at Rs. 17 per palla of 300 lbs.	
Bhoos		1 8 0			Valued.
Total....		25 4 9			

(c) Summary

	Per acre
	Rs. a. p.
Gross income	25 4 9
Expenditure	15 3 0
Profit.....	10 1 9

SHALU

The neighbourhood of Poona is not a *rabi* tract and *shalu* is only taken in the rich retentive lands as an occasional change for *bajri* lands. *Shalu* in the neighbourhood of Poona, therefore, receives better cultivation and more attention than in the proper *rabi* tract in the East Deccan. The abstract of the study given below relates to Pimple, a village about 5 miles to the north-west of Poona City.

TABLE XIII—COMPARATIVE YIELDS RECEIPTS, COSTS AND PROFITS OF SHALU

Year	Plot No.	Area of the plot		Yield of grain per acre	Value of grain and fodder per acre	Cost of cultivation per acre	Profit per acre	REMARKS
		A. g.	Lbs.	Rs. a. p.	Rs. a. p.	Rs. a. p.		
1926-27	1Sj	3 20	686	53 15 11	47 8 7	6 7 4	Medium-black soil, land level. Received manure.	
" "	2Sj	1 20	520	48 6 5	36 3 4	12 3 1	Medium-black soil, slightly sloping.	
1927-28	3Sj	3 0	1,000	58 0 0	34 15 9	23 0 3	Soil good, land level.	
" "	4Sj	1 20	735	44 8 0	41 11 4	2 12 8	Soil good, land sloping. Received manure.	

On the whole, the yields in the year 1927-28 were better than in the year 1926-27, as the distribution of rain in the former year was better. The prices of grain and fodder, however, were lower in 1927-28. Of the two plots, in 1926-27, plot No. 1Sj which received manure gave better yield; the value of the increased outturn being less than the cost of the manure, the profit left was smaller. Of the two plots, in 1927-28, plot No. 3Sj yielded better than plot No. 4Sj. Though the latter received a little manure the land was not level as in plot No. 3Sj which, moreover, due to its larger size required comparatively less watching and other costs.

All the plots were owned and the rents charged were saved. Only a part of the labour was provided by the owners, who were employees in the Kirkee Arsenal.

Details of costs, receipts and income are given in the following statements—32 to 35 (pp. 122 to 133).

STATEMENT 32

SHALU JOWAR—3½ acres in 1926-27

PLOT No. (18j)

Place—Pimple

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Preparatory tillage								
(a) Ploughing	12·0	..	24	36·0	10·30	18 0 0	5 2 3	Four days for one plough with 2 men and 6 bullocks each day. Four men for cutting shrubs etc. Man and bullock at 8 annas each.
(b) Harrowing	7·0	..	14	21·0	6·00	10 8 0	3 0 0	Seven days for seven harrowings with 1 man and 2 bullocks each day. Charges as above.
(c) Collecting stubbles .....	..	6	..	3·0	0·85	1 8 0	0 6 10	Women paid at 4 annas each.
Manure and manuring								
(a) Manures, F.Y.M. ....	..	..	..	..	..	19 8 0	5 9 1	For the whole plot 13 cart-loads of farm-yard manure at Rs. 1-8-0 per cart.
(b) Carting and spreading manure	12·5	..	7	19·5	5·55	9 12 0	2 12 7	Man and bullock at 8 annas each.

Seeds and sowing									
(a) Seeds .....	..	..	..	..	..	5 6 0	1 8 7	For the whole plot 40 lbs. of <i>jowar</i> seed worth Rs. 5-6-0.
(b) Sowing and covering	2·0	..	4	6·0	1·70	3 0 0	0 13 9	Man and bullock at 8 annas each.	
After-care									
(a) Watching .....	..	135	..	67·5	19·30	33 12 0	9 10 4	One woman for three months watched against birds and stray cattle. Second woman helped her for 6 weeks when more birds were attracted. Woman at 4 annas.
Harvesting, tying bundles, thrashing, winnowing and carrying home	34·0	52	19	65·5	18·70	38 4 0	10 14 10	Twenty-four man units at 10 annas each and the remaining at 8 annas each; Twenty women units at 6 annas each and the remaining 5 at 4 annas each; bullock at 8 annas each.	
Interest .....	..	..	..	..	..	6 2 0	1 12 0	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	21 0 0	6 0 0	The land was owned.
Total	67·5	166	68	218·5	62·40	166 12 0	47 8 7		

SHALT

STATEMENT 32—concl.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 3½ acres	Per acre	For 3½ acres	Per acre	
	Lbs.	Lts.	Rs. a. p.	Rs. a. p.	
<i>Jowar</i> (8 <i>pallas</i>)..	2,400	685·7	124 0 0	35 6 10	Valued at Rs. 15-8-0 per <i>palla</i> (300 lbs.).
<i>Kadbi</i>	1,000 bundles	86 bundles	60 0 0	17 2 3	Valued at Rs. 6 per 100 bundles (average weight of bundle 4 lbs.).
<i>Bhoos</i> .....	..	..	5 0 0	1 6 10	Estimated value.
Total....	..	..	189 0 0	53 15 11	

(c) Summary

	For 3½ acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	189 0 0	53 15 11
Expenditure	166 12 0	47 8 7
Profit.....	22 4 0	6 7 4

SHALU JOWAR—1½ acres in 1926-27

Place—Pimple

STATEMENT 33

PLOT No. (2Sj)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Preparatory tillage								
(a) Ploughing	4	..	12	16	10·7	8 0 0	5 5 4	Two days for one plough with 2 men and 6 bullocks each day. Man and bullock at 8 annas each.
(b) Harrowing	3	..	8	11	7·3	5 8 0	3 10 8	One harrowing with 4-bullock harrow and 3 with 2-bullock harrow. Charges as above.
(c) Collecting stubbles .....	..	4	..	2	1·3	1 0 0	0 10 8	Women at 4 annas each.
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	0 12 0	0 8 0	For the whole plot 7½ lbs. of jowar seed worth 12 annas.
(b) Sowing and covering	1	..	2	3	2·0	1 10 0	1 1 4	Man at 10 annas and bullock at 8 annas each.

SHALU

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STATEMENT 33—concl'd.

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ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
After-care						Rs. a. p.	Rs. a. p.	
(a) Watching	30	..	..	30	20·0	8 0 0	5 5 4	One old man at Rs. 8 per mensem was watching the plot for one month against birds.
Harvesting and preparing for market								
(a) Harvesting, thrashing, winnowing and carrying home ..	8	14	10	25	16·7	14 3 0	9 7 4	Men at 10 annas each; 11 woman units at 5 annas each and the remaining at 4 annas each; bullock at 8 annas.
(b) Tying bundles etc.	10	..	..	10	6·6	6 4 0	4 2 8	Contract labour engaged for tying bundles at Rs. 1-4-0 per 100 bundles.
Interest .....	..	..	..	..	..	1 8 0	1 0 0	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	7 8 0	5 0 0	The land was owned.
Total	56	18	32	97	64·6	54 5 0	36 3 4	

PRELIMINARY STUDIES OF IMPORTANT CROPS

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 1½ acres	Per acre	For 1½ acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Jowar</i>	780	520	41 9 7	27 11 9	Valued at Rs. 16 per <i>palla</i> (300 lbs.).
<i>Kadbi</i>	500 bundles	333 bundles	30 0 0	20 0 0	Valued at Rs. 6 per 100 bundles (average weight 1/3 of bundle 4 lbs.).
<i>Bhoos</i>			1 0 0	0 10 8	Estimated value.
Total.....			72 9 7	48 6 5	

(c) Summary

	For 1½ acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	72 9 7	48 6 5
Expenditure	54 5 0	36 3 4
Profit.....	18 4 7	12 3 1

SHALU

SHALU JOWAR—3 acres in 1927-28

STATEMENT 34

Previous crop—Bajri, 1926-27

PLOT No. (38j)

Place—Pimple.

(a) Cost of Production

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PRELIMINARY STUDIES OF IMPORTANT CROPS

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Preparatory tillage								
(a) Ploughing	10·0	..	30	40·00	13·3	20 0 0	6 10 8	One plough with 2 men and 6 bullocks took five days. Man and bullock units at 8 annas each.
(b) Harrowing	4·0	..	8	12·00	4·0	6 0 0	2 0 0	Four harrowings; one harrow worked four days. Labour charges as above.
(c) Collecting stubbles	3·0	7·5	..	6·75	2·2	3 13 6	1 4 6	Man at 8 annas and woman at 5 annas.
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	2 0 0	0 10 8	For the whole area 25 lbs. of jowar seed at 12½ lbs. per rupee.
(b) Sowing and covering	2·0	2·0	4	7·00	2·3	3 10 0	1 3 4	Man and bullock at 8 annas each and woman at 5 annas.

After-care										
No. 1 Bk Q 27-9	(a) Watching ..	54.0	..	27.00	9.0	10 12 9	3 9 7	2 women watched three acres for 27 days at Rs. 6 a month each.		
	Harvesting, tying, carting, breaking earheads and thrashing etc.	40.5	29.0	13	68.00	22.7	40 1 0	13 5 8	34 men at 10 annas and the remaining 6.5 men at 8 annas each. Woman at 5 annas, bullock labour at 8 annas.	
	Interest ..	..	..	..	..	..	3 10 1	1 3 4	Charged at 12 per cent per annum.
	Rent of land ..	..	..	..	..	..	15 0 0	5 0 0	The land was owned.
	Total.....	59.5	92.5	55	160.75	53.5	104 15 3	34 15 9		

SHALU

STATEMENT 34—concl'd.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 3 acres	Per acre	For 3 acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Jowar</i> (grain) ..	3,000	1,000	130 0 0	43 5 4	Valued at Rs. 13 per <i>palla</i> of 300 lbs.
<i>Kadbi</i>	900 bundles	300 bundles	40 0 0	13 5 4	
<i>Bhoos</i>			4 0 0	1 5 4	Estimated value.
Total.....			174 0 0	58 0 0	

(c) Summary

	For 3 acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income.....	174 0 0	58 0 0
Expenditure	104 15 0	34 15 9
Profit.....	69 0 9	23 0 3

SHALU JOWAR—1½ acres in 1927-28
 Previous crop—Bajri, 1926-27
 Place—Pimple.

STATEMENT 35

PLOT No. (4Sj)

(a) Cost of Production

NO-1 BK Q 27-9a

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Ploughing and cutting shrubs	5.5	..	15	20.50	13.7	10 4 0	6 13 4	Two and half days for one plough with 2 men and 6 bullocks each day. One man for half a day for cutting shrubs. Man and bullock at 8 annas each.
(b) Harrowing	2.5	..	5	7.50	5.0	3 12 0	2 8 0	Two and half days for four harrowings with 1 man and 2 bullocks each day. Charges as above.
(c) Collecting stubbles .....	..	8.0	..	4.00	2.6	2 8 0	1 10 8	Woman labour at 5 annas.
Manure and manuring								
(a) Manures, F.Y.M. ....	..	..	..	..	..	5 0 0	3 5 4	For 1½ acres 5 carts of farmyard manure (at Re. 1 a cart).
(b) Carting manure and spreading	1.0	2.0	2	4.00	2.7	2 2 0	1 6 8	Man and bullock at 8 annas each. Woman at 5 annas each.

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STATEMENT 35—concl'd.

