Chapter VIII

THE IMPACT OF THE SRIDHARPUR SOCIETY

8.1 INTRODUCTION

We explained in the first section of the sixth chapter the rationale of studying the impact of an agricultural credit society on the economy of villages from where the members are admitted. We have already seen in the last chapter that the Sridharpur society has made a remarkable stride in diversifying its activities in the service of its members and has already surged ahead for achieving a great deal of self-reliance. It will be in order if we present some picture of other aspects distinct from those described in the preceding chapter.

As in the case of the Balaram Bhandarigach Society, so in the case of the Sridharpur Society we study the impact on the functioning of the relevant rural economy principally under several heads, namely, manifestations in the present demand of agricultural and other rural producers for credit, use of inputs in agricultural production, production of total paddy per acre, and expectations in the rise of demand for credit.

We also make a comparative study of estimates of aggregate investments of the two societies.

8.2 PRESENT DEMAND FOR CREDIT

The finding from table 8.1 is that of the total borrowing of the members only 17.5 per cent are taken from the non-cooperative lending agencies. In all cases these agencies are either individual

Table 8.1

Borrowing and Rate of Interest by Sources

1990-1992

Source	Amount Borrowed (Rs.)	% of Total Borrowing	Rate of Interest (%)
Cooperative	7,53,439	82.5	11.5
Non-Cooperative	1,59,500	17.5	33.5
Total	9,12,939	100	22.6

money-lenders or shop-owners in market towns. We have seen that in Balaram-Bhandarigach area the Society there could supply ony 51 per cent of the present demand for credit. Non-cooperative sources accounted for the supply of 49 per cent of the existing demand for credit.

The massive opportunities released by the Sridharpur Cooperative Bank are responsible for the sharp decline in the rate of interest charged by private money-lenders. While the rate of interest charged by private money-lenders of Balaram Bhandarigach area is about six times that charged by the Cooperative Society there, the rate of interest charged by the non-cooperative agencies on the members of the Sridharpur Society is only three times that

charged by the Society.

What is more, even the Sridharpur Society has been able to offer lower price of their loans to members. While the Balaram Bhandarigach Society charged 12.5 per cent as rate of interest on their cooperative loans, the Sridharpur Cooperative Society charged only 11.5 per cent. The resultant average rates of interest of Balaram-Bhandarigah Society and Sridharpur Cooperative Bank are in the ratio of 3:2. Data in tables 8.1 to 8.6 are obtained from a sample of 50 members.

Table 8.2

Annual Per Acre and Per Family Borrowing from two Sources

Source	Borrowing (Rs)	
	Per Acre	Per Family
Cooperative	1975.456	7534.39
Non-Cooperative	418.196	1595.00
Total	2393.652	9129.39

The table 8.2 shows clearly that the actual credit demand of a family on average is as high as 9,129 rupees. The corresponding figure for the Balaram-Bhandarigach Society is only Rupees 1340. In other words, the total actual demand, during the same agricultural year, of the members of the Sridharpur Cooperative Bank is nearly seven times that of the Balaram Bhandarigach Society. The actual demand for cooperative credit of the members of the

Sridharpur Cooperative Bank compares even more favourably with that of Balaram Bhandarigach Society. It is eleven times that of Balaram Bhandarigach.

It is only natural that when liberal supply of credit improves the income and output position of members, their credit-worthiness will improve and so their demand for non-cooperative loan will also increase. So we find that Sridharpur members' demand for non-cooperative credit is 2.44 times the demand for non-cooperative credit of the members of Balaram Bhandarigach Society.

The per acre total demand for credit of the members of Sridharpur Cooperative Bank is Rs. 2,393.65P. This is 6.46 times that of Balaram-Bhandarigach. The per acre demand for cooperative credit of the members of Sridharpur is Rs. 1975.46p. This is 10.42 times that of Balaram Bhandarigach.

Even though there is a world of difference in the demand for credit between the members of Sridharpur on the one hand and those of Balaram-Bhandarigach on the other, there is one common characteristic of the pattern of credit in both places. This characteristic is that the average receipt of loans or the per family loan varies directly with the farm size or amount of operational holdings. The relevant trend can be observed in tables 8.3 and 8.4. This trend does not apply to per acre loans in either of the cases. The per acre receipt of lowest size farms is the highest among all the three farm sizes. This fact, in reality, acknowledges that poorest farmers everywhere uses up a part of production loan for heightening their level of consumption. At

Table 8.3

Borrowing from the Society in 1991-92 by Farm Size

Farm Size (Acres)	Borrowing (Rs)		
	Total	Per Family	Per Acre
Upto 2	1,28,871	7159.500	3977.500
2-5	1,07,500	8269.230	1372.924
Above 5	1,37,500	15277.777	1718.750
Total	3,73,871	7477.42	1960.519

the same time, they depend more fully on loans for the whole of their productive activities. We see in table 8.5 that non-cooperative loans vary inversely with farm size. By comparing the

Table 8.4

Borrowing from the Society in 1990-91 by Farm Size

Farm Size (Acres)	Borrowing (Rs)		
	Total	Per Family	Per Acre
Upto 2	1,30,345	6860.263	4022.993
2-5	1,41,782	10906.307	3116.09
Above 5	1,40,719	15635.444	1758.987
Total	4,12,846	8,256.92	2614.60

corresponding tables in this chapter and chapter 6 we oberse that the amount of non-cooperative loan is higher also in Sridharpur. With higher productivity status in Sridharpur the higher standards set by the poorer farmers induce them to borrow more .

