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of this is a stiff competition between the landless labourers and the part-time labourers which depresses the scope of employment of both.

For a real readjustment of this state of affairs at least the subsistence level of holding should be given to each cultivator as his own and not as a share-cropper. This will immediately put him into a comparatively secure position, release the pressure he exerts on the labour market. This will also put an end to the parasitical form of exploitation going on under the share-cropping system.

THE PROBLEM OF LOW INCOME FARMER

by

G. D. AGRAWAL

Agricultural College, Kanpur.

Low-Income Farmers

Family farm is the most predominating organisational feature of Indian agriculture. Most of the farm operations are performed by family labour, hired labour being employed only during seasonal rush for agricultural work. Therefore, Farm Business Income,* instead of profit in the commercial sense, is a fair criterion for determining whether a farmer belongs to the low income group. Those farmers, who earn very low Farm Business Income, which is insufficient or just sufficient to maintain their families on a standard of living considered low even according to Indian standards, may be said to constitute the low income group in India.

The results of a study of the farm business income of 53 farmers, in different regions of the U.P., are summarised in Table No. 1. In case No. 1, the results refer to 22 farmers in East U.P. where the average annual rainfall is 44", and the main crops are paddy, small millets, sugarcane, barley, pea and arhar. Paddy is grown mostly without irrigation while sugarcane, barley and pea are raised with the help of well and tank irrigation. Case No. 2 refers to 6 farmers in a village situated at a distance of 2 miles from the city of Kanpur. Mostly vegetables are raised with the help of canal irrigation. The cultivation is rather intensive,

* "Includes profits in the business sense of the term, earnings of the family labour, the unpaid amount of the interest on account of the owned capital and the difference between the estimated rent and the actual revenue paid, in case the land is owned."

although manures are not applied in adequate quantity. Case Nos. 3 and 4 deal with 25 farmers in West U.P., where the average annual rainfall is 28". Sugarcane and wheat are the main crops. In case No. 3 the irrigation is from tubewell and in case no. 4 it is from canal. The study relates to the year 1948-49 which on the whole, has not been a good one agriculturally and the production has been slightly below normal.

TABLE No. I
Farm Business Income on 53 holdings in U.P. in 1948-1949

Size of Holdings	Average area per Holding	Profits	Family Labour Income	Farm Business Income		Family Expenses
				Total	From Milch Cattle	
	Acres	Rs.	Rs.	Rs.	Rs.	Rs.
<i>Case No. I</i>						
Less than 1 acre :						
(a)	0.39	(—) 6	13	22*	—	300
(b)	0.62	(—) 126	96	139**	—	391
Between 1 to 2 acres :						
(a)	1.00	30	114	142*	—	481
(b)	1.74	(—) 71	226	292	17	493
2 to 5 acres	3.20	(—) 118	347	519	76	683
5 to 10 acres :						
(a)	7.75	481	529	773***	85	2076
(b)	5.23	194	660	931	80	1188
(c)	8.25	370	754	889	—	896
Above 10 acres	12.50	571	673	1071xxx	100	1351
<i>Case No. II</i>						
Less than 1 acre	0.81	51	303	316x	—	549
Between						
1 to 2 acres	1.70	274	377	396	—	722
2 to 5 acres	4.33	518	595	626	—	856
5 to 10 acres	5.54	550	1031	1145	—	1165
<i>Case No. III</i>						
Between						
2 to 5 acres	3.3	(—) 454	70	120	—	704
5 to 10 acres	7.01	472	1111	1166	—	1005
Above 10 acres :						
(a)	11.0	1212	3281	3403	—	1151
(b)	26.0	2940	3308	3473	—	1210
<i>Case No. IV</i>						
Between						
2 to 5 acres	2.96	97	539	669	—	Not available
5 to 10 acres	7.22	62	735	1079	—	
Above 10 acres	16.42	1916	3134	3790	—	

@ Rounded upto rupees

xx With one bullock.

0 Without bullocks.

xxx Family labour is not used.