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	1 8 0	1 0 0	For the whole area 15 lbs. of <i>jowar</i> seed at 10 lbs. per rupee.
(b) Sowing and covering	2·0	..	4	6·00	4·0	3 0 0	2 0 0	Man and bullock at 8 annas each.
After-care								
(a) Watching	30·0	..	..	30·00	20·0	8 0 0	5 5 4	One man watching the whole area for one month; man at Rs. 8 per mensem.
Harvesting, tying bundles, breaking earheads and thrashing etc.	7·0	22·5	7	25·25	16·8	16 6 0	10 14 8	Man and bullock labour at 8 annas each; 14 women at 6 annas, 4 women at 5 annas each and the remaining 4·5 women were paid in kind, the value of the total produce being Rs. 1-12-0. The total cost includes Rs. 1-2-0 paid for tying bundles.
Interest .....	..	..	..	..	..	2 9 0	1 11 4	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	7 8 0	5 0 0	The land was owned.
Total	48·0	32·5	33	97·25	64·8	62 9 0	41 11 4	

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 1½ acres	Per acre	For 1½ acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Jowar</i> (grain)....	1,102	734·7	47 12 0	31 13 4	Valued at Rs. 13 per <i>palla</i> of 300 lbs. The produce paid for woman labour engaged for harvesting is included in the outturn.
<i>Kadbi</i>	450 bundles	300 bundles	18 0 0	12 0 0	Valued at Rs. 4 per 100 bundles (average weight of bundle 6 lbs.).
<i>Bhoos</i>			1 0 0	0 10 8	Estimated value.
Total.....			66 12 0	44 8 0	

(c) Summary

	For 1½ acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	66 12 0	44 8 0
Expenditure	62 9 0	41 11 4
Profit.....	4 3 0	2 12 8

SHALU

Part III

STUDIES IN THE COST OF PRODUCTION OF IMPORTANT CROPS AT OZAR (DISTRICT NASIK), NARAYANGAON (DISTRICT POONA), AND MOHOL (DISTRICT SHOLAPUR), IN THE YEARS 1926-27 AND 1927-28

GENERAL

TABLE XIV—ACREAGE STUDIED IN THE THREE VILLAGES

Name of the village	No. of plots	Acreage
		A. g.
Ozar	8	23 25
Narayangaon	9	14 17
Mohol	4	54 20
Total	21	92 22

TABLE XV—ACREAGE AND CROPS STUDIED IN THE VILLAGES

Name of the crop	No. of plots	Acreage
		A. g.
<i>Shalu jowar</i>	4	54 20
Wheat	5	16 00
<i>Bajri</i>	2	8 26
Gram	2	2 25
Peas	1	0 35
Groundnut	5	8 16
Chillies	2	1 20
Total	21	92 22

Since the places named above are situated in different tracts under varying conditions, it is not thought desirable to group the studies by crops as is done in Part II. Studies of different crops are treated separately under each village for the facility of giving an idea of the soil, climate and economic conditions of these villages.

STUDIES AT OZAR

INTRODUCTORY

Between the years 1926-27 and 1927-28, three plots under wheat, two under *bajri* and three under groundnut, covering in all 23 acres and 25 gunthas, were costed at Ozar.

Ozar is a fairly large village in the Niphad Taluka of the Nasik District, about 12 miles to the north-east of the district headquarters on the Bombay-Agra road which passes through the city of Nasik. Kherwadi is the nearest railway station about four miles with which Ozar is connected by a good road.

The village is situated in the transition tract. The average annual rainfall, based on the figures of the last ten years (1919 to 1928), comes to 20 inches. Most of the rain is received from the south-west monsoon, from June to September. A small canal supplies water to about 8 per cent of the cultivated area of the village. The soil is good and retentive and consequently 45 per cent of the cultivated area is under *rabi* crops. The average cultivating holding comes to 24 acres and 4.26 gunthas. About 36 per cent of the holdings are below 5 acres and about 21 per cent between 5 to 10 acres. Cultivated area *per capita* comes to 2 acres and 6.6 gunthas.

Seasons.—Table XVI gives the fortnightly distribution of rainfall for the years under study.

1926-27.—The rainfall (19 inches) in the year was about the average. The *kharif* season may be called normal but the *rabi* was below average. The *kharif* crops had a good start, but later on the continuous rain in August and early part of September checked their growth. *Rabi* crops came up well; though later on they suffered on account of the frost.

1927-28.—The total rainfall was 50 per cent above the average. *Kharif* crops were good. Soon after the *rabi* crops were sown, there was more rain and the crops did not come up to the high expectations; they, however, proved normal.

TABLE XVI—RAINFALL (INCHES) AT OZAR IN 1926-27 AND 1927-28

Year	Jan.		Feb.		Mar.		Apr.		May		Jun.		Jul.		Aug.		Sept.		Oct.		Nov.		Dec.		Total
	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	
1926....	1.55	0.35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.73	0.70	3.02	1.23	1.95	2.16	3.23	0.55	0.46	0.03	0.0	0.0	0.0	0.05	19.01
1927....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.52	4.05	4.69	5.36	1.02	0.51	1.30	5.00	1.11	1.59	3.87	0.0	0.0	0.0	30.02

WHEAT

There was one plot in the year 1926-27 and two in the year 1927-28 under observations.

TABLE XVII—COMPARATIVE COSTS AND RECEIPTS OF WHEAT

Year	Plot		Yield per acre of grain	Value of total yield per acre	Cost of cultiva- tion per acre	Profit or loss
	No.	Area				
		A. g.	Lbs.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1926-27	Oz 1	4 00	204	20 8 0	17 10 3	2 13 9
1927-28	Oz 2	2 23	541	37 10 9	29 8 0	8 2 9
1927-28	Oz 3	3 00	644	44 5 4	26 15 3	17 6 1

Though the *rabi* rains in the year 1926-27 were not bad, the frost was responsible for the low yield. The price of wheat in the year, however, was better than in the year 1927-28. The outturn of plot Oz3 was better than that of plot Oz2, while there was not much difference in the costs of production; naturally the former plot left better profits.

The detailed statements of costs and receipts appear on pages 139 to 144.

WHEAT—4 acres in 1926-27
Previous crop—Bajri, 1925-26
 Place—OZAR

STATEMENT 36

PLOT No. (Oz1)

(a) *Cost of Production*

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Ploughing, harrowing and collecting stubbles.....	10	..	28	38	9.5	19 0 0	4 12 0	Twice ploughing and four times harrowing. Man and bullock at 8 annas each.
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	13 12 0	3 7 0	For 4 acres, 132 lbs. of wheat seed at Rs. 1-4-0 per 12 lbs.
(b) Sowing and covering	3	..	6	9	2.2	4 8 0	1 2 0	Man and bullock labour charged at 8 annas each per day.
Harvesting, tying, thrashing and preparing grain	8	18	7	24	6.0	11 8 0	2 14 0	Men and bullocks at 8 annas each per day. Women were paid in kind, the value of produce paid to them being Rs. 4.
Interest .....	..	..	..	..	..	1 13 0	0 7 3	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	20 0 0	5 0 0	The land was owned.
Total	21	18	41	71	17.7	70 9 0	17 10 3	

WHEAT

STATEMENT 36—concl'd.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 4 acres	Per acre	For 4 acres	Per acre	
Wheat (grain)....	Lbs. 816	Lbs. 204	Rs. a. p. 72 0 0	Rs. a. p. 18 0 0	Valued at Rs. 17 per <i>maund</i> (of about 192 lbs.). The value of the produce (viz., 48 lbs.) paid in kind for harvesting (valued at 12 lbs.) is included in the total receipts.
Straw and <i>bhoos</i>	..	..	10 0 0	2 8 0	Estimated value. (Harvest of the plot was 400 bundles. Approximate weight of the fodder was 3,000 lbs.)
Total.....	..	..	82 0 0	20 8 0	

(c) Summary

	For 4 acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	82 0 0	20 8 0
Expenditure	70 9 0	17 10 3
Profit	11 7 0	2 13 9

WHEAT—2 acres and 23 gunthas in 1927-28

Previous crop—Bajri, 1926-27

Place—Ozar

STATEMENT-37

PLOT No. (Oz2)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage (a) Ploughing, harrowing, etc.	22	..	44	66·0	25·6	Rs. a. p. 33 0 0	Rs. a. p. 12 13 0	Three ploughings and four harrowings. Man and bullock labour at 8 annas.
Seeds and sowing (a) Seeds .....	..	..	..	..	..	6 2 6	2 6 3	For two acres and 23 gunthas 72 lbs. of wheat seed at 12 lbs. per rupee, and safflower and mustard seed worth 2½ annas.
(b) Sowing and covering	4	..	8	12·0	4·7	6 0 0	2 5 3	Man and bullock labour charged at 8 annas.
Harvesting, tying, thrashing and preparing grain	15	7	9	27·5	10·7	13 7 0	5 3 6	Man and bullock units at 8 annas per day. Produce worth Rs. 1-7-0 was paid in kind to the women.
Interest .....	..	..	..	..	..	1 15 0	0 12 0	Charged at 12 per cent per annum.
Rent of land	15 7 2	6 0 0	The land was owned.
Total	41	7	61	105·5	41·0	75 15 8	29 8 0	

WHEAT

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STATEMENT 37—concl'd.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 2 acres and 23 gunthas	Per acre	For 2 acres and 23 gunthas	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
Wheat (grain) ..	1,344	522·0	84 0 0	32 10 0	Valued at Rs. 12 per maund of 192 lbs.
Safflower seed ..	25	9·7	2 0 0	0 12 5	Valued at 12½ lbs. a rupee.
Mustard seed ..	25	9·7	2 0 0	0 12 5	Valued at 12½ lbs. a rupee.
Wheat straw and <i>bhoos</i> ..	..	..	9 0 0	3 7 11	Estimated value. (Harvest of the plot was 350 bundles. Approximate weight of fodder 2,700 lbs.).
Total .....	..	..	97 0 0	37 10 0	

(c) Summary

	For 2 acres and 23 gunthas	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	97 0 0	37 10 9
Expenditure	75 15 8	29 8 0
Profit	21 0 4	8 2 9

WHEAT—3 acres in 1927-28

Previous crop—Bajri, 1926-27

Place—Ozar

STATEMENT 38

PLOT No. (Oz3)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage (a) Ploughing and harrowing ..	12	..	24	36·0	12·0	Rs. a. p. 18 0 0	Rs. a. p. 6 0 0	Two ploughings and three harrowings. Man and bullock at 8 annas. Four harrowings were given. Harrow required one man to manage. Man and bullock labour were charged as above.
Seeds and sowing (a) Seeds .....	..	...	..	..	..	12 12 0	4 4 0	
(b) Sowing and covering	6	..	12	18·0	6·0	9 0 0	3 0 0	For three acres 120 lbs. of wheat seed at Rs. 20 per <i>maund</i> of 192 lbs. and other seeds worth annas four. Man and bullock labour charged at 8 annas.
Harvesting, tying, thrashing and preparing grain	17	21	21	48·5	16·2	20 13 0	6 15 0	Man at 6, woman at 3 and bullock at 8 annas each per day.
Interest .....	..	..	..	..	..	2 4 9	0 12 3	Charged at 12 per cent per annum.
Rent of land	18 0 0	6 0 0	The land was owned.
Total.....	35	21	57	102·5	34·2	80 13 9	26 15 3	

WHEAT

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STATEMENT 38—concl'd.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 3 acres	Per acre	For 3 acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
Wheat (grain) ..	1,920·00	640·0	120 0 0	40 0 0	Valued at Rs. 12 per maund of 192 lbs.
Safflower seed ..	6·25	2·1	0 8 0	0 2 8	Valued at 12½ lbs. a rupee.
Mustard seed ..	6·25	2·1	0 8 0	0 2 8	Valued at 12½ lbs. a rupee.
Wheat straw and bhoots	..	..	12 0 0	4 0 0	Estimated value. (Harvest of the plot was 525 bundles. Approximate weight of fodder was 3,600 lbs.).
Total ....	..	..	133 0 0	44 5 4	

(c) Summary

	For 3 acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income....	133 0 0	44 5 4
Expenditure	80 13 9	26 15 3
Profit.....	52 2 3	17 6 1

BAJRI

There was one plot of *bajri* in 1926-27 and one in 1927-28 under observation.

