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## APPENDIX

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

	Quantity	Rate	Value
<b>1. Food—</b>			
(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
<b>Total ..</b>			<b>543</b>
<b>2. Clothes—</b>			
(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 .. ..			
(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
<b>Total ..</b>			<b>130</b>
<b>3. Light—</b>			
Charges being Rs. 1-4-0 per month .. ..			15
<b>4. Miscellaneous—</b>			
Tobacco, etc. .. ..			42
<b>Total ..</b>			<b>57</b>
<b>Grand Total ..</b>			<b>730</b>

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

By

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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".<sup>1</sup> Cost of production in such cases obviously includes some amount of profit, which

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

has been termed by some economists as "normal". Sub-marginal farms are therefore those which may be said, generally speaking, to be running at a loss, the costs of production or input being not fully covered by the value of the output.

It will be apparent from the above definition that the concept of the margin in farming is essentially a function of cost and income. It is related more directly, perhaps to cost, because this is more subject to control than income, the latter being more or less fixed by conditions of productivity of lands for particular types of farming. The cost structure of farms is therefore primarily responsible for determining the margin. The truth of this statement will be apparent from the fact that in all definitions of "sub-marginal" lands and farms, there is an underlying "assumption of proper conditions of utilization."<sup>2</sup> The income factor is therefore taken to be more or less fixed and costs in relation to it found to be more or less irreducible under the existing conditions.

The concepts, 'Marginal' and 'Sub-marginal' in economic terminology have thus a definite and unequivocal connotation and stand on surer grounds than the terms 'Economic' and 'Uneconomic'. For, economic farms or holdings are usually defined as farming units which ensure a fair standard of living to those who own and operate them. These units may be just on the margin or may even be above it. In no case will these be below this margin. In other words, all economic farms must be at least marginal, though all marginal farms may not be economic. This is perhaps the true relationship between the two terms.

Sub-marginal farms are therefore those units whose income in relation to costs are not sufficient to justify their existence for any length of time; in other words, those which are more or less regularly running at a loss. How long such farms will continue to be run, is a question which it is difficult to answer. It depends mainly on the nature of agriculture, commercial or subsistence, which the farms are engaged in. In the case of commercial farming, the producer may continue till the limit of his savings and resources and, in the end, may either close it down unless he has in the meantime, by changing the combination of factors, or increasing the efficiency of production and marketing, raised it to, or above the margin, or, as is more likely in a country like India, switch over to subsistence farming. In the case of subsistence farming, however, the producer will continue to run such farms for much longer periods. For, in this case he calculates his remuneration mainly on the basis of labour bestowed by him and his family and the return in food crops he obtains

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2. L. C. Gray, Proceedings of the National Conference on Land Utilization, 1931 (U.S.A.) pp. 58-59.

for his consumption. So long as the wages he thus earns are greater than the income he can obtain from other available occupations he will continue to farm. Further, if alternative occupations are not easily available, he will stick to his business, forced as he will be even if gets his remuneration at a rate lower than the market rate of wages.

It is obvious therefore that capital as a factor does not enter into the production of subsistence farms, specially of those below the economic margin. The characteristics associated with "Sub-marginal" farms by agricultural economists of the West are therefore not to be easily found in the cost structure of such farms. These therefore require to be looked at from a different angle.

The significance of what has been written above will be realised when it is remembered that the majority of farms in India belong to the category of 'subsistence'. Agriculture in India is rarely pursued on commercial lines. Consequently, it is difficult to apply economic concepts of the West to conditions in India. The need for caution and patient study can therefore be hardly over-emphasised.

It is against this theoretical background that an attempt is made in the following pages to find out the nature of sub-marginal farms in West Bengal, their numerical strength and average size and some of the problems which confront them. The analysis attempted here relates primarily to the Western zone of West Bengal, in as much as it is based on conditions obtaining in Birbhum, a district typically representative of this region. Statistics given in this paper have been obtained from a sample survey of cost of production conducted in 1947-48 in fifteen villages of Birbhum. The survey relates to the crop year 1945-46.

## II.

### *Classification and size of Sub-Marginal Farms.*

It would perhaps be in the nature of an anti-climax to start here with a definition of the term 'Farm'. So common a term hardly needs any definition. But in India, farms are usually to be found only in economic terminology, and rarely in reality. Studies have been made in some provinces of the size, classification, nature, etc., of holdings, but not of farms. Consequently, we have got to start from the foundation. Fortunately it will not be necessary in this paper to go through all these preliminaries. The author has already given his definition and classification of them in a paper entitled, 'Cost of Production and Size of Farms in West Bengal' (1947).<sup>1</sup>

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1. J. P. Bhattacharjee, Cost of Production and Size of Farms in West Bengal. Indian Journal of Agricultural Economics, Vol. II No. 2, Visva-Bharati Economic Research Publication No. 4.

Farms have been classified in that paper into two categories, Tenant-managed and cropper-managed. "The former includes farms which are cultivated by the owner i.e., the tenant, either himself or with the help of Mahindars (salaried servants) or through Kishans (crop-sharing contract labourers), while the latter refers to the units operated by Bargadars of Thikadars (Share-croppers) either themselves or in a few cases also with the help of Mahindars aid/or Kishans."<sup>1</sup> This is perhaps the most scientific classification of farms for a country like India where each holdings above a certain size is not farmed as a unit and usually gives rise, through Jote-arrangements (Farm Tenancy), to a number of farms, because of low managerial capacity and inefficient technique. The number of farms is therefore much larger than the number of holdings. And this fact is reflected in a lower figure for the average size of farms than that for holdings. In the paper referred to above it has been found that whereas the average size of holdings in Birbhum in 1939-40 was 19.6 bighas (6.53 acres), the average size of farms came to 17.22 bighas (5.74 acres) approximately.