Table 8.5

Borrowing in Years 1990-92 by Members from Non-Cooperative Sources

Farm Size (Acres)	Borrowing (Rs)		
	Total	Per Family	Per Acre
Upto 2	1,46,500	7918.918	4521.604
2-5	15,000	1153.846	191.570
Above 5	NIL	NIL	NIL
Total	1,61,500	3230.00	846.879

Table 8.6

Receipt of Cooperative Loans by Members 1991-92

Farm Size (Acres)	No. of members inter-viewed	Number of Members who received	Amount of Loan Received (Rs.)	Loan per family	Loan Per Acre (Rs)
Upto 2	25	19	1,30,345	6860.26	4022.99
2-5	15	13	1,41,782	10906.30	1810.75
Above 5	10	9	1,40,719	15635.44	1758.98
Total	50	41	4,12,846	10069.41	2164.89

The picture painted above about the receipt of cooperative loans are a little refined in table 8.6. The averages here are determined by using figures for those who actually borrowed in the year in question rather by the figures of units of the sample. In Sridharpur there is no case of non-repayment. Medium term loans

are, however, repaid in a number of years.

What is written in the paragraph before last is sustained by the data of tables 8.7 and 8.8. Two points need special mention. Firstly, business loans are incurred relatively heavily, in both places, in the lowest farm size, namely, upto 2 acres. Secondly,

Table 8.7

Per Family Components of Non-Cooperative Loans

Sridharpur 1990-92

Farm Size (Acres)	Per Family Borrowing from Non-Cooperatives		
	Consumption Loan (Rs)	Business Loan (Rs)	Marriage Loan (Rs)
Upto 2	340	5600	NIL
2-5	666.66	NIL	333.33
Above 5	NIL	NIL	NIL
Total	370	2800	100

Table 8.8

Per Family Components of Non-Cooperative Loans

Balaram-Bhandarigach 1990-92

Farm Size (Acres)	Per Family Borrowing from Non-Cooperatives		
	Consumption Loan (Rs)	Business Lona (Rs)	Marriage Loan (Rs)
Upto 2	502.27	2800.00	90.90
2-5	250.00	1136.36	295.45
Above	NIL	NIL	222.22
Total	312.26	1633.96	198.11

the per family marriage loans incurred are rather relatively heavier in Balaram-Bhandarigach. We must, however, add what is in fact obvious. What is shown as per family or average family figure is the result of division of total loan in the farm size group by the number of families of the same group. The amount of consumption loan taken by a family is not very large. But the number of families taking such loans is rather large. These loans, as they are individually small, are repaid in instalment through supply in future of labour. But marriage loans contracted by a family is quite large. In Sridharpur only two families contracted such large marriage loans. But in Balaram-Bhandarigach four families contracted marriage loans. So the proportion of families accepting marriage loans is smaller in Sridharpur. This might indicate that some marriages in Sridharpur are financed through accumulated savings.

8.3 USE OF INPUTS IN AGRICULTURAL PRODUCTION

The remarkable achievement of the Sridharpur Cooperative Bank is that almost the whole of the total of farm costs of farms operating not more than 2 acres of cultivable lands is financed by the loans from the Sridharpur Cooperative Bank. This finding is corroborated if we compare table 8.6 with table 8.9. Similarly, if we leave the cost of home mandays out of consideration we find that at least half of the farm costs of the members are financed by loans from the Sridharpur Cooperative Bank.

We use the same method as that we used in section 6.3 for the purpose of calculating the number of bovine animals used by farms whose data are the bases of table 8.9. We estimated that 98 farms had 54 bovine animals. That is to say, a farm had on average 0.55 bovine animals (cows or buffaloes). Similarly we estimate that 149 farms of members of Sridharpur Cooperative Bank own 230 bovine animals. This means that a farm had on average 1.54 bovine animals. The data we use are as follows. Firstly, on average a cow or a buffalo releases about 20 kilograms of dung everyday. Secondly, a farmer buys 2½ quintals of dung on Rs. 100/- only.

Although Sridharpur Cooperative Bank did not give special attention to the development of animal husbandry of members, what is very clear is that the improvement of farm outputs and farm income occasioned by the excellent performance of this Society with unlimited liability has indeed contributed to the development of the bovine resources of its members. The number of bovine animals of its members is about three times that of the members of the Balaram-Bhandarigarch Society.