TABLE XVIII—COMPARATIVE COSTS AND RECEIPTS OF BAJRI

Year	Plot		Yield per acre of grain	Value of grain and fodder per acre	Cost of production per acre	Profit per acre	Remarks
	No.	Area					
		A. g.	Lbs.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
1926-27	Oz 4	4 11	<i>Bajri</i> 283·5 <i>Tur</i> 112·2	33 10 2	14 15 4	18 10 10	Grain valued at Rs. 13 per 192 lbs.
1927-28	Oz 5	4 15	<i>Bajri</i> 614·0 <i>Tur</i> 175·0	46 15 5	18 11 1	28 4 4	Grain valued at Rs. 10 per 192 lbs.

In the year 1926-27 the rainfall was insufficient and hence the outturn was poor. In the year 1927-28 the yield was better but the price of grain was low. Though the outturn in the year 1927-28 was about double that of the year 1926-27, the value of the former was only about one and half times. In both the years the crops left good profits.

The statements of costs and receipts are given on pages (pp. 146-150).

STATEMENT 39

BAJRI—4 acres and 11 gunthas in 1926-27

Previous crop—Wheat, 1925-26

Place—Ozar

PLOT No. (Oz4)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Harrowing	4	..	8	12	2.8	6 0 0	1 6 6	Three harrowings were given. A harrow required 2 men and 4 bullocks. Man and bullock labour charged at 8 annas.
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	4 6 0	1 0 5	For 4 acres and 11 gunthas 18 lbs. of <i>bajri</i> seed at Rs. 1-4-0 per 12 lbs. and thirty lbs. of <i>tur</i> seed at 12 lbs. per rupee.
(b) Sowing and covering	2	2	4	7	1.6	3 10 0	0 13 6	Man and bullock labour charged at 8 annas and woman labour at 5 annas.
After-care and tillage								
(a) Interculturing	2	..	2	4	0.9	2 0 0	0 7 6	The plot was intercultured once. A hoe required 2 men and 2 bullocks. Man and bullock labour charged at 8 annas each per day.
Harvesting, tying, thrashing and preparing grain	12	26	16	41	9.6	20 8 0	4 12 8	Man and bullock labour at 8 annas and woman at 4 annas.
Interest .....	..	..	..	..	..	1 13 0	0 6 9	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	25 10 5	6 0 0	The land was owned.
Total	20	28	30	64	14.9	63 15 5	14 15 4	

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 4 acres and 11 gunthas	Per acre	For 4 acres and 11 gunthas	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
Bajri (grain)	1,212	283.5	82 1 0	19 3 1	Valued at Rs. 13 per maund of 192 lbs.
Tur (grain)	480	112.2	32 8 0	7 9 8	Valued at Rs. 13 per maund.
Bajri straw.....	550 bundles.	129 bundles.	19 4 0	4 8 0	Valued at Rs. 3-8-0 per 100 bundles (bundle weighed about 7 lbs.).
Bhoos .....	..	..	10 0 0	2 5 5	Estimated value.
Total ....	..	..	143 13 0	33 10 2	

(c) Summary

	For 4 acres and 11 gunthas	Per acre
	Rs. a. p.	Rs. a. p.
Gross income....	143 13 0	33 10 2
Expenditure	63 15 5	14 15 4
Profit.....	79 13 7	18 10 10

STATEMENT 40

BAJRI—4 acres and 15 gunthas in 1927-28

Previous crop—Wheat, 1926-27

PLOT No. (Oz5)

Place—Ozar

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Harrowing	8	..	16	24.0	5.5	11 0 0	2 8 3	Five harrowings were given. A harrow required 2 men and 4 bullocks. Man labour at 6 annas and bullock labour at 8 annas.
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	3 8 0	0 12 9	For the whole are 21 lbs. of <i>bajri</i> seed at 12 lbs. per rupee and 21 lbs. of <i>tur</i> seed at 12 lbs. per rupee.
(b) Sowing and covering	2	1	4	6.5	1.5	2 15 0	0 10 9	Man labour at 6 annas, woman labour at 3 annas and bullock labour charged at 8 annas.

After-care and tillage								
(a) Interplanting	6	..	6	12.0	2.7	5 4 0	1 3 2	Two hoeings were given. A hoe required 2 men and 2 bullocks. Man labour charged at 6 annas and bullock labour at 8 annas.
Harvesting, tying, thrashing and preparing grain	18	34	28	63.0	14.4	31 8 0	7 3 2	Man and bullock at 8 annas and woman at 4 annas each.
Interest .....	..	..	..	..	..	1 5 9	0 5 0	Charged at 12 per cent per annum.
Rent of land	26 4 0	6 0 0	The land was owned.
Total	34	35	54	105.5	24.1	81 12 9	18 11 1	

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STATEMENT 40—conold.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 4 acres and 15 gunthas	Per acre	For 4 acres and 15 gunthas	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Bajri</i> (grain)	2,688	614	140 0 0	32 0 0	Valued at Rs. 10 per maund of 192 lbs.
<i>Tur</i> (grain)	768	175	40 0 0	9 2 3	Valued at Rs. 10 per maund.
<i>Bajri</i> straw.....	600 bundles.	137 bundles.	18 0 0	4 1 9	Valued at Rs. 3 per 100 bundles.
<i>Bhoos</i> .....	..	..	7 8 0	1 11 5	Estimated value.
Total ....	..	..	205 8 0	46 15 5	.

(c) Summary

	For 4 acres and 15 gunthas	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	205 8 0	46 15 5
Expenditure	98 13 9	18 11 1
Profit	106 10 3	28 4 4

GROUNDNUT

There was one plot of country groundnut in the year 1926-27 and one each of country and Small Japan varieties in 1927-28. Table XIX gives the costs of production and receipts per acre.

TABLE XIX—COSTS AND RECEIPTS OF GROUNDNUT

Year	Plot No.	Area	Yield per acre	Value of main and by-products per acre	Cost of production per acre	Profit per acre	Remarks	
				Lbs.	Rs. a. p.	Rs. a. p.		Rs. a. p.
1926-27	Oz6	1 5	Groundnut pods ..	1,549 3	101 8 10	93 4 11	8 3 11	Variety, country; irrigated.
			Coriander seed ..	177 7				
1927-28	Oz7	1 17	Groundnut pods ..	598 6	70 7 2	64 13 9	5 9 5	" "
			Coriander seed ..	140 4				
1927-28	Oz8	2 34	Groundnut pods ..	1,431 0	68 12 4	63 15 3	4 13 1	Variety, Small Japan; without irrigation. #
			Coriander seed ..	8 7				

Two comparisons are possible; one between plot Nos. Oz6 and Oz7, under one variety but costed in different years, and the other between plot Nos. Oz7 and Oz8, under two different varieties, costed in the same year.

In the first comparison the variety is the same, i.e. the country groundnut. Both the plots were irrigated and the variation in the rainfall could not affect the yields; they had not received any manure and there was not much difference in the quality of the land. Plot No. Oz6 had, however, the advantage of more preparatory tillage and also of the residual manure given to the previous crop (sugarcane). Hence the yield of the plot was much better. It may, however, be noted that the produce of plot No. Oz6, being rather wet was sold cheap on the farm, whereas, in the year 1927-28 produce was held over and sold dearer, especially the coriander. The cost of cultivation of plot No. Oz6, due to the extra ploughings, was higher and hence there was not much difference in the profits of the two plots.

Plot Nos. Oz7 and Oz8 are of the same year. The former was in the *bagayat* land under the late variety and had to be irrigated; the latter was in *jirayat* land under early variety and was, moreover, manured. It may be noted that though the yield of groundnut in plot No. Oz8 was high, that of coriander, a costly produce, was low. The rent of the *jirayat* plot was also low and hence there is not much difference in the net incomes.

The details of costs and receipts are given in the following pages, under statements 41 to 43.

STATEMENT 41

GROUNDNUT (Country)—1 acre and
5 gunthas in 1926-27

Previous crop—Sugarcane, 1925-26

Place—Ozar

LOT No. (Oz8)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Ploughing	14	..	42	56.0	49.8	26 4 0	23 5 4	Three ploughings were given. Ploughing was done in hot season. Plough required two men and six bullocks. Man at 6 annas and bullock at 8 annas each per day.
(b) Breaking clods and harrowing	2	..	6	8.0	7.1	3 12 0	3 5 4	Breaking clods, six harrowings and levelling. Man and bullock labour charged as above.
(c) Collecting stubbles .....	..	8	..	4.0	3.5	1 8 0	1 5 4	Woman labour required for collecting sugarcane stubbles and charged at 3 annas per day.
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	7 12 0	6 14 3	For 1 acre and 5 gunthas 45 lbs. of kernals Rs. 6-12-0. Coriander and vegetable seeds Re. 1.
(b) Sowing, covering and making irrigation beds ..	3	5	6	11.5	10.2	5 1 0	4 8 0	Man at 6, woman at 3 and bullock at 8 annas each per day. Sowing was done behind the plough.

Irrigation								
(a) Labour	6	..	12	18·0	16·0	8 4 0	7 5 4	One watering from a well was given to the whole plot. Man labour charged at 6 annas and bullock labour at 8 annas.
After-care								
(a) Weeding .....	..	16	..	8·0	7·1	4 0 0	3 8 11	One weeding was given. Woman labour charged at 4 annas.
Harvesting and preparing for market	9	25	4	25·5	22·7	11 10 0	10 5 4	Man labour charged at 6 annas and bullock at 8 annas. Woman labour was paid in kind, the value of produce paid to them being Rs. 6-4-0.
Interest .....	..	..	..	..	..	3 0 6	2 11 1	Charged at 12 per cent per annum.
Rent of land	33 12 0	30 0, 0	The land was owned. (The land was <i>bagayat</i> having well irrigation.)
Total	34	54	70	131·0	116·4	104 15 6	93 4 11	

GROUNDNUT

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STATEMENT 41—concl'd.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 1 acre and 17 gunthas	Per acre	For 1 acre and 17 gunthas	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
Groundnut (pods)	1,743	1,549.3	76 4 0	67 12 5	Sold on the farm at Rs. 34 per <i>khandi</i> of 800 lbs. The out-turn includes the produce paid in kind for harvesting.
Vines			17 0 0	15 1 9	Estimated value.
Coriander seed	200	177.7	20 0 0	17 12 5	Value at 10 lbs. per rupee.
Vegetables			1 0 0	0 14 3	Estimated value.
Total ....	..	..	114 4 0	101 8 10	

(c) Summary

	For 1 acre and 17 gunthas	Per acre
	Rs. a. p.	Rs. a. p.
Gross income....	114 4 0	101 8 10
Expenditure	104 15 6	93 4 11
Profit	9 4 6	8 3 11

GROUNDNUT (Country)—1 acre and 17 gunthas
in 1927-28
Previous crop—Bajri, 1926-27
Place—Ozar

STATEMENT 42

PLOT No. (Oz7)

(a) *Cost of Production*

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Ploughing	4.5	..	9	13.5	9.5	6 12 0	4 11 9	Two light ploughings were given. A plough required 2 men and four bullocks. Men and bullocks at 8 annas each per day.
(b) Harrowing	3.0	..	6	9.0	6.3	4 8 0	3 2 6	Six harrowings were given. Man and bullock labour charged as above.
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	7 5 0	5 2 2	For the whole area 45 lbs. of groundnut seed at 10 lbs. per Rs. 1-8-0 and 3½ lbs. of coriander seed at 5 lbs. per 12 annas.
(b) Sowing, covering, making beds, etc.	3.0	3	6	10.5	7.4	5 1 0	3 8 10	Man and bullock labour at 8 annas and woman labour at 3 annas per day.