The average size for each of the two classes of farms and their distribution according to area are however more important for an understanding of the real situation and for a study of sub-marginal farms. The following table gives these figures :

Table 1  
Size of farms in Birbhum in 1939-40.<sup>2</sup>

Size of Farms Bighas	Percentage of total farms			Percentage of farm size to the net total cultivated area.		
	Tenant	Cropper	Total	Tenant	Cropper	Total
1—5 .. .. .	10.1	10.8	10.5	1.4	2.9	2.1
6—10 .. .. .	9.8	30.9	22.6	3.4	18.6	10.8
11—15 .. .. .	18.7	28.5	24.6	11.3	26.6	18.7
16—20 .. .. .	24.1	17.9	20.4	18.9	23.2	20.9
21—30 .. .. .	14.3	7.1	10.0	16.0	12.9	14.6
31—60 .. .. .	19.7	4.0	10.2	38.2	10.7	24.9
61—100 .. .. .	3.0	0.5	1.5	9.3	3.1	6.3
Above 100 .. .. .	0.3	0.3	0.2	1.5	2.0	1.7
Total .. .. .	100.0	100.0	100.0	100.0	100.0	100.0
Average .. .. .	39.5	60.5	100.0	51.5	48.5	100.0
Average size in Bighas .. .. .	Tenant 22.44	Cropper 13.82	Total 17.22			

(1 Acre = 3 Bighas approximately.)

1. *Ibid.*, p. 5.

2. *Ibid.*, p. 5. A portion of the original table is reproduced here.

It appears from the above table that 39.5 per cent of all farms in West Bengal belong to the category of Tenant-managed, with an average size of 22.44 bighas (7.48 acres) and account for 51.5 per cent. of the net total cultivated area. But 60.5 per cent of the farms fall under the class, cropper-managed, and have an average size of 13.82 bighas (4.61 acres) together accounting for 48.5 per cent of the net total cultivated area. The wide prevalence of the share-cropping system and the preponderance of the small-sized cropper farms are responsible for this *subdivision* of holdings into Farms.

The distribution of farms according to size also shows the same concentration in the small-size groups. Thus 62.7 per cent of the Tenant-managed, 88.1 per cent of the Cropper-managed and 78.1 per cent of all farms are below 20 bighas (6.67 acres) in area and account for 35.0 per cent, 71.3 per cent and 52.5 per cent respectively of the net total cultivated area under each class. In other words, small farms below 7 acres in area form an overwhelming majority. Can we call such farms sub-marginal? In other words, does the 7-acre level fix the margin of farming? If not, where does this margin lie?

This is a question which has got to be answered, as pointed out in the first two pages, from a study of costs and income. If we can find out a size-group, below which farms are running at a loss and above which they are making a profit, it will be easy to answer this question. Otherwise we will have to depend on our knowledge for an approximate idea, or a guess work. It must however be borne in mind in this connection that size as measured by the area of net cultivated land is one way only of looking at the economy of the farm. More importance is attached in Western countries these days to classification of farms on the basis of capital invested. This is bound to be so in countries where investments on buildings, implements, machines and stocks in relation to land account for a much larger proportion of the total capital than is the case in agriculturally backward countries like India and China. In fact in India land accounts for as much as 86.1 per cent of the total capital invested in farms.\* Land can therefore be very well taken as the basis for determining the economic margin in farm size in India.

It is on the basis of size in area that a cost and income analysis of farms is attempted here. The analysis is being made separately for the two categories of farms, Tenant and Cropper.

#### *Margin in Cropper farms*

Cropper farms are usually much smaller in size than the Tenant farms. On an average they are below 5 acres in area. The temptation

\* J. P. Bhattacharjee, *Mechanisation of Agriculture in India*. Visva Bharati Econ. Research Publ. No. 7. p. 19.

to call them sub-marginal is therefore irresistible. But we cannot be definite about it until statistics come to our support. Below are therefore given figures of actual cost and income per bigha of cropper farms according to *cropped area*:

Table 2  
*Unit cost and Income of Cropper Farms according to Area in West Bengal in 1945-46*

Size group in Bighas	No. of farms enumerated	Average Area Bighas	Total per bigha		
			Cost Rs.	Income Rs.	Profit (+) or Loss (-) Rs.
6—12 .. .. .	5	10.17	36.61	28.79	-7.72
12—15 .. .. .	8	13.50	32.75	22.50	-10.25
15—18 .. .. .	5	15.99	28.05	28.41	+0.36
18—21 .. .. .	3	19.90	25.20	27.56	+2.36
21—24 .. .. .	1	23.00	22.17	27.13	+4.96
24—27 .. .. .	1	25.60	24.05	27.58	+3.53
27—30 .. .. .	1	28.50	27.69	28.91	+1.22
Average .. .. .	24	15.65	29.44	26.54	-2.90

The above table supports the general contention that cropper farms are on an average sub-marginal. In 1945-46, such farms were operated at an average loss of Rs. 2.90 per bigha, the average cropped area of the farms enumerated being 15.65 bighas (5.21 acres). It also appears from the table that farms below 15 bighas (5 acres) were running at a loss, the estimates of loss being about Rs. 7.72 per bigha for farms in the size group 6 to 12 bighas (2 to 4 acres) and Rs. 10.25 per bigha in the size group 12 to 15 bighas (4 to 5 acres). It is only when we come to farms above 15 bighas (5 acres) of cropped area, that profits tend to manifest themselves. In fact in the size group 15-18 bighas (5 to 6 acres) farms are just paying for their costs, the margin of profit being about Rs. 0.36 per bigha. In the next groups, however, the rate of profit is much greater, and there is a tendency for this rate of profit to increase till the group 21 to 24 bighas (7 to 8 acres), after which it again goes down gradually. Unfortunately, cropper farms above 30 bighas (10 acres) of crops could not be found in the sample area chosen for enumeration. This is quite natural in as much as such farms constitute only 4.8 per cent of the total cropper farms. So the trend could not be followed.