Table 8.9

USE OF INPUTS AND TOTAL OUTPUT (Rs)

1990-1991

Size of Farms (In Acres)	No. of Farms	Area Given to (In Acres)	PER ACRE					
			Value of Total Output of Crops (Rs)	Cost				
				Seeds (Rs)	Home Mandays (Rs)	Hired Mandays (Rs)	Depreciation (Rs)	Tractor Cost (Rs)
Upto 1	48	66.31	10268.46	1017.68	768.85	728.26	54.03	560.24
1-2	29	102.29	10593.21	1063.40	892-65	732.33	55.49	566.31
2-5	56	406.04	10097.24	955.86	727.34	956.95	47.96	482.64
5-8	11	106.16	9700.11	891.91	372.51	944.72	57.42	537.81
8-11	5	100.6	9900.79	716.36	86.48	1620.87	55.88	620.67
Total	149	781.4	10097.45	935.66	621.79	991.96	51.76	525.44

Table 8.9 (Contd..)

Organic Manures (Rs)	Inorganic Manures (Rs)	Irrigation (Rs)	Insecticides (Rs)	Per Acre Total Cost (Rs)
407.08	567.38	257.77	108.30	4469.64
520.97	568.55	228.23	140.69	4768.68
432.27	560.65	237.23	91.63	4492.57
360.34	442.42	165.78	88.07	3861.02
429.92	518.34	187.27	195.72	4431.55
431.67	540.75	221.66	112.38	4433.11

Table 8.10

USE OF INPUTS AND OUTPUT OF HYV PADDY (PRE-KHARIF)

1990-1991

Size of Farm (In Acres)	No. of Farms	Area Given to (In Acres)	PER ACRE					
			Value of Total Output of Crop (Rs)	COST				
				Seeds (Rs)	Home Mandays (Rs)	Hired Mandays (Rs)	Depreciation (Rs)	Tractor Use (Rs)
Upto 1	41	20.86	5563.18	222.19	770.18	429.91	55.32	490.12
1-2	26	30.82	5926.37	228.26	751.13	454.57	51.46	505.71
2-5	50	130.94	5546.08	217.19	608.58	619.27	47.80	471.39
5-8	8	19.40	6132.98	231.95	323.71	668.04	43.19	494.84
8-11	5	26.60	6442.10	150.75	93.98	1306.76	51.20	493.98
Total	130	228.62	5752.96	212.66	558.49	663.92	48.98	482.34

Table 8.10 (Contd..)

Organic Manures (Rs)	Inorganic Manures (Rs)	Irrigation (Rs)	Insecticides (Rs)	Per Acre Total Cost (Rs)
188.44	198.13	200.00	39.26	2593.57
265.96	244.45	173.49	103.79	2778.84
106.52	191.93	149.83	11.83	2424.37
216.49	260.72	150.00	46.39	2435.35
375.93	195.48	196.99	234.96	3100.06
176.17	205.83	163.10	55.62	2567.15

Table 8.11

USE OF INPUTS AND OUTPUT OF HYV PADDY (KHARIF)

1990-1991

Size of Farm (In Acres)	No. of Farms	Area Given to (In Acres)	Value of Total Output of Crop (Rs)	PER ACRE COST				
				Seeds (Rs)	Home Mandays (Rs)	Hired Mandays (Rs)	Depreciation (Rs)	Tractor Use (Rs)
Upto 1	20	13.1	6895.87	185.95	325.19	743.81	49.11	463.51
1-2	19	27.97	7120.77	167.25	439.75	559.59	58.95	423.34
2-5	36	78.82	6622.50	198.95	494.54	704.54	51.57	486.42
5-8	11	55.56	7397.48	224.55	335.96	772.71	58.31	500.97
8-11	5	38.00	6564.73	147.89	78.94	1273.68	54.21	521.05
Total	91	213.45	6896.01	191.57	361.70	807.02	54.61	486.70

Table 8.11 (Contd..)

Organic Manures (Rs)	Inorganic Manures (Rs)	Irrigation (Rs)	Insecticides (Rs)	Per Acre Total Cost (Rs)
19.08	191.22	-	57.32	2035.26
207.82	168.46	-	32.17	2057.37
204.69	183.59	-	-	1907.93
344.38	214.18	36.71	-	2514.79
-	227.78	-	203.68	2507.26
193.63	197.91	9.55	43.99	2346.72

Table 8.12

USE OF INPUTS AND OUTPUT OF HYV POTATO (WINTER)

1990-1991

Size of Farm (In Acres)	No. of Farms	Area Given to (In Acres	PER ACRE					
			Value of Total Output of Crop (Rs)	COST				
				Seeds (Rs)	Home Mandays (Rs)	Hired Mandays (Rs)	Depreciation (Rs)	Tractor Use (Rs)
Upto 1	43	20.95	19184.86	2766.10	1110.59	1207.58	54.74	724.05
1-2	29	33.9	18836.60	2800.58	1492.92	1143.62	56.72	759.02
2-5	56	125.5	19032.58	2602.29	1107.76	1624.79	48.39	489.72
5-8	9	20.20	21574.25	3742.57	425.74	1861.38	70.19	720.79
8-11	5	25.00	20400.00	2440.00	120.00	2620.00	58.00	960.00
Total	142	225.55	19396.48	2731.44	995.34	1645.22	53.25	624.78

Table 8.12 (Contd..)