If the cost of living of an average family with 3 adults and 2 children for a year is assumed to be Rs. 700/-*, which includes the expenses for a bare existence only in the present day purchasing power of money, the figures in Table No. 1 make it clear that the families, with holdings of less than 5 acres, belong to the low income class of farmers in all the cases studied in this paper.

Causes of Low Income

1. *Small Holdings*

More than 2/3rd of the holdings in India are less than 5 acres. 'In the U.P. 55.8 per cent of the farmers possess holdings less than 2 acres and 81.2 per cent less than 5 acres.'†

2. *Heavy incidence of Bullock Expenditure*

Small and fragmented holdings are a cause of under-utilization of even the minimum units of agricultural equipment. Therefore, the investments in both the fixed and working capital per acre, on holdings in smaller group, are much larger than on holdings in higher size groups as will be clear from the following Table.

TABLE No. II

(In Rupees)

Size of Holdings	INVESTMENT PER ACRE			
	Fixed Capital		Working Capital	
	Without Bullocks	With Bullocks	Without Bullocks	With Bullocks
Below 1 acre	28	242	334	631
1 to 2 acres	5	154	258	242
2 to 5 acres	—	190	—	327
5 to 10 acres	—	174	—	267
10 to 25 acres	—	179	—	301

The rise in the investment on the fixed and working capital in the 3rd and 5th size groups is due to the increase in the number of bullocks for a relatively small rise in the area of the holdings in these groups.

No doubt, the incidence of the cost of other equipments e.g., implements, well and other improvements, is higher per acre on holdings in smaller size groups but the major factor responsible for it is the bullock. Initial investments in bullocks and their maintenance cost are proving a

* See the appendix.

† The U. P. Zamindari Abolition Committee Report Vol. II p. 6

heavy drain on the agricultural economy of low income farmers. The bullock accounts for 78.9 to 89.15 per cent of the fixed capital (excluding land) and 32.3 to 48.26 per cent of the total annual cultivation expenses. How the scarcity of land is responsible for the under-utilization of bullocks will be clear from Table No. III.

TABLE No. III

Size of Holdings	Investment percentage on bullock per acre		Area commanded by a pair (Acres)	Utilization percentage of available bullocks
	Fixed	Working		
Below 2 acres :	—	—	—	—
(i) Without Bullocks	—	13.64	2,306	13.14
(ii) With one Bullock	89.15	48.27	—	—
2 to 5 acres ..	84.10	39.62	4,156	34.12
5 to 10 acres ..	78.93	34.65	6,488	36.79
10 to 15 acres ..	58.50	32.37	7,495	43.35
Above 15 acres ..	—	—	11,064	—

A pair of healthy bullocks is supposed to be capable of work for 8 hours each day for 350 days in a year. On this basis, the utilisation of bullocks varies from 13.1 to 43.3 per cent of their available labour on holdings of different sizes.

The figures in Table No. III show that in the case of the smallest size group of holdings, the farmer owning no bullocks spends only 13.4 per cent of the total working capital on bullocks while the percentage expenditure rises to 48.2 per cent when the bullock is owned. Every farmer in the second and third size group possesses a pair of bullocks and a farmer in the fourth size group has two pairs. The percentage of the working expenditure on bullocks decreases as the area commanded per pair of bullocks increases.

3. Lack of Cheap Credit

An organised agricultural credit system is not a far cry. Either credit is not available to farmers or costs too much. The farmer cannot afford good seed, better manure and improved equipment. He has no staying power to secure favourable moments in marketing for the sale of his produce. The present day land system which is, of course, under revision now, and the growing dependence of unemployed population for livelihood on agriculture, have offered most favourable field, so far, for the exploitation of the actual tiller through rack renting.

In view of the very poor financial resources of the farmers of small holdings, the locking up of the finances available with them in bullocks

and their maintenance leaves them no surplus to expend on manure or other improvements. Small holdings are not even able to afford a bullock. In East U.P. the position has deteriorated so much that survey in a village reveals that 73 per cent of the holdings upto 1 acre and 40 per cent of the holdings between 1 to 2 acres possess no bullocks while more than 40 per cent of the holdings are below 2 acres and account for 13 per cent of the total cultivated area in the village. The cultivation of land in the case of persons without bullocks is generally poor as they have to depend on others' bullocks which are not available for timely tillage. The system of custom service for bullocks is not yet in vogue in villages and a farmer, in general, is averse to giving bullocks on hire.