GROUNDNUT

STATEMENT 42—*concl'd.*

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PRELIMINARY STUDIES OF IMPORTANT CROPS

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Irrigation						Rs. a. p.	Rs. a. p.	
(a) Labour	2·0	..	..	2·0	1·4	1 0 0	0 11 3	One watering was given from canal; man labour charged at 8 annas.
After-care and tillage								
(a) Weeding .....	..	6	..	3·0	2·1	0 15 0	0 10 6	For the whole plot one weeding required 6 women who were paid at 2½ annas per woman.
Harvesting and preparing for market	3·0	48	6	33·0	23·1	15 12 0	11 0 9	Man and bullock units at 8 annas each. Forty-eight women were paid in kind, the value of produce paid to them being Rs. 11-4-0. Produce was carted to the village market for sale.
Interest .....	..	..	..	..	..	1 4 0	0 14 0	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	49 14 0	35 0 0	The land was owned. The rent includes the charges for water.
Total	15·5	57	27	71·0	49·8	92 7 0	64 13 9	

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 1 acre and 17 gunthas	Per acre	For 1 acre and 17 gunthas	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
Groundnut (pods).	853	598·6	47 6 3	33 4 1	Sold at 18 lbs. a rupee. The produce includes pods given in kind for harvesting.
Vines .....	..	..	13 0 0	9 2 0	Estimated value.
Coriander seed....	200	104·4	40 0 0	28 1 1	Valued at 5 lbs. per rupee.
Total....	..	..	100 6 3	70 7 2	

(c) Summary

	For 1 acre and 17 gunthas	Per acre
	Rs. a. p.	Rs. a. p.
Gross income....	100 6 3	70 7 2
Expenditure	92 7 0	64 13 9
Profit..	7 15 3	5 9 5

GROUNDNUT

GROUNDNUT (Small Japan)—2 acres
and 34 gunthas in 1927-28
Previous crop—Bajri, 1926-27
Place—Ozar

STATEMENT 43

PLOT No. (Oz8)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Ploughing	6	..	18	24.0	8.42	11 4 0	3 15 2	One plough with one man and 4 bullocks for 3 days and another with one man and 2 bullocks for 3 days. One operation; man labour charged at 6 annas and bullock labour at 8 annas per day.
(b) Harrowing	3	..	6	9.0	3.16	4 2 0	1 7 2	Labour rates as above.
Manure and manuring								
(a) Manures .....	..	..	..	..	..	45 0 0	15 12 7	For the plot, 30 carts of farmyard manure at Rs. 1-8-0 per cart, were given.
(b) Manuring	8	4	12	22.0	7.72	9 12 0	3 6 9	Labour required for carrying and spreading manure in the field. Man at 6, woman at 3 and bullock at 8 annas each per day.

Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	43 2 0	15 2 1	For the plot 2 <i>maunds</i> (384 lbs.) of ground-nut seed at Rs. 20 per <i>maund</i> and 25 lbs. of coriander seed at 2 annas per lb.
(b) Sowing and covering	6	14	12	25.0	8.77	10 14 0	3 13 1	Sowing was done in the furrows made by a plough. Man at 6, woman at 3 and bullock at 8 annas each per day.
After-care and tillage								
(a) Weeding	3	9	..	7.5	2.63	2 13 0	0 15 9	One weeding was given for the whole plot, man at 6 annas and woman at 3 annas per day.
Harvesting and preparing for market	5	113	3	64.5	22.63	31 10 0	11 1 6	Man labour charged at 6 annas and bullock at 8 annas each per day. All the woman labour paid in kind. The value of the produce paid to them being Rs. 28-4-0. Produce was carted to the village market for sale.
Interest .....	..	..	..	..	..	6 10 0	2 5 2	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	17 1 7	6 0 0	The land was owned (<i>jirayat</i> land).
Total	31	140	51	152.0	53.33	182 4 7	63 15 3	

GROUNDNUT

STATEMENT 43—concl'd.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 2 acres and 34 gunthas	Per acre	For 2 acres and 34 gunthas	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
Groundnut (pods).	4,080	1,431·0	177 0 0	62 1 8	Sold at Rs. 35 per <i>khandi</i> of 800 lbs. The outturn includes the produce paid in kind as wages for harvesting.
Vines .....	..	..	14 0 0	4 14 7	Estimated value.
Coriander seed ..	25	8·7	5 0 0	1 12 1	Valued at 5 lbs. a rupee.
Total..	..	..	196 0 0	68 12 4	

(c) Summary

	For 2 acres and 34 gunthas	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	196 0 0	68 12 4
Expenditure	182 4 7	63 15 3
Profit	13 11 5	4 13 1

STUDIES AT NARAYANGAON

INTRODUCTORY

Fourteen acres and seventeen gunthas of different crops were costed in the years 1926-27 and 1927-28. Of these, 3 acres were under groundnut, $1\frac{1}{2}$ acres under chillies, 35 gunthas under peas, 2 acres and 25 gunthas under gram and 6 acres and 17 gunthas under wheat.

Narayangaon is a large village in the Junnar Taluka of the Poona District, about 46 miles to the north of Poona City on the Poona-Nasik road. Another road joins Junnar, the *taluka* headquarters with Narayangaon. It is a big market place connected with the Konkan in the west, Sangamner in the north and Poona and Talegaon in the south. Recently, the motor traffic for passengers and garden produce has increased its importance.

The village lies in the transition tract, between the Maval and the Desh, but more towards the Desh tract. There is no raingauge at the place. The average rainfall must be about 20 inches; most of it is received between June and September. A small *bandhara*, on the river Mina on which the village is situated, provides water to a part of the village lands. The average holding comes to 8 acres and 37 gunthas, whereas, the cultivated area per capita comes to 1 acre and 26 gunthas.

Seasons.—The *kharif* season of 1926-27 was normal. *Kharif* crops were slightly spoiled by the September rains, though they were found useful for *rabi* sowing. In 1927-28 there was less rain as compared to the previous year, yet the distribution of it was better for *rabi* crops.

GROUNDNUT

There were two plots of unirrigated groundnut—one of Big Japan (a late variety) and another of Small Japan (an early variety)—in the year 1927-28. The land under Big Japan (Plot No. N1) was inferior and the variety being late there was not sufficient moisture in the soil at the time the pods were filling. Plot No. N2 was retentive and, moreover, the variety being early the crop ripened before there was shortage of moisture in the soil. As a result the plot left a good profit.

The following table gives the costs and receipts of the two plots per acre.

TABLE XX—COMPARATIVE COSTS AND RECEIPTS OF THE LATE AND EARLY GROUNDNUT

Plot No.	Variety	Yield (pods) per acre	Value of pods and vines per acre	Cost of cultivation per acre	Profit or loss per acre	Remarks
		Lbs.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
N1	Big Japan	420	20 0 0	23 1 9	- 3 1 9	Land inferior.
N2	Small Japan	1,920	84 0 0	66 12 7	+17 8 5	Land superior.

Details of costs and receipts are given under statements 44 and 45 on the following pages.

GROUNDNUT (BIG JAPAN)—2 acres in 1927-28

Previous crop—Jowar, 1926-27

Place—Narayangaon

STATEMENT 44

PLOT No. (N1)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage (a) Harrowing	2	..	4	6.0	3.00	Rs. a. p. 3 0 0	Rs. a. p. 1 8 0	Three harrowings were given. A harrow required one man and two bullocks. Man and bullock labour charged at 8 annas per day.
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	13 0 0	6 8 0	For 2 acres 182 lbs. pods of groundnut at 14 lbs. per rupee.
(b) Sowing and covering	2	16	2	12.0	6.00	5 0 0	2 8 0	Man and bullock labour charged at 8 annas and woman at 3 annas per day. Woman shelled and dibbled the seed.
After-care and tillage								
(a) Weeding .....	..	7	..	3.5	1.75	1 5 0	0 10 6	One weeding was given for the whole area. Woman labour charged at 3 annas per day.
Harvesting and preparing for market	3	50	4	32.0	16.00	12 14 0	6 7 0	Man and bullock labour at 8 annas and woman labour at 3 annas. Two men and four bullocks on harrow for one day. One man collected vines. Women gathered the crop.
Interest .....	..	..	..	..	..	1 0 6	0 8 3	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	10 0 0	5 0 0	The land was owned.
Total ..	7	73	10	53.5	26.75	46 3 6	23 1 9	

(b) Yield and Value

NAME OF PRODUCT.	Quantity		Value		REMARKS
	For 2 acres	Per acre	For 2 acres	Per acre	
Groundnut (pods)	Lbs. 840	Lbs. 420	Rs. a. p. 35 0 0	Rs. a. p. 17 8 0	Sold at 24lbs. a rupee. All the produce was sold on the farm.
Vines .....	....	....	5 0 0	2 8 0	Estimated value.
Total.....	....	....	40 0 0	20 0 0	

(c) Summary

	For 2 acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	40 0 0	20 0 0
Expenditure	46 3 6	23 1 9
Loss	6 3 6	3 1 9

GROUNDNUT

GROUNDNUT (SMALL JAPAN)—1 acre in 1927-28

Previous crop—Bajri, 1927-28

Place—Narayangaon

STATEMENT 45

PLOT No. (N2)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Cost per acre	REMARKS
	Men	Women	Bullocks			
Preparatory tillage					Rs. a. p.	
(a) Harrowing and levelling	1.5	..	3	4.5	2 4 0	Harrowing and levelling. Man and bullock labour charged at 8 annas a day.
Seeds and sowing						
(a) Seeds .....	..	..	..	....	9 4 6	Price of pods at 14 lbs. per rupee. (130 lbs. pods for the plot.)
(b) Sowing and covering	7.0	..	4	11.0	1 0 0	Shelling charges.
After-care and tillage					5 8 0	Dibbling after small ploughs. Man and bullock labour charged at 8 annas. Some men broke pods and prepared seed for sowing.
(a) Interculturing	4.0	..	4	8.0	4 0 0	Intercultured twice. Charges are above.
(b) Weeding .....	..	66	..	33.0	12. 6 0	Two weeding were given. Women were paid 3 annas each per day.
(c) Watching .....	..	32	..	16.0	6 0 0	Women charged at 3 annas each.
Harvesting and preparing for market	3.0	40	2	25.0	10 0 0	One man and two bullocks worked on the harrow for half a day; one man collected vines. Women gathered pods. One man and two bullocks spent half a day in carting produce. Men and bullocks at 8 annas each and women at 3 annas each.
Interest .....	..	..	..	....	1 6 1	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	....	15 0 0	The land was owned. Two-thirds of the rent is charged to groundnut and one-third to gram taken after groundnut in the same year.
Total ..	15.5	138	13	97.5	66 12 7	

(b) Yield and Value

NAME OF PRODUCT	Quantity	Value	REMARKS
	For one acre	For one acre	
	Lbs.	Rs. a. p.	
Groundnut (pods)	1,920	80 0 0	Sold at 24 lbs. per rupee. All the produce was sold on the farm.
Vines .....	....	4 0 0	Estimated value.
Total .....	....	84 0 0	

(c) Summary

	Per acre
	Rs. a. p.
Gross income	84 0 0
Expenditure	66 12 7
Profit	17 3 5

GROUNDNUT

CHILLIES

There were two plots (Nos. N3 and N4) under chillies in the year 1926-27. Plot No. N3 received irrigation from a well, while the other was irrigated by *bandhara* water. There was not much difference in the quality of land, the higher rent of plot N4 was due to the facility of *bandhara* irrigation. In fact, rent of that piece of land includes water cess. Irrigation cost of plot No. N3 came to about one-third the cost of production. In either case the land was owned and most of the man and bullock labour was supplied by the owners. In addition to the profits, therefore, they could save the land rent and larger part of wages.

TABLE XXI—COMPARATIVE COSTS AND RECEIPTS OF
CHILLIES PER ACRE

Plot No.	Yield per acre	Value of produce per acre	Cost of cultivation per acre	Profit per acre	Remarks
	Lbs.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
N3	977	165 5 6	133 13 7	31 8 0	Irrigated by <i>mhote</i> .
N4	922	173 8 0	137 0 0	36 8 0	Irrigated by <i>bandhara</i> water.