Organic Manures (Rs)	Inorganic Manures (Rs)	Irrigation (Rs)	Insecticides (Rs)	Per Acre Total Cost (Rs)
867.49	1326.20	373.65	217.85	8648.30
1035.42	1272.38	400.26	254.66	9215.62
934.02	1341.36	352.82	213.24	8714.42
540.59	1339.10	431.68	319.30	9451.38
1150.00	1410.00	340.00	340.00	9438.00
931.79	1336.99	367.53	328.37	8914.75

Table 8.13

USE OF INPUTS AND OUTPUT OF HYV PADDY (WINTER)

1990-1991

Size of Farm (In Acres)	No. of Farms	Area Given to (In Acres)	PER ACRE					
			Value of Total Output of Crop (Rs)	COST				
				Seeds (Rs)	Home Mandays (Rs)	Hired Mandays (Rs)	Depreciation (Rs)	Tractor Use (Rs)
Upto 1	26	10.52	6704.18	228.51	661.59	406.84	56.74	519.01
1-2	10	9.3	6698.92	225.05	558.06	696.77	53.33	500.00
2-5	43	68.58	6646.31	222.77	540.68	689.29	43.71	495.91
5-8	5	9.00	6220.00	223.33	577.77	711.11	61.11	500.00
8-11	2	8.00	6650.00	162.00	-	1600.00	70.00	500.00
Total	86	105.4	6620.60	218.98	516.41	732.75	49.34	499.24

Table 8.13 (Contd..)

Organic Manures (Rs)	Inorganic Manures (Rs)	Irrigation (Rs)	Insecticides (Rs)	Per Acre Total Cost (Rs)
426.23	300.19	471.48	99.19	3169.81
436.55	295.80	471.50	178.49	3415.58
397.17	285.59	467.45	128.90	3271.50
355.55	295.55	403.33	222.22	3349.99
500.00	275.00	575.00	75.00	3757.00
407.79	287.99	470.90	134.23	3317.66

Table 8.14

USE OF INPUTS AND OUTPUT OF MUSTARDS SEEDS (RABI)

1990-1991

Size of Farms (In Acres)	No. of Farms	Area Given to (In Acres)	PER ACRE					
			Value of Total Output of Crop (Rs)	COST				
				Seeds (Rs)	Home Mandays (Rs)	Hired Mandays (Rs)	Depreciation (Rs)	Tractor Use (Rs)
Upto 1	4	.88	2348.86	65.90	488.63	-	46.59	255.68
1-2	3	.30	3000.00	100.00	200.00	-	76.66	400.00
2-5	4	2.20	3318.18	968.18	254.54	345.45	35.45	200.00
5-8	1	2.00	4000.00	50.00	400.00	200.00	25.00	300.00
8-11	3	3.00	4000.00	46.66	66.66	533.33	63.33	500.00
Total	15	8.38	3611.81	293.31	244.63	329.35	45.58	344.27

Table 8.14 (Contd..)

Organic Manures (Rs)	Inorganic Manures (Rs)	Irrigation (Rs)	Insecticides (Rs)	Per Acre Total Cost (Rs$
173.86	48.86	151.13	-	1230.67
400.00	90.00	150.00	-	1416.66
445.45	54.54	168.18	24.545	2496.35
400.00	150.00	150.00	-	1675.00
166.66	280.00	166.66	-	1823.33
304.65	158.71	160.85	6.443	1887.82

Regarding the most important input, namely, mandays of labour we find, on the basis of table 8.9 and the fact that the total of net cultivable lands of 149 members is 425.92 acres, that one acre of net cultivable land gives full employment to ten persons in a year. For this purpose we treat 300 days of employment of a person in a year as his full employment. Compared to this, an acre of net cultivable land of the members of the Balaram-Bhandarigach Society gives full employment to only 1.7 persons in a year. For this calculation we use table 6.12, the fact that the total of net cultivable lands of 98 members of Balaram-Bhandarigah Society amounts to 344.59 acres and the same definition of full employment. The conclusion here is that an acre of net cultivable land in Sridharpur gives full employment to a number of people which is at least 5 times of what the same amount of net cultivable land of members of Balaram-Bhandarigach Society offers.

8.4 COMPARISON OF OUTPUT PER ACRE

Using the materials we used in the preceding paragraph we find that while the value of total output per acre of the members of the Balaram-Bhandarigach Society is Rs. 3,766.43P, that of the members of Sridharpur Cooperative Bank is Rs. 18,524.95P. If we are allowed to use an oversimplified method of deducing per acre paddy equivalent or paddy in kilograms we can divide the above figures by the average price per kilo of paddy. Thus we find that while an acre of net cultivable land of members of the Balaram-Bhandarigach Society produces 975.759 kilograms of paddy

(paddy equivalent), the same amount of land of the members of the Sridharpur Cooperative Bank produces 4,799.210 kilograms. That is to say, the members of the Sridharpur Cooperative Bank produce per acre of net cultivable land 4.92 times what their counterparts of Balaram-Bhandarigach produce per net cultivable acre.