It would therefore be proper to conclude that cropper farms below the size-group 18 to 21 bighas (6 to 7 acres) of crops are not earning "enough to remain in business" and as such are sub-marginal. The average size of this group i.e. 19.90 bighas (6.63 acres) constitutes therefore the economic "margin". Cropper farms below this size are therefore



definitely 'sub-marginal'. And the number of such farms is considerable. A reference to Table No. 1 will reveal that 70.2 per cent of the total cropper farms and 42.4 per cent of all farms fall within this category. These account for 48.1 per cent of the net total cultivated area under cropper farms and 23.3 per cent of the total area under all farms.

It should however be pointed out in this connection that cropper farms of all sizes are on an average sub-marginal, irrespective of the position of the margin. This is mainly due to the fact that the income of cropper farms amounts to the value of only half of the total outturn. Of course, the seed and manure costs are also reduced by half whereas Rent and Cess do not figure at all. But seeds and manure account for only 10.8 per cent of the total cost, while rent forms only 3.8 per cent.\* Against an economy of 9.2 per cent in costs, the reduction in income is thus 50 per cent. Hence it is not unnatural that the average cost and income figures for cropper farms show them as "sub-marginal" as a class. Further, if interest on the capital invested on bullocks and implements is taken into account the figures would show a loss for many of the size groups now showing a profit. The average figure showing a loss would also increase though perhaps slightly. And all these Cropper farms account for 60.5 per cent of all farms and 48.5 per cent of the total cultivated area.

#### *Margin in Tenant Farms.*

Let us now turn to Tenant farms and try to find out the Margin. The same sort of analysis is expected to be helpful in this case also. Figures of cost and income per bigha according to cropped area of Tenant farms are therefore worked out in a tabular form below :—

**Table 3**  
*Cost and Income per bigha according to size of Tenant farms in West Bengal in 1945-46*

Size group Bighas	No. of farms enumerated	Average size Bighas	Total per Bigha		
			Cost	Income	Profit (+) or Loss (-)
6—12	12	10.48	39.98	56.89	+16.91
12—15	15	13.69	41.49	63.44	+21.96
15—18	15	16.91	41.22	63.14	+21.92
18—21	8	19.46	42.70	65.47	+22.77
21—24	4	22.96	37.41	56.77	+19.36
24—27	3	26.20	45.41	65.34	+19.93
27—30	5	28.34	41.14	53.27	+12.13
30—39	2	31.58	36.45	57.00	+20.55
Above 39	6	49.17	41.88	58.13	+16.25
Average	70	20.08	41.22	60.30	+19.08

\* *Ibid.* p. 24.

The conclusion that it was so easy to draw from Table 2. does not appear to be so simple or easy in the case of Table 3. In fact, in the case of Tenant farms, there does not seem to exist any losing or even marginal concern above 6 bighas (2 acres) Does the margin then lie below this size? Or, is it lying hidden and jumbled up in rows of the above table?

It appears from the above table that the margin of profit increases gradually from Rs. 16.91 per bigha for the 6-12 bigha (2-4 acres) group to a maximum of Rs. 22.77 for the group 18-21 bighas (6 to 7 acres). This last group therefore represents the optimum size of farms run on the existing technique. The rates of profit in the two preceding groups, 12 to 15 bighas (4 to 5 acres) and 15 to 18 bighas (5 to 6 acres) are more or less equal and only slightly lower than this maximum. But the difference between the rates of profit in the 6-12 bigha group and the next higher size groups, amounting to more than Rs. 5/- per bigha is so big as to justify the conclusion that there is something essentially wrong in the cost-income structure of farms in the first group. It should be pointed out in this connection that figures of income show wide variations as between the size groups. Such variations are strictly speaking not quite justified and may be due to either of two reasons. Either the capital and the managerial capacity of the farmers are not proportionately related to the farm size, or crop must have failed or suffered because of weather etc. on some of the farms in the affected size groups. While the first reason is partly responsible for some amount of variation, the second one lies obviously to a much greater extent behind low figure for the rate of profit (Rs. 12.13 per bigha) in the group, 27 to 30 bighas (9 to 10 acres). That is the reason why the figures of profit do not show very clearly any definite tendency throughout.

Now let us revert to the original point about the location of the margin. It would be necessary now to explain the significance of the figures of cost. Cost has been calculated for all the goods and services (labour) directly used in production. For bullocks and implements, the depreciation has also been included in costs. But interest on the capital invested in land, bullocks and implements has not been taken into account. This has been deliberately done, as otherwise most of the farms would not show a profit and the figures would have only theoretical meaning. But in the search for margin, the interest on capital has got to be taken into account as an item of cost.