It will be noticed from the following detailed statements of costs and receipts that though plot No. N4 (on *bandhara* water) received better tillage and more manure it could not give more yield than plot No. N3, which received *mhote* water over which the farmer had better control.

Detailed statements of costs and receipts follow (Statements 46 and 47).

CHILLIES—1½ acre in 1926-27

Previous crop—Jowar (dry), 1925-26

Place—Narayangaon

STATEMENT 46

PLOT No. (N3)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage								
(a) Ploughing	6·0	..	24	30·0	24·0	15 12 0	12 0 0	Two ploughings were given. A plough required one man and four bullocks. Man and bullock labour charged at 8 annas.
(b) Harrowing	1·0	..	2	3·0	2·4	1 8 0	1 3 2	Two harrowings were given. A harrow required one man and two bullocks. Man and bullock labour charged as above.
(c) Making beds	1·5	..	1	2·5	2·0	1 4 0	1 0 0	Man and bullock labour charged as above.
Manure and manuring								
(a) Manure (F.Y.M.) .....	..	..	..	..	..	24 0 0	19 3 2	For the plot 12 carts of farmyard manure at Rs. 2 per cart.
(b) Carting manure and spreading	3·0	8	6	13·0	10·4	6 0 0	4 12 10	Man and bullock labour charged at 8 annas and woman labour at 3 annas.

CHILLIES

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STATEMENT 46—concl'd.

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PRELIMINARY STUDIES OF IMPORTANT CROPS

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Seeds, sowing and irrigation								
(a) Seedlings .....	..	..	..	..	..	7 0 0	5 9 7	Seedlings required for the whole area were purchased for Rs. 7.
(b) Transplanting .....	..	15	..	7.5	6.0	2 13 0	2 4 0	Woman labour was required for transplanting; they were paid at 3 annas each per day.
(c) Irrigation	31.5	..	83	114.5	91.6	57 4 0	45 12 10	Most often one man manages two <i>mholes</i> in the tract. The water in the well was deep. Man and bullock labour charged at 8 annas.
After-care and tillage—								
(a) Weeding .....	..	54	..	27.0	21.6	10 2 0	8 1 7	Three weedings were given. Women were paid at 3 annas a day.
(b) Harvesting, drying and carrying home .....	..	89	..	44.5	35.6	18 6 0	14 11 3	Sixty-two women were paid in cash at 3 annas each per day and the remaining 27 women were paid in kind, the value of produce paid to them being Rs. 6.12.0.
Interest .....	..	..	..	..	..	5 4 0	4 3 2	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	18 12 0	15 0 0	The land was owned.
Total	43.0	166	116	242.0	193.6	167 5 0	133 13 7	

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 1½ acres	Per acre	For 1½ acres	Per acre	
Chillies	Lbs. 1,222	Lbs. 977	Rs. a. p. 206 12 0	Rs. a. p. 165 6 5	Sold at different rates (varying from Rs. 35 to Rs. 50 per <i>palla</i>). The quantity paid in kind for labour engaged for harvesting is included in the out-turn.
Total ....	..	..	206 12 0	165 6 5	

(c) Summary

—	For 1½ acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	206 12 0	165 6 5
Expenditure.....	187 5 0	133 13 7
Profit.....	39 7 0	31 8 10

CHILLIES

STATEMENT 47

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CHILLIES—10 gunthas in 1926-27

PLOT No. (N4)

*Previous crop—Peas, 1925-26**(a) Cost of Production.*

Place—Narayangaon.

PRELIMINARY STUDIES OF IMPORTANT CROPS

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Preparatory tillage								
(a) Ploughing	2·0	..	8	10·0	40	5 0 0	20 0 0	Three ploughings were given. A plough required one man and four bullocks. Man and bullock labour charged at 8 annas.
(b) Harrowing and making beds	0·5	..	1	1·5	6	0 12 0	3 0 0	Three harrowings were given. A harrow required one man and two bullocks. Man and bullock labour charged as above.
Manure and manuring								
(a) Manures .....	..	..	..	..	..	10 0 0	40 0 0	For 10 gunthas 5 carts of farmyard manure was given. Manure is charged at Rs. 2 per cart.
(b) Manuring (carting and spreading)	1·0	1	2	3·5	14	1 11 0	6 12 0	Man and bullock labour charged at 8 annas and woman at 3 annas.

Seeds and sowing								
(a) Seedlings .....	..	..	..	..	..	1 8 0	6 0 0	For the plot, seedlings worth Rs. 1-8-0 were purchased from outside.
(b) Transplanting .....	..	5	..	2.5	10	0 15 0	3 12 0	Woman labour charged at 3 annas.
Irrigation								
(a) Labour	1.5	..	..	1.5	6	0 12 0	3 0 0	Five waterings were given from a <i>bandhara</i> distributory. Man labour charged at 8 annas.
After-care and tillage								
(a) Weeding .....	..	11	..	5.5	22'	2 1 0	8 4 0	Three weedings were given. Women were paid at 3 annas each.
Harvesting, drying and carrying home .....	..	20	..	10.0	40	4 2 0	16 8 0	Labour was paid in kind, the value of produce paid to them being Rs. 4-2-0.
Interest .....	..	..	..	..	..	1 3 0	4 12 0	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	6 4 0	25 0 0	The land was owned. Rent includes water cess.
Total	5.0	37	11	34.5	138	34 4 0	137 0 0	

STATEMENT 47—concl'd.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For $\frac{1}{4}$ acre	Per acre	For $\frac{1}{4}$ acr	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
Chillies	248	992	43 6 0	173 8 0	Sold at different rates (varying from Rs. 35 to Rs. 50 per <i>palla</i> of 120 <i>seers</i>) The quantity paid in kind for labour engaged for harvesting is included in the outturn.
Total ....	..	..	43 6 0	173 8 0

(c) Summary

	For $\frac{1}{4}$ acre	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	43 6 0	173 8 0
Expenditure	34 4 0	137 0 0
Profit	9 2 0	36 8 0

PEAS

Narayangaon possesses suitable conditions such as favourable climate and water supply, as also facilities of speedy transport (by motor service) for raising green peas for the Bombay market and the crop has become very popular with the farmers. The owner of the plot under study, however, kept his crop for seed to avoid the trouble of gathering and consigning small lots while the prices were low.

TABLE XXII—YIELD COST AND INCOME FROM PEAS

Plot No.	Yield per acre	Value of produce per acre	Cost of cultivation per acre	Profit per acre
	Lbs.	Rs. a. p.	Rs. a. p.	Rs. a. p.
N5	1,148	117 2 3	50 0 4	67 1 11

For a crop which is taken after *bajri*, in the same year and which provides congenial employment to the farm-family and bullocks, the profit is very good.

The following statement gives the details of the costs and receipts of the crop.

STATEMENT 48

PEAS—35 gunthas in 1926-27

Previous crop—Bajri, 1926-27

Place—Narayangaon

PLOT No. (N5)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Harrowing	1·0	..	2	3	3·4	1 8 0	1 11 5	Three harrowings were given. Man and bullock labour charged at 8 annas.
(b) Collecting and removing stubbles .....	..	6	..	3	3·4	1 2 0	1 4 7	Woman labour was required for collecting stubbles of the previous crop; charged at 3 annas per unit.
Seeds and sowing								
(a) Seeds.....	..	..	..	..	..	14 0 0	16 0 0	87·5 lbs. seed at 6½ lbs. per rupee.
(b) Sowing and covering	1·0	..	2	3	3·4	1 8 0	1 11 5	Man and bullock labour charged at 8 annas.
Irrigation								
(a) Labour.....	7·0	..	..	7	8·0	3 8 0	4 0 0	Seven waterings from a canal. Man labour charged at 8 annas each.

After-care and tillage								
(a) Weeding .....	..	12	..	6	6.9	2 4 0	2 9 2	One weeding required 4 women for three days. Woman labour charged at 3 annas per day.
Harvesting, thrashing, etc.	2.5	13	1	10	11.4	4 3 0	4 12 6	Man and bullock labour charged at 8 annas and woman labour at 3 annas.
Interest .....	..	..	..	..	..	1 2 0	1 4 7	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	14 9 3	16 10 8	Only two-thirds of annual rent is charged to peas and one-third to <i>bajri</i> , taken before peas in the same year. The rent includes the charges for water. The land was owned.
Total	11.5	31	5	32	36.5	43 12 3	50 0 4	

PEAS

STATEMENT 48—concl.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 35 gunthas	Per acre	For 35 gunthas	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
Peas (dry)	1,005	1,148·5	100 8 0	114 13 8	Sold at 10 lbs. per rupee.
Bhoos .....	..	..	2 0 0	2 4 7	Estimated value.
Total .....	..	..	102 8 0	117 2 3	

(c) Summary

	For 35 gunthas	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	102 8 0	117 2 3
Expenditure	43 12 3	50 0 4
Profit	58 11 0	67 1 11

GRAM

There were two gram plots under observation, in the year 1927-28. The total area of these plots was 2 acres and 25 gunthas. The yield of grain from these was 1,350 lbs. (or 514 lbs. per acre) and the total cost of production was Rs. 34-4-0. The value of the total produce being Rs. 71-4-0, there was a net profit of Rs. 37 (or Rs. 14-1-6 per acre). For a second crop, in the year, the income is not bad, taking into account the saving of rent on the land and wages of home labour.

TABLE XXIII—COST OF PRODUCTION AND RECEIPTS OF
GRAM PER ACRE

Plot No.	Yield per acre	Value of yield per acre	Cost of production per acre	Profit per acre
	Lbs.	Rs. a. p.	Rs. a. p.	Rs. a. p.
N6	553·8	29 3 7	12 11 8	16 7 11
N7	450·0	23 12 0	13 9 0	10 3 0

The following statements Nos. 49 and 50 give the details of costs and receipts of the two plots.

STATEMENT 49

GRAM—1 acre and 25 gunthas in 1927-28

Previous crop—*Bajri*, 1927-28

PLOT No. (N6)

Place—Narayangaon

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Harrowing	1	..	2	3·0	1·8	1 8 0	0 14 0	Harrowed three times. Man and bullock labour charged at 8 annas.
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	4 0 0	2 7 5	For the plot 40 lbs. of gram seed at 10 lbs. per rupee.
(b) Sowing and covering	2	..	2	4·0	2·5	2 0 0	1 3 8	The crop was sown behind a plough in the <i>bajri</i> stubble. Labour charges as above.
Harvesting, thrashing, etc.....	1	9	4	9·5	5·8	4 12 0	2 14 9	Man and bullock labour charged at 8 annas and woman labour at 4 annas a day.
Interest .....	..	..	..	..	..	0 5 0	0 3 1	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	8 2 0	5 0 0	The land was owned. One-third of the annual rent is charged to gram and two-thirds to <i>bajri</i> taken before gram in the same year.
Total.....	4	9	8	16·5	10·1	20 11 0	12 11 8	

(b) *Yield and Value*

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 1 acre and 25 gunthas	Per acre	For 1 acre and 25 gunthas	Per acre	
Gram	Lbs. 900	Lbs. 553.8	Rs. a. p. 45 0 0	Rs. a. p. 27 11 0	Valued at 20 lbs. per rupee. Estimated value.
Bhoos .....	..	..	2 8 0	1 8 7
Total.....	..	..	47 8 0	29 3 7

(c) *Summary*

	For 1 acre and 25 gunthas	Per acre
	Rs. a. p.	Rs. a. p.
Gross income.....	47 8 0	29 3 7
Expenditure	20 11.0	12 11 8
Profit	26 13 0	16 7 11

GRAM

STATEMENT 50

GRAM—1 acre in 1927-28

Previous crop—Groundnut, 1927-28

Place—Narayangaon

PLOT No. (N7)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Cost per acre	REMARKS
	Men	Women	Bullocks			
Seeds and sowing					Rs. a. p.	
(a) Seeds .....	..	..	..	..	3 0 0	For 1 acre 30 lbs. of gram seed at 10 lbs. per rupee.
(b) Sowing and covering	1	..	2	3·0	1 8 0	Sown behind plough. Man and bullock labour charged at 8 annas.
Harvesting, thrashing, etc.....	1	7	3	7·5	3 12 0	Man and bullock charged at 8 annas and woman at 4 annas.
Interest .....	..	..	..	..	0 5 0	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	5 0 0	The land was owned. One-third of the annual rent is charged to gram and two-thirds to groundnut taken before gram in the same year.
Total.....	2	7	5	10·5	13 9 0	

(b) *Yield and Value*

NAME OF PRODUCT	Quantity	Value	REMARKS
	For one acre	For one acre	
	Lbs.	Rs. a. p.	
Gram	450	22 8 0	Valued at 20 lbs. per rupee.
Bhoos .....	....	1 4 0	Estimated value.
Total.....	....	23 12 0	

(c) *Summary*

—	For 1 acre
	Rs. a. p.
Gross income.....	23 12 0
Expenditure	13 9 0
Profit.....	10 3 0

GRAM

WHEAT

There were two plots of wheat under study in the year 1927-28 with a total area of 6 acres and 17 gunthas. The grain yield from the area came to 2,520 lbs. (or 392 lbs. per acre). The total cost of production was Rs. 231-13-0. The value of the yield being Rs. 185-8-0, there was a loss of Rs. 46-5-0 (or Rs. 7-3-4 per acre). This, however, does not mean that the farmers were out of pocket, as the rent of the land and larger part of the wages were not to be actually paid.