Thus both in respect of output as well as employment, Sridharpur Cooperative Bank's achievement is nearly five times that of Balaram-Bhandarigach. This is indeed remarkable.

But we must mention here that Sridharpur Cooperative Bank is the only surviving agricultural cooperative credit society with unlimited liability. The post-forties legislations of West Bengal on Cooperative Societies have eventually banned the formation of such societies with unlimited liability. The political parties in power from time to time are prone, consciously or unconsciously to use the Cooperative Societies as instruments of capturing votes. We suspect influence of political parties on the unions of workers of this Cooperative Society. What would be more harmful if the political parties nominated candidates for the posts of members of the Board of Directors. We have not made a thorough investigation into the matter. But there are clear signs of dissension. What is certain is that the General Meetings of the members are not as crowded and as long-lasting as they were some years ago.

Our suspicion is, therefore, quite normal that but for outside interference the members of the society could have acted with still greater efficiency in the past few years.

8.5 EXPECTATIONS IN THE RISE OF DEMAND FOR CREDIT

We have derived some production functions on the basis of 149 farms of members of the Sridharpur Cooperative Bank. These functions are presented in tables 8.15 to 8.36. The meaning of the mnemonic names of the independent variables can be stated as follows:

VAS	= the value of seeds (in Rs.)
HOL	= the value of home mandays (in Rs.)
HIL	= the value of hired mandays (in Rs.)
VATS	= the value of tractor services (in Rs.)
VOR	= the value of organic manures (in Rs.)
VAIN	= the value of inorganic manures (in Rs.)
VINS	= the value of insecticides (in Rs.)
VIR	= the value of irrigation (in Rs.)
VAD	= the value of depreciation (in Rs.)

As in Chapter VI, so also here we use the simple approach taking the stand that if one regression co-efficient is significant, the whole regression is significant. So of all the functions we present our conclusions are deduced principally on table 8.15 and 8.16.

Table 8.15

Production Function (Linear)

Dependent variable = Value of Total Output

Variables	Regression Co-efficients	T with D.F = 139
Constant	5627.8	3.6691
VAS	1.5254	2.8768
HOL	0.2550	0.8041
HIL	0.2322	0.7874
VATS	3.1648	3.6980
VOR	1.6566	2.2914
VAIN	5.6559	5.4944
VINS	-0.1734	-0.1118
VIR	1.0721	0.7410
VAD	22.121	2.7410
R^2		0.7341521

Table 8.16

Production Function (Cobb-Douglas Type)

Dependent Variable = Value of Total Output

Variables	Regression Co-efficients	T with D.F = 139
Constant	5.2498	17.581
VAS	.091450	2.4720
HOL	.0046436	1.5569
HIL	.0053197	1.9909
VATS	0.2708	5.4007
VOR	.025686	1.3769
VAIN	0.2149	4.1518
VINS	.016796	1.7650
VIR	.038210	1.8596
VAD	.040180	3.1282
R^2		0.8520708

Table 8.17

Production Function (Linear)

Dependent Variable = Physical Amount in Kilos of HYV Paddy (Pre-Kharif)

Variables	Rregression Co-efficients	T with D.F = 120
Constant	1480.5	6.7709
VAS	-0.1718	-1.7955
HOL	- .042302	-0.3572
HIL	.00034011	.0029179
VATS	-0.1079	-0.4464
VOR	0.1187	0.7424
VAIN	0.4064	0.9919
VINS	0.6858	2.2807
VIR	.0065464	.012020
VAD	-0.8618	-0.7094
R^2		0.1459122

Table 8.18

Production Function (Cobb-Douglas Type)

Dependent Variable = Physical Amount in Kilos of HYV Paddy (Pre-Kharif)

Variables	Regression Co-efficients	T with D.F = 120
Constant	7.4437	23.105
VAS	-.059583	-1.3001
HOL	-.0033836	-0.3805
HIL	-.00011362	- .014758
VATS	-.019945	-0.9198
VOR	.010317	1.4320
VAIN	.050099	1.9676
VINS	.013688	1.5552
VIR	-.0043850	-0.3175
VAD	-.0010042	- .043797
R^2		0.1595615

Table 8.19

Production Function (Linear)

Dependent Variable = Value of Output of HYV Paddy (Pre-Kharif)

Variables	Regression Co-efficients	T with D.F = 120
Constant	2221.0	1.9080
VAS	5.1886	3.0053
HOL	-1.1180	-2.2775
HIL	-1.0462	-2.2480
VATS	4.7804	1.9945
VOR	0.5356	0.8893
VAIN	5.9239	2.9417
VINS	1.6389	1.4840
VIR	-0.2078	-0.1086
VAD	-2.5281	-1.5547
R^2		0.3886332