It has already been pointed out that land accounts for 86.1 per cent of the total capital invested in farms. A reference to the same source reveals that the total amount of capital invested per acre of Tenant farms in the same year was Rs. 876.0 of which land alone was responsible for

Rs. 750.8.\* This is obviously an average. The value per acre of capital invested on bullocks, implements and accessories and cattle-shed will, therefore, decrease with increase in the size of farms. But this will not be the case with land, the unit value of which will not change according to area. Since land forms the major bulk of the capital, the average figure for investments can be taken to be roughly the same for all sizes of farms. Calculating interest at the rate of  $6\frac{1}{4}$  per cent, it appears that the charge per acre on account of capital would approximate to Rs. 54.75; in other words Rs. 18.25 per bigha of Tenant farms. If this amount is added to costs, farms in the size group, 6 to 12 bighas (2 to 4 acres) would be found to have incurred a net loss of Rs. 1.34 per bigha, whereas those in the next higher groups have made a profit of Rs. 3.71, Rs. 3.67, and Rs. 4.52 per bigha, respectively. It would not therefore be wrong to conclude that farms with size between 6 and 12 bighas (2 and 4 acres) are 'Sub-marginal.' And the average size of farms in the group 12 to 15 bighas (4 to 5 acres) would be said to constitute the economic 'margin.' Thus, we may say that 13.69 bighas (4.56 acres) constitute the 'marginal' size for Tenant farms and all farms below 4.56 acres in size are 'sub-marginal.'

The number of sub-marginal Tenant farms can now be calculated by referring to Table 1. Since 13.69 falls within the group 11 to 15, this group has been divided up proportionately and farms below this size have been added to the number in the lower size groups. Thus we find that 'sub-marginal' Tenant farms account for 33.1 per cent of all Tenant farms and 12.8 per cent of the total area cultivated by such farms. When calculated in relation to farms of all classes, 'sub-marginal' Tenant farms constitute 13.1 per cent in number and 6.6 per cent of the total area.

If Tenant and Cropper Farms are taken together, 'sub-marginal farms' will account for 55.5 per cent of the total number of farms and 29.9 per cent of the net total cultivated area. It is obvious that these farms have been classed as sub-marginal on the basis of the existing technique and organisation of farming. The figures are given below in a tabular form:—

Table 4  
Sub-Marginal farms in West Bengal in 1945-46

Class of farm	Percentage of	
	Total farms	Net total cultivated area
Tenant .. .. .	13.1	6.6
Cropper .. .. .	42.4	23.3
Total .. .. .	55.5	29.9

\* *Ibid* (Mechanisation of Agriculture by J. P. Bhattacharjee). P. 19.

A word of explanation is here necessary as to why interest on capital has not been included in the costs of Cropper farms. Cropper farms, it need hardly be mentioned, are those units which the owners of, or the tenants on the land let out to Bargadars or Thikadars (Share-croppers) for farming. The land of the farm therefore does not belong to the actual farmers, who do not have to purchase it or pay anything for it except the share of the crop. Consequently, interest on the capital value of the land cannot enter into their costs, though it will surely form an item in the costs of the owners or the tenants. Thus 86.1 per cent of the interest charge are ruled out from the costs. As regards the remaining portion it will not affect, in any way, the conclusion arrived at even if it is taken into account. This has already been pointed out in the relevant section.

### III

#### *Internal problems of sub-marginal farms*

Sub-marginal farms, according to the postulates of Agricultural Economics, are dying concerns facing the prospect of being wiped away. Study of their internal problems would therefore look like discussing the disease of a patient facing a sure death. The utility of such a study may therefore be justly questioned. The answer to this question will depend on the amount of truth underlying the above postulate.

It has already been mentioned in the first few pages of this paper that the concept "sub-marginal" is based on a competitive economy and is a term essentially connected with organisation of commercial industries. Consequently, its applicability to agriculture is limited by the extent to which farming is run on commercial lines. In a country like India, where agriculture is more often a means of subsistence and a way of life than a commercial venture, farms may be proved by cost analysis to be sub-marginal and yet will be found to continue to exist for a sufficiently long time. In fact, the problem of existence here does not concern so much the farms as the farmers themselves.

It would therefore be proper to discuss the problems of these sub-marginal farmers. But problems of such farmers are numerous and touch all aspects of the rural economy of the country. It is essentially a problem of life and living in its manifold aspects that these farmers face. All these problems cannot even be so much as touched in the course of a single paper. What is therefore discussed below relates only to those problems of such farmers that are connected with the running of their farms. In other words, problems of production on the sub-marginal farms are only being discussed.

*Size:* The fundamental problem of sub-marginal farms in fact the most important cause of their being classed as such is of course their size.

Size has been measured in this paper in terms of area of land. It could as well have been measured in terms of the amount of capital invested. To this we shall turn later on. Size in area, is however something indefinite, in as much as it does not indicate the area actually used, operated and cultivated. Thus if a part of the area of a farm which, judged from its total area of land, is classed as marginal lies fallow, the farm will fall below the margin at least for the number of years those lands are not again put to use. On the other hand, it has also been that 12 bigha (acre) farms growing vegetables only which will apparently be called sub-marginal from the point of view of area are actually not so. While the type of farming surely plays a part in this classification, the area cultivated or the cropped area is the more important determinant. It is for this reason that in Tables 2 and 3, size of farms has been measured in terms of *cropped area*. The *net area* of the farms on the margin may therefore be smaller than the figures worked out in section II. The significance of this rather lengthy discussion of a simple point lies in asserting that we cannot be dogmatic about the land-area that differentiates a marginal from a sub-marginal farm. It will be wrong to say hastily that farms below 5 acres are sub-marginal. An addition of one acre or even less to the *cropped area* of the existing small units will perhaps be sufficient to raise more than 30 per cent of them from their sub-marginal status. This merely shows the tremendous benefits that are likely to result from intensification of agriculture and cropping on even the existing small farms.