4. *Lack of Intensive Cultivation*

It is a paradox of Indian agriculture that whereas normally land as the most scarce factor of production ought to have been used most intensively and conserved carefully, the standard of cultivation is very low, and the conservation farming has begun to be talked about only in official files. Lack of irrigation facilities is the greatest limiting factor to intensive cultivation in India. After the partition, the irrigated area forms only about 18 per cent of the total cultivated area in Indian provinces. Small holdings and lack of intensive and diversified farming result in very low returns and the poor earnings stand in the way of any improvement, either of land or of its cultivation. Therefore the soil is being increasingly impoverished and along with it the Indian cultivator.

5. *High Incidence of Technical and Commercial Risks*

Yields on individual holdings fluctuate very widely from year to year. It is true even on farms well provided with irrigation facilities as will be clear from the figures in Table No. IV. The percentage variation between the minimum and the maximum yields is as high as 350 in the case of wheat and gram, 325 in cotton and 154 in sugarcane.

Agricultural prices too vary widely causing great hardships to farmers.

6. *Lack of Subsidiary Sources of Earnings*

The farmers, ordinarily, have no additional sources of income. Small holdings and extensive system of cultivation followed on them are responsible for the poor engagement of the family labour. The seasonal nature of demand for labour and the poor agricultural equipment force the cultivator to engage hired labourers which depresses his family labour earnings further.

TABLE No. IV

Yields per acre in Maunls from 1928-29 to 1947-48 on the Government farms.

Years	Lalai (Aligarh)			Etawah
	Sugarcane	Gram	Cotton	Wheat
1928-29	912	8	17	13
1929-30	970	4	11	27
1930-31	875	6	13	21
1931-32	792	10	8	21
1932-33	754	16	11	24
1933-34	623	18	6	20
1934-35	1099	14	8	12
1935-36	872	15	7	21
1936-37	1124	18	11	17
1937-38	778	10	6	25
1938-39	962	16	6	27
1939-40	751	9	4	20
1940-41	755	9	8	20
1941-42	858	6	9	19
1942-43	467	10	9	18
1943-44	480	9	8	7
1944-45	692	8	10	17
1945-46	584	4	8	18
1946-47	535	11	6	6
1947-48	443	12	11	11
Mean	766.3	10.65	8.85	18.35
Coefficient of variation	25.46	39.34	33.78	30.84

TABLE No. V

Utilisation of Labour on Holdings

Size of Holdings	Percentage Utilization of Family Labour	Percentage Utilization of Hired Labour to the total units of labour used
Below 2 acres	20.02	—
Between 2 to 5 acres	42.38	1.73
5 to 10 acres		
(a)	16.20	84.00*
(b)	36.91	16.71
10 to 25 acres		
(a)	40.00	69.64*
*b)	41.00	20.70
Above 25 acres	32.30	54.80

* Family labour is not utilised in ploughing.

7. *Social Factors*

Agricultural work by members of the family is considered derogatory to their social position by the higher castes. The small holders in high castes are therefore put to many disadvantages. By not doing the work with their own hands they lose considerable part of their farm business income which would have been earned by them as their family labour income, and there is generally no alternative gainful employment available to their labour. The farm work is also not so efficient.

Certain types of farming and some subsidiary occupations e.g., growing of vegetables and production of milk for sale are taken to be the occupation of low castes i.e., Kachhies and Ghosies. Prejudice against such occupations, although on the decline, is yet a substantial cause for their not being taken up as an additional source of income by high caste farmers.