Table 8.20

Production Function (Cobb-Douglas Type)

Dependent Variable = Value of Output of HYV Paddy (Pre-Kharif)

Variables	Regression Co-efficients	T with D.F = 120
Constant	4.3024	2.6931
VAS	0.1230	1.0795
HOL	.0066371	0.5397
HIL	.0055251	0.5167
VATS	0.3108	1.1198
VOR	.0093801	0.8584
VAIN	0.3220	3.0798
VINS	-.0022358	-0.1759
VIR	-.0032919	-0.1848
VAD	-.010998	-0.3521
R^2		0.2425406

Table 8.21

Production Function (Linear)

Dependent Variable = Physical Amount in Kilos of HYV Paddy (Kharif)

Variables	Regression Co-efficients	T with D.F = 81
Constant	1442.8	6.7698
VAS	0.5717	1.2153
HOL	-.087953	-0.8849
HIL	-.027353	-0.2721
VATS	-0.2877	-1.0585
VOR	0.2252	2.0363
VAIN	-0.2067	-0.8536
VINS	0.3222	1.1798
VIR	-14.641	-1.3956
VAD	3.3709	3.3171
R^2		0.2210623

Table 8.22

Production Function (Cobb-Douglas Type)

Dependent Variable = Physical Amount in Kilos of HYV Paddy (Kharif)

Variables	Regression Co-efficients	T with D.F = 81
Constant	7.3803	17.245
VAS	.044744	0.7184
HOL	-.0014909	-0.2505
HIL	.0010419	0.1654
VATS	-.067360	-1.3772
VOR	.011358	2.0193
VAIN	-.010870	-1.0334
VINS	.0067531	0.9565
VIR	-.022282	-0.6611
VAD	.037439	1.9814
R^2		0.1495918

Table 8.23

Production Function (Linear)

Dependent Variable = Value of Output of HYV Paddy (Kharif)

Variables	Regression Co-efficients	T with D.F = 81
Constant	4174.9	5.3156
VAS	5.0204	2.9930
HOL	-0.7508	-2.0478
HIL	-1.0354	-2.7902
VATS	3.8954	3.0636
VOR	0.4766	1.2815
VAIN	2.4688	2.8107
VINS	1.4486	1.4236
VIR	-32.364	-0.8352
VAD	5.7785	1.3959
R^2		0.4393844

Table 8.24

Production Function (Cobb-Douglas Type)

Dependent Variable = Value of Output of HYV Paddy (Kharif)

Variables	Regression Co-efficients	T with D.F = 81
Constant	5.4977	10.419
VAS	0.1769	3.9225
HOL	-.0066176	-1.4322
HIL	-.014107	-2.8793
VATS	0.3786	4.7812
VOR	.0092764	2.3897
VAIN	.025856	3.5087
VINS	-.000056513	-.010313
VIR	-.012928	-0.5076
VAD	.0034993	0.1800
R^2		0.5238776

Table 8.25

Production Function (Linear)

Dependent Variable = Physical Amount in Kilos of HYV Paddy (Rabi)

Variables	Regression Co-efficients	T with D.F = 76
Constant	3274.5	3.5112
VAS	-2.7827	-4.5539
HOL	0.2966	1.8423
HIL	0.2572	1.5907
VATS	-1.6460	-0.7871
VOR	0.1042	0.2795
VAIN	-1.3689	-2.2231
VINS	- .083639	-0.3012
VIR	-0.4045	-0.7079
VAD	3.1326	1.9068
R^2		0.4490421

Table 8.26

Production Function (Cobb-Douglas Type)

Dependent Variable = Physical Amount in Kilos of HYV Paddy (Rabi)

Variables	Regression Co-efficients	T with D.F = 76
Constant	12.748	4.7405
VAS	-0.1888	-2.4180
HOL	- .019933	-2.7390
HIL	- .018207	-2.9752
VATS	-0.5668	-1.0422
VOR	- .052027	-0.7657
VAIN	-0.1626	-1.7961
VINS	.010481	1.4514
VIR	.079885	0.5217
VAD	.034725	1.7503
R^2		0.5483538

Table 8.27

Production Function (Linear)

Dependent Variable = Value of Output of HYV Paddy (Rabi)

Variables	Regression Co-efficients	T with D.F = 76
Constant	2816.2	1.9812
VAS	-2.9623	-3.2497
HOL	0.3031	1.2338
HIL	0.2945	1.1930
VATS	8.7051	2.7399
VOR	1.0591	1.8432
VAIN	-0.7364	-0.7831
VINS	-0.4196	-0.9910
VIR	-1.1131	-1.2997
VAD	4.2473	1.6736
R^2		0.3114220

Table 8.28

Production Function (Cobb-Douglas Type)
Dependent Variable = Value of Output of HYV Paddy (Rabi)