It would be of some interest here to compare the *cropped area* of farms with their *net area*. Table 5 (given on the next page) gives these figures for farms in Birbhum classified according to size and nature.

It appears from Table 5 that the cropped area of farms forms on an average only 103.6 per cent of the net area. The average farm in West Bengal has therefore a very low intensity of land-use. The figure for this intensity in the case of Cropper farms is much lower than the average, being 102.9 per cent of the net area as compared to 103.8 per cent. for tenant farms. Among tenant farms, again, the sub-marginal ones have as low an intensity of cropping as 100.9 per cent. of the net area of the Cropper farms, the sub-marginal ones (according to size) have a 102.7 per cent cropping intensity.

It is true that Table 5 is inconclusive in some respects. But there is sufficient indication to show that the sub-marginal farms have a lower intensity of land-use than the marginal and the super-marginal farms. This low intensity is not deliberate. It is not due, by any means, to unwillingness on the part of farmers to grow more crops on the existing

Table 5  
Intensity of Land-Use in Farms in West Bengal in 1945-46 \*

Size group. Bighas.	Tenants Net Area. Bighas.	Farms ..... Cropped Area. Bighas.	Percentage of (3) to (2)	Cropped Net Area. Bighas.	Farms ..... Cropped Area. Bighas.	Percentage of (6) to (5).	Total Net Area. Bighas.	(All farms).... Cropped Area. Bighas.	Percentage of (9) to (8)
1	2	3	4	5	6	7	8	9	10
6--12	119.40	120.58	100.0	49.65	50.85	102.4	169.05	171.43	101.4
12--15	197.50	205.30	103.9	105.30	108.05	102.6	302.80	313.35	103.5
15--16	245.40	253.70	103.4	77.60	79.95	103.0	323.00	333.65	103.3
18--21	147.45	155.65	105.5	58.35	59.70	102.3	205.80	215.35	104.6
21--24	89.40	91.85	102.7	20.20	23.00	113.8	109.60	114.85	104.8
24--27	76.10	78.60	103.2	25.50	25.60	100.4	101.60	104.20	102.6
27--30	137.40	141.63	103.0	28.50	28.50	100.0	165.90	170.13	102.5
30--39	60.85	63.15	103.7	—	—	—	60.85	63.15	103.7
Above	281.00	295.05	105.0	—	—	—	281.00	295.05	105.0
Total ..	1354.50	1405.50	103.8	365.10	375.65	102.9	1719.60	1781.15	103.6

(\* Intensity of use here refers only to the crops grown in the year and is irrespective of the nature of the farm land single or double cropped. Thus cropped area means the total area under different crops, including one-year crops like sugarcane, which have been enumerated only once even though they would otherwise have produced two crops.)

lands. The main reason for this low intensity is the non-availability of irrigation water, without which second crop can rarely be grown. Since tanks form the only source of irrigation in the area covered by the enquiry, availability of irrigation facilities depends on two factors, first situation of the farm lands with reference to the tanks and secondly, the economic capacity of the farmer to create new sources of irrigation, in other words, to excavate new tanks. Both these factors operate against the sub-marginal farms. The existing irrigated lands are mostly owned and controlled by the owners of the irrigation tanks who are usually the more well-to-do farmers, while the low-income farmers have not obviously the financial capacity to excavate new tanks for irrigation. The result has been that the irrigated lands have considerably appreciated in value and there is a tendency for these to be concentrated in fewer and fewer hands. The laws of economics thus seem to operate remorselessly in pushing the sub-marginal farms to the wall.

*Capital* : The problem of the size of Sub-marginal farms raises, as has been seen above, the question of capital. In fact, amount of capital invested provides another scientific basis of classifying farms and determining the 'margin'. The justification for adopting such a classification will be apparent when it is remembered that inadequacy of capital constitutes the *fundamental problem* of sub-marginal farms. It is not possible in the course of this short paper to go again into the details of classification. Sufficient materials will however be available for this purpose, if this problem of capital of sub-marginal farms is discussed.

It has been shown in the preceding paragraphs that intensification of land-use and farming depends primarily on the capital resources of farmers. Lack of capital is the main obstacle to a greater intensity of farming on the sub-marginal units. This capital can be classified into two types, investment capital and working capital. Investment capital is the thing we usually talk about in the context of intensification of agriculture. This type of capital is necessary for the purchase of lands, implements and machinery, construction of houses and sources of irrigation, etc. Let us now turn to this type of capital.

Among the uses to which investment capital may be put, those that have a direct bearing on production and income of farms are bullocks, implements and machinery and land, and its improvement. The amount of capital invested on these accounts in farms in West Bengal will be a good index of the limitations from which Sub-marginal farms suffer. Some figures of capital (excluding land) invested in farms of different size are therefore given in Table 6 below. This table gives the value of two most important capital equipments of farms, viz., bullocks and

implements. Since value of capital improvement of land is almost negligible, it has not been shown in the table. Value of land has not been taken into account in this connection, since land forms the basis of classification of farms into sub-marginal and super-marginal units.