The following table gives the cost of production and receipts per acre.

TABLE XXIV—COSTS OF PRODUCTION AND RECEIPTS OF WHEAT

Plot No.	Yield per acre	Value of yield per acre	Cost of production per acre	Profit or loss	REMARKS
	Lbs.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
N8	221·5	16 4 10	12 1 2	+ 4 3 8	Second crop in the year.
N9	450·0	33 2 0	44 3 3	-11 1 3	Sole crop of the year.

It is very interesting to compare the yields, costs, receipts and profits. It will be seen from the following detailed statements of costs and receipts of the two plots, that plot No. N8 was simply harrowed and sown after taking *bajri*, while plot No. N9 was fallow-ploughed in the *kharif* season and was moreover manured. Apart from the cost of ploughing and manuring, the plot had to bear the full rent of the year. Though the better preparation and manuring of plot No. N9 increased the outturn, the increase was not sufficient to cover the extra cost. It may, however, be borne in mind that such ploughing and manuring have beneficial effects on succeeding crops.

The following statements (Nos. 51 and 52) give the details of costs and receipts of these two plots.

WHEAT—1 acre and 25 gunthas in 1927-28

Previous crop—*Bajri*, 1927-28

Place—Narayangaon

STATEMENT 51

PLOT No. (N8)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Preparatory tillage								
(a) Harrowing	1.0	..	2	3.0	1.8	1 8 0	0 14 9	The field was twice harrowed. Man and bullock labour charged at 8 annas.
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	4 0 0	2 7 5	For the plot 40 lbs. of wheat seed at 10 lbs. per rupee.
(b) Sowing and covering	1.0	..	2	3.0	1.8	1 8 0	0 14 9	Man and bullock labour charged at 8 annas.
Harvesting, tying and thrashing etc.	1.5	8	3	8.5	5.3	4 4 0	2 9 10	Man and bullock labour at 8 annas and woman labour at 4 annas.
Interest .....	..	..	..	..	..	0 4 0	0 2 5	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	8 2 0	5 0 0	The land was owned. One-third of the annual rent was charged to wheat and two-thirds to <i>bajri</i> taken before wheat in the same year.
Total.....	3.5	8	7	14.5	8.9	19 10 0	12. 1 2	

WHEAT

STATEMENT 51—concl.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 1 acre and 25 gunthas	Per acre	For 1 acre and 25 gunthas	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
Wheat.....	360	221.5	24 0 0	14 12 3	Valued at 15 lbs. per rupee.
Straw and <i>bhoos</i>..	..	..	2 8 0	1 8 7	Estimated value.
Total.....	..	..	26 8 0	16 4 10	

(c) Summary

	For 1 acre and 25 gunthas	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	26 8 0	16 4 10
Expenditure	19 10 0	12 1 2
Profit.....	6 14 0	4 3 8

STATEMENT 52

WHEAT—4 acres and 32 gunthas in 1927-28

Previous crop—Bajri, 1926-27

Place—Narayangaon

PLOT No. (N9)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Preparatory tillage								
(a) Ploughing	19	..	58	77	16.0	38 8 0	8 0 4	Two ploughings were given for the whole plot. A plough required 1 man to manage. First ploughing was given with a 4-bullock plough and second with a 2-bullock plough. Man and bullock labour charged at 8 annas.
(b) Harrowing	4	..	8	12	2.5	6 0 0	1 4 0	Two harrowings were given. Man and bullock labour charged as above.
(c) Collecting stubbles .....	..	6	..	3	0.6	1 2 0	0 3 9	Woman labour charged at 3 annas per day.
Manure and manuring								
(a) Manures .....	..	..	..	..	..	44 0 0	9 2 8	For the plot 22 carts of farmyard manure at Rs. 2 per cart.
(b) Carting and spreading	9	4	8	19	4.0	9 4 0	1 14 10	Man and bullock labour charged at 8 annas and women at 3 annas.

WHEAT

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ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Seeds and sowing						Rs. a. p.	Rs. a. p.	
(a) Seeds .....	..	..	..	..	..	10 0 0	2 1 4	For the plot 100 lbs. of wheat seed at 10 lbs. per rupee.
(b) Sowing and covering	4	..	8	12	2.5	6 0 0	1 4 0	Man and bullock labour charged at 8 annas.
Harvesting, tying, thrashing, etc. and cleaning for market	15	26	10	38	7.9	19 0 0	3 15 4	Man and bullock labour charged at 8 annas and woman labour at 4 annas. Wheat bundles had to be carted to the thrashing floor.
Interest .....	..	..	..	..	..	6 5 0	1 5 0	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	72 0 0	15 0 0	The land was owned.
Total.....	51	36	92	161	33.5	212 3 0	44 3 3	

(b) Yield and Value

NAME OF PRODUCT	Quantity.		Value		REMARKS
	For 4 acres and 32 gunthas	Per acre	For 4 acres and 32 gunthas	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
Wheat (grain) ..	2,160	450	144 0 0	30 0 0	Valued at 15 lbs. per rupee.
Straw and bhoos ..	..	..	15 9 0	3 2 0	Estimated value.
Total....	..	..	159 0 0	33 2 0	

(c) Summary

	For 4 acres and 32 gunthas	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	159 0 0	33 2 0
Expenditure	212 3 0	44 3 3
Loss.....	53 3 0	11 1 3

WHEAT

STUDIES AT MOHOL

INTRODUCTORY

In the years 1926-27 and 1927-28, 54½ acres under *shalu* (*rabi jowar*) were costed at Mohol a large village in the Madha Taluka of the Sholapur District, on the junction of the Poona-Sholapur and the Mohol-Pandharpur roads. The village of Mohol is about 21 miles both from Sholapur and Pandharpur. It is a big primary market for *jowar*.

Mohol is in the *rabi* tract, getting about 26 inches of rainfall. Only the rainfall in the months of August, September and October is found effective for *rabi* crops. It is only occasionally that *kharif* rains are found sufficient and hence *kharif* crops are not taken except on very poor soils. *Kharif* rains in this tract are generally insufficient for cotton growing. The chief crop is *shalu* occupying, about 75 per cent of the cultivated area. The average cultivating holding at Mohol is about 29 acres. The climate is very good from November to May, though May and June are very hot. From May to February the farmers are well occupied. Lands are ploughed only occasionally as the soil cracks freely in the hot season. Moreover, the deep black soil in the tract is hard and it is found rather expensive to plough.

Seasons.—Table XXV shows the fortnightly distribution of rainfall for the years when the study was conducted.

Since there was no raingauge at Mohol before July 1926, figures of rainfall from Madha, a place about 15 miles from Mohol, are given for 1926. It may be noted that the rainfall in the year 1926 was most ill-distributed; more than half of the rainfall in the year was received in one fortnight. From the latter part of September till November there was no rain. The year 1927 was good except that there was too much rain in the first fortnight of November.

SHALU JOWAR

1926-27.—Two plots, measuring 27½ acres gave an outturn of 4,622 lbs. (or 168 lbs. per acre) of grain and 10,500 lbs. of *kadbi*, at a total cost of Rs. 378. The low yield was due to the unfavourable rainfall of the year. There was very little or no rainfall after September. The valuation of the crop, together with the value of fodder, being Rs. 399-5-3, the net profit came to Rs. 21-5-3 or Re. 0-12-5 per acre.

1927-28.—Two plots with an acreage of 27 acres yielded 5,696 lbs. (or 211 lbs. per acre) of grain and 16,600 lbs. of *kadbi*. The total value of the produce was Rs. 514-4-0, and the cost of production was Rs. 402-13-0. There was thus a net profit of Rs. 111-7-0 or Rs. 4-2-0 per acre.

TABLE XXV—RAINFALL (ACRE INCHES) OF 1926 AND 1927

Year	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Total	
	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II		
1926..	0·0	2·41	0·0	0·0	0·0	0·0	0·0	0·0	0·78	0·4	0·84	3·72	0·42	0·31	2·23	0·89	5·61	3·79	0·31	0·0	0·48	0·0	0·0	0·3	21·25	(record at Madha).
			Not available as there was no rain gauge										0·0	1·23	0·87	1·47	0·40	11·73	1·84	0·0	0·0	1·30	0·0	0·0	0·7	18·91	(at the Mohol farm from July to December.)
1927....	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·42	2·92	2·65	0·73	0·65	0·48	0·83	1·07	8·91	1·92	0·0	6·84	0·0	0·0	0·0	27·22	(at the Mohol farm).

SHALU JOWAR

All the four plots were owned and so the land rent, though charged was saved. Larger part of the labour was provided by the owners and hence the agricultural income cannot simply be gauged by the low profits. It may be noted that in this tract people follow more of extensive cultivation and farms are fairly large. If fields are levelled and moisture conserved, they should get about 400 lbs. of *shalu* grain in normal years.

TABLE XXVI--YIELDS, COSTS AND INCOME OF SHALU
JOWAR

Year	Plot No.	Area	Yield	Value of	Cost of	Profit or loss
			of grain per acre	grain and fodder per acre	production per acre	per acre
		A. g.	Lbs.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1926-27	M1	25 0	175	15 1 9	13 11 0	+1 6 9
	M2	2 20	95	8 10 1	14 6 6	-5 10 9
1927-28	M3	25 0	207	18 11 4	14 4 4	+4 7 0
	M4	2 0	259	23 3 0	23 0 6	+0 2 6

It may be seen that yields in the year 1927-28 were better than in the year 1926-27, when rainfall was insufficient in the month of October. It may further be noted that in each year larger plots have shown profits. The low incomes in the smaller plots are due to the proportionately higher costs, especially of watching the crop against birds.

The difference in the yields in the same year can also be explained. Taking plot Nos. M1 and M2 (of 1926-27) it will be seen from the statements 53 and 54, that a part of the plot M1 was ploughed and whole of it was hoed, whereas, plot M2 received neither ploughing nor hoeing. Perusal of the statements of the two plots M3 and M4 (in the year 1927-28) also shows why plot M4 gave more yield than M3. Whole of the plot M4 was ploughed, while about one-fourth of the plot M3 received ploughing. It must, however, be borne in mind that since the cost of ploughing is not repaid by the immediate extra outturn, and, since most farmers do not possess sufficient number of bullocks, lands are ploughed only occasionally.