Variables	Regression Co-efficients	T with D.F = 76
Constant	5.4195	4.9288
VAS	-.055498	-1.7630
HOL	-.0069399	-2.3291
HIL	-.0064272	-2.5580
VATS	0.5835	2.6351
VOR	.048012	1.7111
VAIN	-.011399	-0.3069
VINS	-.00013978	-.047182
VIRS	-.029801	-0.4824
VAD	.023126	2.7365
R^2		0.4213906

Table 8.29

Production Function (Linear)

Dependent Variable = Physical Amount in Kilos of Mustard Seeds (Rabi)

Variables	Regression Co-efficients	T with D.F = 5
Constant	-220.97	-0.6585
VAS	-1.4860	-0.9473
HOL	0.5640	1.2760
HIL	0.3846	0.9332
VATS	-0.1200	-0.1867
VOR	0.4561	1.7646
VAIN	0.6829	1.0486
VINS	-.0052991	-.0077222
VIR	0.3061	0.2061
VAD	4.2689	1.9239
R^2		0.8033246

Table 8.30

Production Function (Cobb-Douglas Type)

Dependent Variable = Physical Amount in Kilos of Mustard Seeds (Rabi)

Variables	Regression Co-efficients	T with D.F = 5
Constant	3.6229	2.8976
VAS	0.6045	3.2488
HOL	0.1762	7.2404
HIL	.093279	5.2597
VATS	-0.4317	-3.3541
VOR	-0.2596	-5.5322
VAIN	.082756	5.0317
VINS	-.029263	-1.7497
VIR	0.3397	1.6253
VAD	.099000	0.9988
R^2		0.9797073

Table 8.31

Production Function (Linear)

Dependent Variable = Value of Output of Mustard Seeds (Rabi)

Variables	Regression Co-efficients	T with D.F = 5
Constant	135.93	.058984
VAS	5.4679	0.5535
HOL	4.3800	1.5933
HIL	3.3618	1.3654
VATS	-2.2956	-0.5125
VOR	4.6789	3.1309
VAIN	10.168	2.3895
VINS	13.333	0.2776
VIR	-13.301	-1.5338
VAD	20.798	1.5296
R^2		0.9054429

Table 8.32

Production Function (Cobb-Douglas Type)

Dependent Variable = Value of Output of Mustard Seeds (Rabi)

Variables	Regression Co-efficients	T with D.F = 5
Constant	11.472	3.3938
VAS	0.8534	1.9498
HOL	0.1174	2.1888
HIL	0.1018	2.5714
VATS	-0.6422	-1.8858
VOR	-0.2241	-2.1122
VAIN	0.1564	3.5800
VINS	-.064331	-0.9470
VIR	-0.7281	-1.3543
VAD	.024115	.094019
R^2		0.8803852

Table 8.33

Production Function (Linear)

Dependent Variable = Physical Amount in Kilos of HYV Potato (Rabi

Variables	Rregression Co-efficients	T with D.F = 132
Constant	7653.6	8.9591
VAS	-.029966	-0.2989
HOL	-0.1958	-1.6611
HIL	-0.1107	-0.9297
VATS	-0.2858	-1.3216
VOR	0.7134	2.5609
VAIN	0.3567	1.1012
VINS	0.9019	2.6635
VIR	0.2408	0.2042
VAD	-0.5236	-0.2977
R^2		0.1461163

Table 8.34

Production Function (Cobb-Douglas Type)

Dependent Variable = Physical Amount in Kilos of HYV Potato (Rabi)

Variables	Regression Co-efficients	T with D.F = 132
Constant	9.1708	17.440
VAS	-.039214	-0.9077
HOL	-.0051633	-1.5875
HIL	.00093524	0.3636
VATS	-.0033919	-0.6469
VOR	.0086526	0.5771
VAIN	.0012839	.028376
VINS	.042192	3.6659
VIR	-.0046297	-0.1283
VAD	-.013535	-0.6133
R^2		0.1402674

Table 8.35

Production Function (Linear)

Dependent Variable = Value of Output of HYV Potato (Rabi)

Variables	Regression Co-efficients	T with D.F = 132
Constant	15870	9.8203
VAS	.029034	0.3848
HOL	-0.4023	-2.3380
HIL	-.081138	-0.8450
VATS	-.054685	-0.1299
VOR	0.2086	0.3579
VAIN	1.5121	2.1786
VINS	1.9772	1.5984
VIR	4.0585	1.5999
VAD	-1.8311	-0.7635
R^2		0.1324312

Table 8.36

Production Function (Cobb-Douglas Type)

Dependent Variable = Value of Output of HYV Potato (Rabi)

Variables	Regression Co-efficients	T with D.F = 132
Constant	8.8191	20.818
VAS	.041399	1.8489
HOL	-.0016620	-0.5265
HIL	.0034073	1.3546
VATS	.0032940	0.6550
VOR	-.010814	-0.8146
VAIN	.062600	1.4544
VINS	.022212	1.9609
VIR	.052161	1.5171
VAD	-.028332	-1 .4826
R^2		0.1348657