Table 6  
*Investment of Capital according to Size of farms in West Bengal (1945-46).*

Size Group Bighas	Average per Tenant Farm				Average per Cropper farm			
	No. of Bullocks	Capital value of			No. of Bullocks	Capital value of :		
		Bullocks Rs.	Imple- ments. Rs.	Bullock & Imps. per Bigha Rs.		Bullocks Rs.	Imple- ments. Rs.	Bullocks & Imps. per Bigha Rs.
6—12 .. ..	2.	305.57	85.47	37.70	2	256.03	62.91	27.07
12—15 .. ..	2.	338.48	102.84	30.16	2	271.72	68.93	21.90
15—18 .. ..	2.1	503.58	107.26	36.12	2	259.21	79.68	18.48
18—21 .. ..	2.	447.12	114.88	28.84	2	306.96	80.63	16.85
21—24 .. ..	2.	427.65	135.61	24.72	2	312.76	83.06	16.61
24—27 .. ..	3.2	834.15	108.50	35.13	2	360.06	137.47	17.07
27—30 .. ..	3.0	154.08	136.34	31.82	4	438.76	72.22	15.33
30—39 .. ..	4.0	721.31	175.56	28.41	—	—	—	—
Above 39 .. ..	4.8	1272.51	220.80	31.75	—	—	—	—
Sub-marginal farms	2.	306.57	85.47	37.70	2	264.02	69.97	25.17
Other Farms ..	2.7	613.27	131.25	31.61	2.3	343.66	89.10	18.98

The above table reveals many interesting features of farms in West Bengal. Considerations of space do not permit a thorough discussion of all the points brought out by the table. Points relevant to sub-marginal farms only are referred to here.

First of all, the sub-marginal farms work with a smaller number of bullocks than those above the margin. Thus the former have on an average only 2 bullocks as compared to 2.7 bullocks in the case of Tenant and Cropper farms respectively of the latter type. This can not of course be called a definite handicap, inasmuch as there is no technical and economic need for a large team of bullocks for cultivating the comparatively small area of the sub-marginal farms. Efficiency of the bullocks is a more important factor effecting the economics of these units.

Efficiency of bullocks is however a thing which is not capable of easy or accurate measurement. We can at best draw certain conclusions about their working capacity from their market value. It will appear from Table 6 that the capital value of bullocks per sub-marginal farm amounts to Rs. 306.57 and Rs. 264.02 for Tenant and Cropper farms against Rs. 613.27 and Rs. 343.66, respectively per farm of each of these



types above the margin. It will appear from these figures that the average capital value of the 2 bullocks used on super-marginal farms amounts to Rs. 454.27 in the case of Tenant farms and Rs. 298.83 in the case of Cropper farms, against Rs. 306.57 and Rs. 264.02, respectively per sub-marginal farm. The quality and efficiency of the bullocks used on Sub-marginal farms are therefore much lower than those used on other farms. This is, of course, the result of lack of investment capital. The sub-marginal farmers have not got resources sufficient for making adequate capital outlays on bullocks. Consequently, ploughing and other farming operations cannot be carried on efficiently with the result that yield of crops is affected.

Thirdly, sub-marginal farms may be said to be not adequately equipped with implements. Thus while the value of implements per sub-marginal farm amounts to Rs. 85.47 and Rs. 69.97 for Tenant and Cropper farms, that per super-marginal units comes to Rs. 131.25 and Rs. 89.10, respectively for the two classes of farms. As in the case of bullocks, the capital value of implements per farm increases with increase in farm size. This is of course justified partly by the fact that the bigger the area the larger the number of set of implements that will be necessary. But another and more important reason for this increase is that the quality of implements used by sub-marginal farms is inferior and that they do not possess the full set necessary for all farm operations. The poor capital equipment of sub-marginal farms is one of the major causes of their inefficient production. On the other hand, the size of these farms and the volume of their output do not justify a larger outlay of capital. And the economic capacity of these farmers to make such capital outlay is extremely limited, almost non-existent. The whole thing thus operates in a vicious spiral which can not be broken without external aid.

The fourth point is rather interesting. While it is true that the amount of bullock and implement capital invested in sub-marginal farms is much lower than that in other farms, investment of capital on these two heads per bigha of farmland decreases with increases in the farm size. Thus the amount of bullock and implement capital invested per bigha of sub-marginal Tenant and Cropper farms stands at Rs. 37.70 and Rs. 25.17 against Rs. 31.61 and Rs. 18.98 respectively per bigha of other farms of these two classes. This in itself goes to show the economies that result from increase in farm size. In fact, sub-marginal farms are definitely at a disadvantage in the matter of capital investment. Not only have these not adequate capital equipment and resources, not only do they not obtain credit facilities, but there is also no economic justification for further investment of capital on them. In fact, theoretically speaking, land is over-capitalised in sub-marginal farms.

Position of the sub-marginal farms is therefore difficult and in a sense precarious indeed. There is no hope of their salvation except through annihilation or amalgamation. From the point of view of capital investment, there is no scope for improvement of the present state of affairs until and unless the size of the sub-marginal units is increased. This means either increased crop area through intensification of farming or increase of farm area or through extended farming. Both of these measures require fresh outlays of enormous amount of investment-capital much beyond the economic and financial capacity of the sub-marginal farms.

*Working capital.* Problems of sub-marginal farms in respect of working capital will be just touched here. It is a well-known fact that these farms always labour under a shortage of funds necessary for carrying on the different operations of farming. Consequently, these are not in a position to spend adequate sums on such items of input as seeds and manure and fertilisers. From the point of view of production and income, this is another serious problem of these low-income units in as much as it affects the very technique of farming. This will be apparent from Table 7 which gives figures of income and of some of the items of cost of farms.