Remedies

The problem of low income farmers needs to be attacked on three fronts. Firstly, maximum economy should be effected in the expenditure and all wastages resulting from the under employment of equipment, etc., should be eliminated. Secondly, intensive cultivation should be encouraged by providing for expenditure on items which would increase production. Thirdly, additional sources of income should be created through the development of subsidiary occupations and part-time employment in rural industries. Details of various measures needed for achieving these objectives are outlined below:—

1. *Economising Expenditure*

In view of the poor moral and educational environments and the strong attachment of the farmer to his holding, joint farming does not appear to be a practical proposition in the immediate future. Even in advanced countries of the world, it is yet in an experimental stage. However, wherever it may be possible, 4 to 5 small holders may be encouraged to take up joint farming by granting them certain concessions such as cheap loans on a joint basis. Any appreciable increase in the size of holdings by bringing more land under the plough or by the redistribution of larger holdings is also unthinkable. Therefore, the only practical proposition for minimising the wastage of agricultural equipment and for economising the expenditure in farming is to form co-operatives for needed supplies and equipment and for marketing their produce. Some cheap implements such as *desi* plough, *khurpi* and sickle may be owned individually but more costly implements and the improved ones

should be owned by the village co-operative which should lend them to farmers on custom basis.

It has already been shown that the greatest wastage in expenditure on small holdings is mainly due to bullocks. Easily a reduction of 25 per cent or even more in the working expenditure can be secured if bullocks are maintained by village co-operatives and given on hire to small holders. Those possessing larger holdings, adequate to maintain a pair of bullocks or more, will, of course, have their own bullocks. The co-operative ownership and maintenance of bullocks in the case of small holders has certain practical difficulties with regard to careful and sympathetic handling of the bullocks. Nevertheless, the advantages are obviously so overwhelming that the difficulties in the way of their careful handling need be ignored in the hope of being overcome gradually. As a further safeguard, the idea of co-operatives owning the bullocks need be tried on an experimental basis in the beginning. When the co-operatives are properly organised under the charge of well-paid full-time managers, as envisaged by the co-operators in re-orienting the co-operative movement in India, it would not be very difficult for the co-operatives to maintain better bullocks with proper care and adequate feed. The responsibility of the manager will be direct in such a case. This should ensure the necessary human touch so essential for proper care of animals.

In the case of co-operatives maintaining plough bullocks for service on hire basis, the small holders would be assured of their timely service on most economical terms. Improved implements can be effectively introduced with the availability of better bullocks. The use of improved implements will result in efficient cultivation and increase the area commanded per pair of bullocks, which will ultimately economise the cultivation expenses and increase the returns from farming. The reduction in the number of bullocks required would release land for augmenting the supplies of human food. I have the authority of an experienced agricultural engineer in observing that the area commanded by a pair of bullocks can be increased threefold by only a slight improvement in the quality of bullocks provided the indigenous implements are improved. Owing to the present-day galmour about mechanised farming most of us lose sight of the fact that it is more practical wisdom to effect simple improvement in the construction of our indigenous implements than to try to jump from hoes to tractors.

The success of power projects and the availability of cheap electricity in rural areas would automatically introduce small power machines for operations, like water lifting, threshing, processing, etc. which are

irksome or compete with bullock labour which is required for tillage operations. Their use on co-operative basis would economise the cost of cultivation at the same time relieve bullocks for more intensive and timely cultivation of the land.

Agronomical researches in conjunction with farm management studies in tillage operations and crop rotations should be carried out to spread over more uniformly the human and bullock requirements instead of their accumulation in small periods in the year. This would ensure better use of family and bullock labour and increase the farm business income. This field of research has also, so far, been completely ignored.

Consolidation of holdings is, of course, necessary but simultaneously there should be planning of the village land and relaying of cultivators' fields with proper alignment of pathways, irrigation and drainage channels, etc., treating the village area as one unit. There cannot be a more opportune time than now for taking up the field planning earnestly and boldly on the eve of abolition of intermediary rights in land and the restoration of community control through the revival of panchayats.

With the abolition of zamindari and banning of subletting the long needed land reform will be a reality in near future but the rent needs to be revised on a scientific basis in relation with the net produce, particularly in the case of low income farmers large number of whom have to part with 33 to 50 per cent of their produce as rent.

Educative propaganda is needed to remove social prejudices against the use of family labour in farm work or adoption of certain types of farming e.g., vegetable growing and mixed farming.