The following are the statements of costs and receipts of the four plots discussed above (Statements Nos. 53 to 56).

JOWAR—25 acres in 1926-27
 Previous crop—Jowar, 1925-26
 Place—Mohol

STATEMENT 53

PLOT No. (M1)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Ploughing	26·0	..	52	78·0	3·1	39 0 0	1 9 0	One ploughing was given only for 6 acres. The plough required two men and four bullocks. Man and bullock labour charged at 8 annas each.
(b) Harrowing	38·0	..	104	142·0	5·7	71 0 0	2 13 5	Two harrowings were given with a 4-bullock harrow for the land which was not ploughed and three harrowings were given with a 2-bullock harrow for the whole area. Man and bullock labour charged as above.
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	12 0 0	0 7 8	For 25 acres 168 lbs. of jowar seed at 14 lbs. per rupee.
(b) Sowing and covering	10·5	..	16	26·5	1·1	13 4 0	0 8 6	Man and bullock labour is charged at 8 annas each. Part of man labour was required for cleaning and supplying seed to the sower.

SHALU JOWAR

STATEMENT 53—concl'd.

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ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
After-care and tillage								
(a) Interculturing	9·0	..	9	18·0	0·7	9 0 0	0 5 9	One hoeing was given. A set of hoes required 2 men and 2 bullocks. Man and bullock labour charged at 8 annas each.
(b) Watching	48·0	..	..	48·0	1·9	24 0 0	0 15 4	Two men were watching the whole plot for 24 days. Man labour charged at 8 annas.
Harvesting, tying, breaking earheads, thrashing, etc.	50·0	40	5	75·0	3·0	39 4 0	1 9 1	Bullocks charged at 8 annas each. Forty men were paid in cash at 8 annas each and the remaining 10 were paid in kind, the value of the produce paid being Rs. 4-4-0. All woman labour was paid in kind and the value of the produce paid was Rs. 12-8-0.
Interest .....	..	..	..	..	..	9 12 0	0 6 3	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	125 0 0	5 0 0	The land was owned.
Total	181·5	40	186	387·5	15·5	342 4 0	13 11 0	

PRELIMINARY STUDIES OF IMPORTANT CROPS

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 25 acres	Per acre	For 25 acres	Per acre	
<i>Jowar (grain)</i> ..	Lbs. 4,384	Lbs. 175.3	Rs. a. p. 208 12 0	Rs. a. p. 8 5 7	Valued at 21 lbs. a rupee. The produce paid for labour, engaged in harvesting, is included in the outturn.
<i>Kadbi</i>	4,000 bundles.	160 bundles.	160 0 0	6 6 5	
<i>Bhoos</i> .....	.....	.....	9 0 0	0 5 9	Estimated value.
Total ....	.....	.....	377 12 0	15 1 9	

(c) Summary

	For 25 acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	377 12 0	15 1 9
Expenditure	342 4 0	13 11 0
Profit.....	35 8 0	1 6 9

JOWAR—2½ acres in 1926-27

Previous crop—Jowar, 1925-26

Place—Mohol

STATEMENT 54

PLOT No. (M2)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Preparatory tillage								
(a) Harrowing	2.0	..	6	8.0	3.2	4 0 0	1 9 7	Two harrowings were given, one with a 4-bullock harrow and another with a 2-bullock harrow. The harrow required one man to manage. Man and bullock labour charged at 8 annas.
Seeds and sowing								
(a) Seeds.....	..	..	..	..	..	1 0 0	0 6 5	For 2½ acres 18 lbs. of jowar seed.
(b) Sowing and covering	1.5	..	3	4.5	1.8	2 4 0	0 14 4	Man and bullock labour charged at 8 annas.

After-care and tillage									
(a) Watching	24·0	..	..	24·0	9·6	12 0 0	4 12 10	One man was watching the whole plot for 24 days. Man charged at 8 annas per day.
Harvesting, tying bundles, thrashing, etc.	3·5	2	1	5·5	2·2	3 4 0	1 4 10	Three men at 10 annas and $\frac{1}{2}$ man at 8 annas a day. Bullock labour at 8 annas; women were paid in kind, the value of the produce paid to them being 10 annas.	
Interest .....	..	..	..	..	..	0 12 0	0 4 10	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	12 8 0	5 0 0	The land was owned.
Total.....	31·9	2	10	42·0	16·8	35 12 0	14 4 10		

STATEMENT 54—concl'd.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 2½ acres	Per acre	For 2½ acres	Per acre	
<i>Jowar</i>	Lbs. 238	Lbs. 95	Rs. a. p. 11 5 3	Rs. a. p. 4 8 6	Valued at 21 lbs. per rupee. The produce paid in kind for labour engaged for harvesting is included in the outturn.
<i>Kadbi</i>	200 bundles.	80 bundles.	8 0 0	3 3 2	
<i>Bhoos</i> .....	.....	.....	0 4 0	0 1 7	Valued at Rs. 4 per 100 bundles. (Bundles weighed between 2 and 3 lbs.) Estimated value.
One acre used for grazing .....	.....	.....	2 0 0	0 12 10	
Total.....	.....	.....	21 9 3	8 10 1	The area of the plot was 2½ acres out of which only 1½ acres could be harvested. The crop on the remaining one acre failed for want of moisture in the soil and cattle were allowed to graze on this area. The value of grazing is estimated at Rs. 2.

(c) Summary

	For 2½ acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	21 9 3	8 10 1
Expenditure	35 12 0	14 4 10
Loss.....	14 2 9	5 10 9

JOWAR—25 acres in 1927-28

Previous crop—Jowar, 1926-27

Place—Mohol

STATEMENT 55

PLOT No. (M3)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
Preparatory tillage								
(a) Ploughing.....	36	..	92	128	5.12	52 8 0	2 1 7	One ploughing was given only for 8 acres. One plough with 2 men and 4 bullocks for 8 days and another with 2 men and 6 bullocks for 10 days. Man at 8 annas and bullock at 6 annas a day.
(b) Harrowing.....	40	..	80	120	4.80	50 0 0	2 0 0	Six harrowings were given for the whole area. A harrow required one man and 2 bullocks. For 4 days one additional man was required. Man and bullock labour charged as above.
Seeds and sowing								
(a) Seeds.....	..	..	..	..	..	7 0 0	0 4 6	For 25 acres 126 lbs. of jowar seed at 18 lbs. per rupee.
(b) Sowing and covering	20	..	32	52	2.08	22 0 0	0 14 1	Man at 8 annas and bullock at 6 annas per day.

SHARU JOWAR

STATEMENT 55—concl'd.

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women	Bullocks					
						Rs. a. p.	Rs. a. p.	
After-care and tillage								
(a) Interculturing	10	..	10	20	0·80	8 12 0	0 5 7	The plot was hoed once; for 2 men and 2 bullocks it took five days to hoe the whole area. Man and bullock labour charged as above.
(b) Watching	60	..	..	60	2·40	20 0 0	0 12 10	2 men were watching the field for one month. Each man charged at Rs. 10 per mensem.
Harvesting, tying, breaking earheads, thrashing, etc.	66	50	8	99	3·96	61 10 0	2 7 5	Bullocks are charged at 6 annas each; 24 men at 12 annas, 24 men at 10 annas and the remaining 18 men at 8 annas each. All the woman labour was paid in kind, the value of the produce paid to them being Rs. 16-10-0.
Interest .....	..	..	..	..	..	9 14 0	0 6 4	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	125 0 0	5 0 0	The land was owned.
Total.....	232	50	222	479	19·16	356 12 0	14 4 4	

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 25 acres	Per acre	For 25 acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Jowar</i> (grain).....	5,178	207.1	258 14 0	10 5 7	Valued at 20 lbs. per rupee. The produce paid for labour engaged for harvesting is included in the out-turn.
<i>Kadbi</i>	5,000 bundles.	200 bundles.	200 0 0	8 0 0	Valued at Rs. 40 per 1,000 bundles (bundle weighed about 3 lbs.)
<i>Bhoos</i> .....	..	..	9 0 0	0 5 9	Estimated value.
Total. ....	..		467 14 0	18 11 4	

(c) Summary

	For 25 acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income.	467 14 0	18 11 4
Expenditure.....	356 12 0	14 4 4
Profit.....	111 2 0	4 7 0

STATEMENT 56

JOWAR—2 acres in 1927-28

Previous crop—Jowar, 1926-27

Place—Mohol

PLOT No. (M4)

(a) Cost of Production

ITEM OF EXPENDITURE	Labour units			Total units	Units per acre	Total cost	Cost per acre	REMARKS
	Men	Women or boys	Bullocks					
Preparatory tillage						Rs. a. p.	Rs. a. p.	
(a) Ploughing	10	..	30	40	20.0	16 4 0	8 2 0	One ploughing was given. The plough required 2 men and 6 bullocks. Man labour at 8 annas and bullock labour at 6 annas per day.
(b) Harrowing	3	..	6	9	4.5	3 12 0	1 14 0	Four harrowings were given. The harrow required 1 man and 2 bullocks. Man and bullock labour charged as above.
Seeds and sowing								
(a) Seeds .....	..	..	..	..	..	0 8 0	0 4 0	For 2 acres 7½ lbs. of jowar seed.
(b) Sowing and covering	2	..	3	5	2.5	2 2 0	1 1 0	Man at 8 annas and bullock at 6 annas per day.

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After-care and tillage								
(a) Interculturing	1	..	2	3	1.5	1 4 0	0 10 0	One hoeing was given which required 1 man and 2 bullocks. Man and bullock labour charged as above.
(b) Watching .....	..	30 boys.	..	15	7.5	7 0 0	3 8 0	One boy at Rs. 7 per mensem was watching the whole plot for one month.
Harvesting, tying, breaking earheads, thrashing, etc.	4	4 women.	1	7	3.5	3 10 0	1 13 0	Bullock labour charged at 6 annas a day. 2 men were paid at 10 annas each, the remaining 2 men and 4 women were paid in kind, the value of the produce paid to them being Rs. 2 only.
Interest.....	..	..	..	..	..	1 9 0	0 12 6	Charged at 12 per cent per annum.
Rent of land .....	..	..	..	..	..	10 0 0	5 0 0	The land was owned.
Total.....	20	34	42	79	39.5	46 1 0	23 0 6	

SHALU JOWAR

STATEMENT 56—concl.