Table 7  
*Income and some items of Cost of farms in West Bengal (1945-46)*

Category of Farm	Per Bigha of Tenant Farm			Per Bigha of Cropper Farm		
	Expenses on			Expenses on		
	Manure Rs.	Seeds Rs.	Total Income Rs.	Manure Rs.	Seeds Rs.	Total Income Rs.
Sub-marginal .. ..	2.69	1.25	56.89	1.10	0.48	25.81
Other .. ..	2.94	1.58	60.61	1.32	0.53	27.77
Difference .. ..	0.25	0.33	3.72	0.22	0.05	1.93
Percentage of Sub-marginal .. ..	9.3	26.4	6.5	20.0	10.4	7.5

Table 7 shows that the amounts spent on seeds and manure per bigha of sub-marginal farms are smaller than the corresponding amounts spent per bigha of super-marginal farms of both Tenant and Cropper classes. It is true that the difference between these amounts looks very small as figures. But their real significance and value will be realised if they are compared with the amounts spent on these heads. Thus it will be seen that the level of expenses on some of these heads in 'Other Farms' is higher than that in sub-marginal farms, by less than 9 per cent; in

one case (seeds in Tenant Farms) the difference is as high as 26.4 per cent. So the difference in expenses is marked and significant.

It is this difference which, along with some other factors, is reflected in the higher income of farms above the margin. Thus in the case of Tenant farms the income of the farms above the margin is higher than that of sub-marginal farms by Rs. 3.72 per bigha, a sum which works out to 6.5 per cent. of the income per bigha of the latter (sub-marginal) farms. In the case of Cropper farms also, this difference works out to Rs. 1.93 per bigha or 7.5 per cent of the income of the sub-marginal units.

This merely goes to show that if the capital resources of the sub-marginal farms can be improved, there is likely to be at least 6.5 per cent increase in their incomes. Here also there is a vicious spiral. These farms cannot improve their position because they have not adequate capital resources at their command. On the other hand, these farms cannot get capital even on loan, because they have got no credit. Since the financing agencies like cooperatives in rural areas give loans to the farmer on the security of lands owned by them, the sub-marginal Tenant farmers get a very small amount if at all (because of their petty holdings), while the Cropper farmers get nothing at all (because they are share-croppers, not owning the land they till and farm). The position of the Cropper farms is therefore very precarious, indeed.

A word of explanation should be added here about the figures relating to Cropper farms, given in Table 7. The figures of cost and income of Cropper farms look very small as compared to those of Tenant farms. In reality however the figures are not so different. The share cropper has to pay half of the cost of seeds and manure and gets only half of the crop. Consequently, the figures in Table 7 represent just half of the actual amounts spent on these heads and received.

#### *Nature of farming*

In Section I of this paper it has been said that the continued existence of a sub-marginal farm on the field depends to a great extent on the nature of farming that it carries on. If farming is of the subsistence nature, future existence of the farm depends on the availability of alternative employment for the farmer and the rate of remuneration that he will get for his labour on the farm.

Farming in West Bengal is predominantly of the subsistence type. In fact, the smaller-sized farms are solely run on this principle. Consequently, agriculture has not become commercial and diversified. This

is particularly true of that part of West Bengal which has been covered by our survey. Jute is not grown in these regions and paddy has become almost the sole crop. It is a mono-cultural region in which cereal (paddy) farming on small, sub-divided and fragmental holdings is the usual practice. Consequently, income or the money value of the output is low, as is natural in undiversified cereal farming. This is another economic handicap of the farms, specially the sub-marginal farms which are faced with the problem of costs exceeding income. In support of this point is shown below in Table 8 the comparative importance of different crops grown on farms in West Bengal in 1945-46.

Table 8

*Income and relative importance of crops grown on farms in West Bengal in 1945-46.*

Name of Crop	Tenant Farms		Cropper Farms	
	Area % to total	Income per bigha Rs.	Area % to total	Income per Bigha Rs.
Paddy .. .. .	93.20	54.01	95.39	24.00
Sugarcane .. .. .	1.32	353.88	1.15	129.37
Gram .. .. .	1.43	28.54	1.08	20.42
Potato .. .. .	1.17	191.85	0.80	98.65
Musur .. .. .	0.41	23.30	0.42	11.58
Kachu (Arum) .. .. .	0.31	183.45	0.16	70.00
Wheat .. .. .	0.80	23.36	0.51	13.40
Sun hemp .. .. .	0.22	64.50	0.24	26.39
Tomato .. .. .	0.24	247.83	0.03	125.00
Onion .. .. .	0.08	85.44	0.15	59.00

It will appear from Table 8 that 93.20 per cent and 95.39 per cent of the crop area of Tenant and Cropper farms are under paddy, which fetches an income of Rs. 54.01 only per bigha in the case of Tenant farms. Next in importance comes sugar-cane, which accounts for 1.32 per cent and 1.15 per cent of the total cropped area of Tenant and Cropper farms, respectively. Gram potato, musur (pulse), whea and Kachu (Arum) are also important crops. But paddy is by far the most important crop and all the other crops, except sugar-cane, kachu and sunn-hemp are usually grown in Rabi season on paddy lands enjoying irrigation facilities, after the harvesting of paddy.