There is need for price stabilisation measures which may lessen the burdens that the modern exchange economy has placed on agriculture.

2. Increasing Production

Irrigation has to be given priority No. 1. Next, there should be an organised credit agency on the lines of the Farmers' Home Administration of the U.S.A. for providing the material facilities and technical guidance to set the house and the farming of the low income farmers in order. Any attempt to increase the production or to solve the problem of low income farmers, without an effective credit organisation in combination with an efficient extension service, is bound to meet with failure.

3. Creating Additional Income.

The development of rural electricity offers a new hope for rural India for rehabilitating its economy by the decentralisation of industries. The industrial development has so far been so meagre that without in

any way effecting the existing industries in urban centres, there is enough scope for their development in rural areas. According to the Report of the Two Men Mission to Japan, in 1946, after years of war, 46.4 per cent of Japanese farmers could get supplementary work in small scale industries. In one village alone there are more than 1000 home factories manufacturing hand made paper. In India, the State will have to take the initiative in developing rural electrification and rural industries. Ruralisation of our industries will help our agriculture in many ways. The small holders will be provided with additional source of income and fuller employment. The waste products which add to the squalor of cities would enrich the soil or may serve as feed for cattle.

Even when all this is done, the problem of finding employment for the surplus agricultural population in other occupations will remain nonetheless urgent because the prosperity in agricultural sector is closely linked up with a proper man-land ratio which itself is dependent on the absorption of a part of the existing agricultural population and a portion of the future additions to it in non-agricultural occupations. Such a problem has to be faced even in the U.S.A., which is comparatively a newer settlement.*

* "Mobilization for war went a long way in diminishing the over large supply and thus the underemployed labour in agriculture. Nevertheless, the migration out of agriculture, particularly out of the poorer farming areas, has not and will not have proceeded anywhere near far enough for the earnings of at least one-third, more likely one-half, of the people engaged in farming to reach a level comparable to the earnings of the less well paid labour in other occupations. Many more people will have to leave agriculture before the earnings inside and outside agriculture become essentially equal." Pp. 189—190—'Agriculture in an Unstable Economy' by Theodore W. Schultz.

APPENDIX

An estimate of family expenses—(five members : 3 adults and 2 children.)

	Quantity	Rate	Value
1. Food—			
(a) Cereals @ 12 chhataks per adult per day ..	Maunds.	Srs. Rs. 13	Rs.
@ 6 chhataks per child per day	27	15 per maund.	365
(b) Pulses @ 2 chhataks per adult per day ..	4	20 Rs. 20	
@ 1 chhatak per child per day		per md.	100
(c) Salt, spices, etc.	Rs. 2	per month	24
(d) Gur 10 seers per month	3	Rs. 13 per	
		md.	39
(e) Mustard Oil	2	per month	24
Total ..			543
2. Clothes—			
	yds. or number		
(a) Dhoties at 3 per adult	9	Rs. 4 each.	36
(b) Shirting—2 for one woman		Annas 12	
4 for two Children	56 yds.	per yd.	42
4 for two men			
Misc. for sheets and banians etc.			
(c) Bedding—(Assuming that one set is to be replaced each year)			
Dari	1	Rs. 5	
Razai	1	Rs. 15	37
Misc. for winter—cotton stuffed bundies		Rs. 17	
(d) Shoes 3 pairs		Rs. 5	15
Total ..			130
3. Light—			
Charges being Rs. 1-4-0 per month			15
4. Miscellaneous—			
Tobacco, etc.			42
Total ..			57
Grand Total ..			730

SUB-MARGINAL FARMS IN WEST BENGAL: THEIR NATURE AND PROBLEMS.

By

J. P. BHATTACHARJEE
(Visva-Bharati, Sriniketan)

There is an unusual unanimity among agricultural economists about the definition of the term "Sub-Marginal Farm". The marginal producer or farmer is defined as one whose "costs of production are just being covered sufficiently to enable him barely to remain in business".¹ Cost of production in such cases obviously includes some amount of profit, which

1. Dumunier & Heflebower, *Economics with Application to Agriculture* (1940) p. 212.