(b) Yield and Value

NAME OF PRODUCT	Quantity		Value		REMARKS
	For 2 acres	Per acre	For 2 acres	Per acre	
	Lbs.	Lbs.	Rs. a. p.	Rs. a. p.	
<i>Jowar</i>	518	259	25 14 0	12 15 0	Valued at 25 lbs. per rupee. The amount paid in kind for labour engaged for harvesting is included in the out-turn.
<i>Kadbi</i>	400 bundles.	200 bundles.	20 0 0	10 0 0	Valued at Rs. 5 per 100 bundles. (Bundle weighed about 4 lbs.).
<i>Bhoos</i> .....	..	..	0 8 0	0 4 0	
Total....	..	..	46 6 0	23 3 0	

(c) Summary

	For 2 acres	Per acre
	Rs. a. p.	Rs. a. p.
Gross income	46 6 0	23 3 0
Expenditure	46 1 0	23 0 6
Profit....	0 5 0	0 2 6

GLOSSARY

I. CROPS AND PLANTS

<i>Bajri</i>	A small millet (<i>Pennisetum typhoideum</i>).
Bhendi.....	Lady's finger (<i>Hibiscus esculentus</i>).
Chillies.....	(<i>Capsicum frutescens</i>).
Dudhya.....	Bottle gourd (<i>Lagenaria leucantha</i>).
Gram.....	Chick pea (<i>Cicer arietinum</i>).
Groundnut.....	Earthnut, peanut (<i>Arachis hypogaea</i>).
Gul.....	Unrefined Indian sugar; jaggery.
Hulga.....	Horse gram (<i>Dolichos biflorus</i>).
Jowar.....	The large millet (<i>Andropogon sorghum</i>).
Khira.....	Cucumber (<i>Cucumis sativus</i>).
Matki.....	The kidney bean (<i>Phaseolus aconitifolius</i>).
Mug.....	Green gram (<i>Phaseolus mungo</i>).
Nilva.....	A variety of kharif jowar grown in the Deccan, more for fodder.
Peas.....	<i>Pisum sativum</i> .
Shalu.....	Rabi or winter jowar.
Sugarcane.....	<i>Saccharum officinarum</i> .
Tur.....	A pulse (<i>Cajanus indicus</i>).
Udid.....	A pulse (<i>Phaseolus radiatus</i>).
Wheat.....	<i>Triticum sp.</i>

II. WEIGHTS, MEASURES, ETC.

Anna.....	One-sixteenth of a rupee; equivalent to $1\frac{1}{2}$ d. at exchange rate of one and six pence to the rupee.
Bhargadi.....	<i>Gul</i> from sixteen boilings of sugarcane juice—for four days output. A <i>bhargadi</i> weighs about 3,500 lbs. of <i>gul</i> near Poona.
Guntha.....	One-fortieth of an acre.
Khandi.....	A measure of weight and capacity which varies according to the commodity; varies for the same commodity in different localities; for cotton lint 784 lbs. in Bombay.
Map.....	A measure of capacity which varies in weight according to the commodity. A <i>map</i> of grains weighs as follows in East Khandesh:— Wheat = 768 lbs. <i>Bajri</i> = 720 „ <i>Jowar</i> = 672 „
Maunder.....	A measure of capacity and weight varying in different localities.
Palla.....	A measure of capacity or weight, usually 240 lbs.

Payali.....	A measure of capacity, which varies in weight for different commodities; 4 <i>seers</i> (capacity) make one <i>payali</i> ; a <i>payali</i> will be approximately equal to 10 lbs. of cereals.
Pie.....	One-twelfth of an <i>anna</i> .
Rupee.....	A silver coin of the value of one shilling and six pence.
Seer.....	A varying measure of weight and capacity usually 2·057 lbs.

III. MISCELLANEOUS

Annewari.....	Crop estimate in terms of <i>annas</i> (one <i>anna</i> being one-sixteenth of a rupee).
Adat.....	Commission or brokerage.
Bagayat (land).....	Garden land.
Bandhara.....	A small embankment across a stream for irrigation purposes.
Bazar kasar.....	Discount deducted by the purchaser for paying cash without enjoying the period allowed by the market custom.
Bhoos.....	Any powdered fodder, husk, chaff, etc.
Bullock unit.....	Average amount of work accomplished by one bullock in one day (of about 10 hours).
Deccan.....	Tract of the Bombay Presidency, Ahmednagar, Nasik, Poona, Satara and Sholapur Districts.
Dalal.....	Commission agent or broker.
Dalali.....	Commission or brokerage.
Desh.....	The <i>Desh</i> tract comprises the eastern parts of Belgaum, Satara, Poona and Nasik Districts, together with the whole of Ahmednagar, Sholapur, Bijapur and almost the whole of Dharwar District.
Dharmadaya.....	Deductions made for charities in marketing of produce.
District.....	Revenue division or a collectorate.
Gurhal.....	The shed where <i>gul</i> boiling is done. It also means the operation of harvesting cane and making <i>gul</i> .
Jirayat.....	Rainfed; not artificially irrigated.
Kadbi.....	<i>Jowar</i> straw.
Kadta.....	Deduction in the actual weight or fixed price of any commodity sold.

Kharif (season).....	Monsoon (season).
Man unit.....	Average amount of work accomplished by one man in a day (of about 10 hours).
Maval.....	Hilly western tract of the Desh getting sufficient kharif rainfall.
Mhote.....	The leather or iron vessel drawn by bullocks for lifting water from a well.
Rabi (season).....	Winter (season).
Saldar or Salkari.....	An agricultural labourer engaged for the year.
Sarmad.....	<i>Bajri</i> straw.
Savkar.....	A money-lender.
Shikari.....	A hunter, huntsman.
Taluka.....	Local revenue division of a district.

ABBREVIATIONS.

F. Y. M.....	Farmyard manure.
L. F. C.....	Local-fund cess.
Rs. a. p.....	Rupees, annas and pies.
Lbs.....	Pounds.
A. g.....	Acres and gunthas.
P. M.....	Per mensem.
%.....	Per cent.
P. C.....	Per cent.

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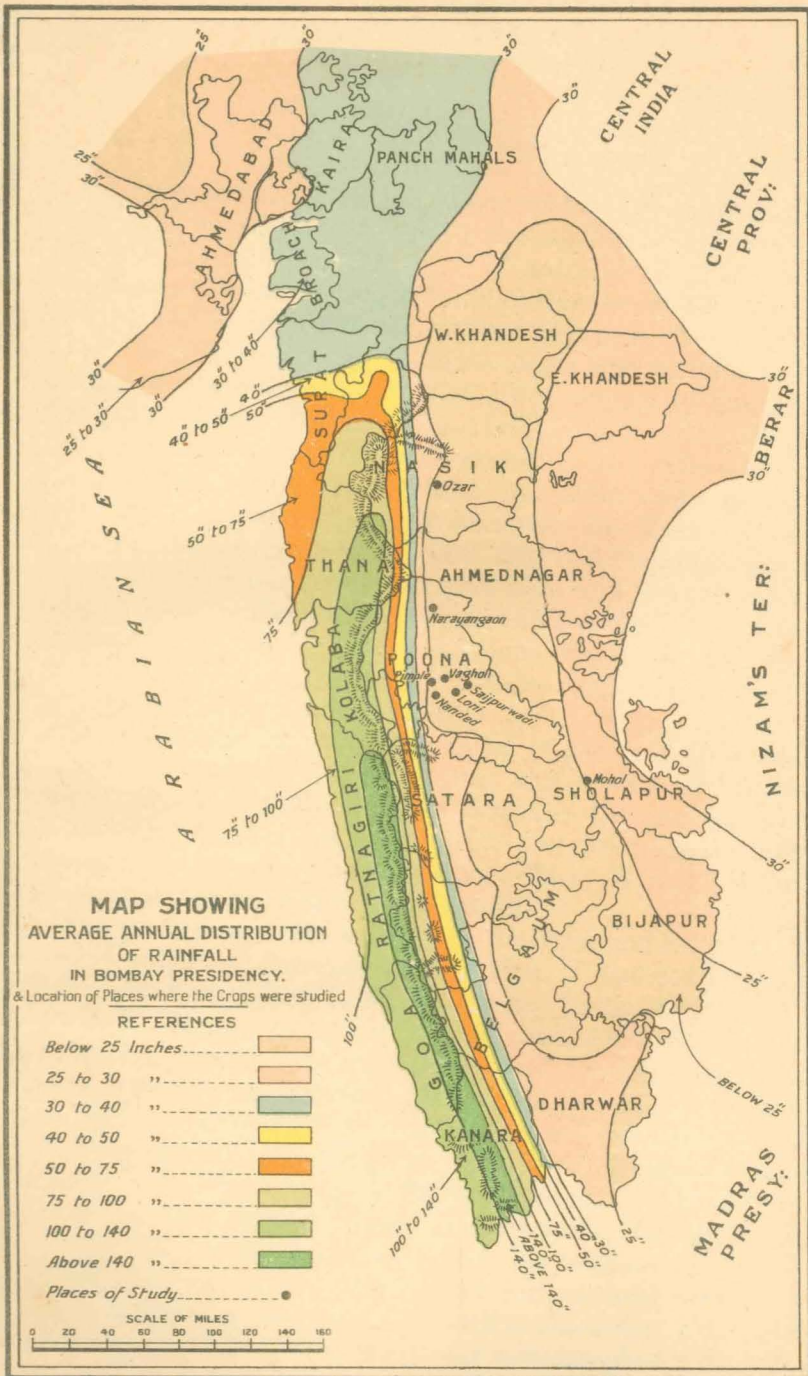
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Actual payment in cash, and when part or the whole of the payment is made in kind, its value is charged against the crops on which such labour was used. In the Deccan, especially near Poona, labour is paid in cash. The labour of the farmer and of the other members of his family is charged at the current rates for agricultural work in the village.

As regards payment to *balutedars*, it was not possible to get the actual amounts paid and so they had to be left out in the calculation of cost. But as they have also not been included in the calculation of the outturns, the results are not affected. A man unit is the amount of labour accomplished by one man (or two women or two boys) in one day of about 10 hours.

Daily cost of bullock labour is calculated taking into account the fodder and feed given, together with the depreciation and interest on the value of the animals. In working depreciation, credit is given for the value of the manure produced. Total cost on account of the bullocks, divided by the number of working days, is the daily charge. Bullock labour used for each crop and plot was recorded at the time of the bi-weekly visits of the investigators. When bullocks were hired actual charges paid were debited to the crop.

Charges for equipment are only made in the case of sugarcane where costly equipment is required. The hire of ploughs is included in the contract rate paid for ploughing. Hire of mills, pans, juice-tanks, etc., required for *gul* making is included in the costs. Similarly, charges for furnace and *gurhal* shed are also included. In the case of other crops, where very little capital is invested in implements no note is taken of such petty charges. Unless the whole business of the farmer is studied there is no basis for allocating such charges on the part studied.

The price of manure and seed purchased is debited to the crop. Manure and seed produced on the farm and seed are charged at current rates.

Near Poona the rent of land and canal water cess are charged separately. Local-fund cess on water charges is included along with water assessment. On minor canals water cess goes with land assessment and both, therefore, are

¹ Memoir 22 of 1919, Cornell University, An analysis of the Cost of growing Potatoes, by D. S. Fox, pp. 544 and 555.

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² App Frank, Farm Economics, 1924, p. 463.

crops ; also the late rains were inadequate for the *rabi* crops. In the year 1926-27 and 1927-28 it was too wet for sowing *bajri* in July and the excessive rains of September were harmful to the *kharif* crops. Too much of early rains in 1927-28 spoiled the *kharif* harvests. These two years on the whole were good for *rabi* crops, especially the year 1927-28.

The following table shows the crops and the acreage costed.

TABLE V—CROPS, PLOTS AND ACREAGE

Name of crop	No. of plot	Area		Remarks
		A.	g.	
Sugarcane	8	16	0	On the perennial canal.
<i>Bajri</i>	4	4	32	Unirrigated in the sugarcane-zone.
<i>Bajri</i>	11	2	20	Unirrigated in the dry-zone.
<i>Nilwa</i>	3	10	10	Irrigated and unirrigated.
Gram	5	5	10	Unirrigated.
<i>Shahu jowar</i>	4	9	20	Unirrigated.
Total ..	35	98	12	

SUGARCANE

During the years 1925-26, 1926-27 and 1927-28 eight plots of sugarcane were costed at Nanded, 10 miles from Poona on the Poona-Khadakwasla road. All the plots received perennial canal water. Irrigators in the village generally take some catch-crops like *bhendi*, *khira* and other green vegetables with the main crop of sugarcane while the latter is young. After sugarcane the land is put to some dry-crop like *bajri* or *dudhya*.

It may be remembered that the cost of production includes not only the out-of-pocket expenses but also the wages of home labour and the rent of land, whether owned or taken on lease.

Table VI gives an abstract of the costs and receipts of sugarcane, based on statements 1 to 8 (pp. 23 to 55).

The table is self explanatory. It may, however, be noted that the gross value of the produce as well as the aggregate cost of production went down, the former because the price of *gul* was falling and latter because it did not pay the farmer to spend more, when *gul* was very cheap. As a result farmers have been reducing the quantity of manure. Rents also show a falling tendency. The average rents per acre in the years 1925-26, 1926-27 and 1927-28 were Rs. 82, 62 and 35 respectively.