It will be noticed therefore that, most of the high-income fetching crops like sugar-cane, potato, tomato and onion are Rabi crops and as such cannot be cultivated without irrigation water. The immediate possibilities of diversification of cropping and agriculture are therefore limited by the availability of irrigation facilities. And as for the future we come back to the problem of intensification of farming, which, as

has already been seen, requires fresh outlays of investment capital. So ultimately we come back to the problem of capital.

Thus the possibilities of increasing the income of sub-marginal farmers through diversification of farming are strictly limited for the present. In fact, it is difficult to break away from the principle of subsistence farming until the size of holdings are increased and low-income farms are raised above the economic *Margin*.

In all these discussions, sub-marginal farms have been spoken of as a class. But it must be remembered that Cropper farms even above the marginal size, are in no way better off than the sub-marginal units. In fact, it has been shown in Section II that Cropper farms as a class may be said to be sub-marginal. This will also be apparent from Tables 6 and 7, which show that capital equipment, production expenses and incomes of these farms are always below those of the Tenant farms. In fact, these are below the economic level. Hence Cropper farms as a class have to be looked at separately. The organisation and structure of these farms are urgently in need of reform.

#### IV.

##### *Conclusion*

Problems of sub-marginal farms are therefore difficult and not capable of easy solution. The main problem of these farms is lack of investment and working capital. This is the major handicap in the way of their improvement. Without sufficient capital their size cannot be enlarged, their crop area increased, nature of their agriculture diversified, their costs reduced and income raised. The gravity of the problem can only be understood when we remember the number of such farms is more than half the total number of farms. In fact, from a wider point of view, the abnormally large number of such farms constitute a weakness of and a danger to the country's economy and one of the most urgent of the national problems.

What are the solutions to these problems? How can the sub-marginal farms be raised from their uneconomic status? The remedies that can be recommended are of a two-fold nature, viz., short-period dealing with the immediate problems and long-term dealing with the fundamentals of the situation. These remedies will be discussed very briefly in the following paragraphs.

##### *Short-term Measures*

(1) It has been seen that production and income of sub-marginal farms are at a low level because of inadequacy of their working and

investment capital. So the first thing that is necessary is the increase of credit facilities available to these farms. Yield of these farms can be immediately increased if they are given functional credit in the shape of seeds, manure, etc., from co-operative societies, to which the crop of the farm will be pledged. The crops will be sold through these co-operative societies which will at that time realise their loans.

(2) In order to increase the economic solvency of these farmers, the Government should provide them with adequate capital with which they can take up village industries as their spare time occupation. The Government should also assume responsibility for the sale of the products of these industries, which will however be organised on a co-operative basis.

(3) The system of share-cropping or Barga cultivation should be immediately abolished and the Cropper farmers (Bargadars) settled on their farms as raiyats on cash rent. This seems to be the only way of rehabilitating the cropper farms and increasing their production.

(4) There should be a revision of the Government's policy of tenancy of land. The existing land revenue-system should be abolished and replaced by a direct and progressive taxation of farm incomes. The sub-marginal farms should be exempted from this tax. This exemption would reduce the costs of these farms and help them considerably to climb to the margin.

(5) The Government should go all out with minor and major irrigation projects with a view to making diversification of agriculture and multiplication of cropping on the farm lands possible. This is however a short-term as well as a long-term measure.

#### *Long-term Measures*

The long-term measure, apart from extension of irrigation facilities, is redistribution of land on the basis of economic units. In such a scheme of redistribution the size of farms will be given more attention than the size of holdings and the first objective will be so to increase the size of existing sub-marginal units that they can become "economic". Such a scheme should also provide for capital loans to the low-income farmers for the purpose of equipping the property.

It may be argued that in the event of redistribution of land only those farmers who have proved their skill and efficiency should be re-settled on land. No one will deny the truth of this argument. In fact it is this principle which ultimately leads us to the Bargadars and the small tenants. In the midst of all their difficulties and handicaps, they carry

on a type of farming which, from the point of view of technique, is not inferior to that practised by the bigger farmers. So once their financial and economic difficulty is solved, they will be able to increase their production much more than those of big farmers for the latter have to depend on the former classes of people for labour on the land.

In conclusion, it should be mentioned that the measures which have been enumerated above and discussed only in bare outlines are all essentially linked up. There can be no clear demarcation between their scope and period. In fact, it is wrong to classify them into short-term and long-term measures; for the long-term measures are as urgent as the short-term ones. Besides, from the point of view of applicability we cannot make any such distinction. The short term measures are part of the long-term ones and all of these have got to be immediately implemented as parts of a comprehensive scheme for agrarian reconstruction. It must be remembered that the problem of sub-marginal farms brooks no further delay and shelving, in as much as they form the weakest link in the chain of our agrarian socio-economic structure.

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### THE PROBLEM OF THE LOW INCOME FARMER

*by*

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The most deplorable feature of Indian Agricultural economy is the low-income farmer. An informal study of some selected villages in the Tirunelveli District of Madras has revealed the gravity of the situation. The causes that have led up to this problem of the sub-marginal farmer are variously and cumulatively indicated as populational pressure on land, excessive sub-division and fragmentation of holdings, insufficient manures, inadequate irrigation, out-moded technique of agriculture and indifferent cattle-breeding. No doubt, these are potent causes, but there are economists who look upon reform in these directions as economic sophistry.

The diseconomy caused by sub-divided and fragmented holdings cannot be disputed, but the emphasis may vary about the why of the phenomena. This ugly malaise has in the main been created by laws of inheritance, death of indigenous industries and consequent clamour for predial occupation. Attempts have been made to combat the evil by