Table 8.37

Marginal Productivity Corresponding to Table Number 8.15

Input	Marginal Productivity
VAS	1.5254
HOL	0.2550
HIL	0.2322
VATS	3.1648
VOR	1.6566
VAIN	5.6559
VINS	-0.1734
VIR	1.0721
VAD	22.121

Table 8.38

Marginal Productivity Corresponding to Table Number 8.16

Input	Marginal Productivity
VAS	0.973
HOL	0.068
HIL	0.064
VATS	4.818
VOR	0.611
VAIN	3.961
VINS	1.468
VIR	1.588
VAD	12.922

Table 8.39

Marginal Productivity Corresponding to Table Number 8.17

Input	Marginal Productivity
VAS	-0.1718
HOL	- .042302
HIL	.00034011
VATS	-0.1079
VOR	0.1187
VAIN	0.4064
VINS	0.6858
VIR	.0065464
VAD	-0.8618

Table 8.40

Marginal Productivity Corresponding to Table Number 8.18

Input	Marginal Productivity
VAS	-0.260
HOL	-0.008
HIL	-0.0002
VATS	-0.061
VOR	0.075
VAIN	0.367
VINS	0.289
VIR	-0.045
VAD	-0.025

Table 8.41

Marginal Productivity Corresponding to Table Number 8.19

Input	Marginal Productivity
VAS	5.1836
HOL	-1.1180
HIL	-1.0462
VATS	4.7804
VOR	0.5356
VAIN	5.9239
VINS	1.6389
VIR	-0.2078
VAD	-2.5281

Table 8.42

Marginal Productivity Corresponding to Table Number 8.20

Input	Marginal Productivity
VAS	3.277
HOL	0.065
HIL	0.050
VATS	3.599
VOR	0.314
VAIN	8.742
VINS	-0.205
VIR	-0.125
VAD	-1.161

Table 8.43

Marginal Productivity Corresponding to Table Number 8.21

Input	Marginal Productivity
VAS	0.5717
HOL	-.087953
HIL	-.027353
VATS	-0.2877
VOR	0.2252
VAIN	-0.2067
VINS	0.3222
VIR	-14.641
VAD	3.3709

Table 8.44

Marginal Productivity Corresponding to Table Number 8.22

Input	Marginal Productivity
VAS	0.348
HOL	-0.005
HIL	0.002
VATS	-0.211
VOR	0.169
VAIN	-0.086
VINS	0.283
VIR	-25.626
VAD	1.130

Table 8.45

Marginal Productivity Corresponding to Table Number 8.23

Input	Marginal Productivity
VAS	5.0204
HOL	-0.7508
HIL	-1.0354
VATS	3.8954
VOR	0.4766
VAIN	2.4688
VINS	1.4486
VIR	-32.364
VAD	5.7785

Table 8.46

Marginal Productivity Corresponding to Table Number 8.24

Input	Marginal Productivity
VAS	6.225
HOL	-0.114
HIL	-0.128
VATS	5.313
VOR	0.446
VAIN	0.924
VINS	-0.010
VIR	-67.213
VAD	0.471

Table 8.47

Marginal Productivity Corresponding to Table Number 8.25

Input	Marginal Productivity
VAS	-2.7827
HOL	0.2966
HIL	0.2572
VATS	-1.6460
VOR	0.1042
VAIN	-1.3689
VINS	-.083639
VIR	-0.4045
VAD	3.1326

Table 8.48

Marginal Productivity Corresponding to Table Number 8.26

Input	Marginal Productivity
VAS	-1.50
HOL	-0.057
HIL	-0.057
VATS	-2.037
VOR	-0.229
VAIN	-1.019
VINS	0.137
VIR	0.302
VAD	1.673

Table 8.49

Marginal Productivity Corresponding to Table Number 8.27

Input	Marginal Productivity
VAS	-2.9623
HOL	0.3031
HIL	0.2945
VATS	8.7051
VOR	1.0591
VAIN	-0.7364
VINS	-0.4196
VIR	-1.1131
VAD	4.2473

Table 8.50

Marginal Productivity Corresponding to Table Number 8.28

Input	Marginal Productivity
VAS	-1.720
HOL	-0.075
HIL	-0.075
VATS	7.867
VOR	0.795
VAIN	-0.268
VINS	-0.006
VIR	-0.422
VAD	3.179

Table 8.51

Marginal Productivity Corresponding to Table Number 8.29

Input	Marginal Productivity
VAS	-1.4860
HOL	0.5640
HIL	0.3846
VATS	-0.1200
VOR	0.4561
VAIN	0.6829
VINS	-.0052991
VIR	0.3061
VAD	4.2689

Table 8.52

Marginal Productivity Corresponding to Table Number 8.30

Input	Marginal Productivity
VAS	3.481
HOL	0.225
HIL	0.127
VATS	-0.515
VOR	-0.335
VAIN	0.240
VINS	-0.924
VIR	0.778
VAD	0.815

Table 8.53

Marginal Productivity Corresponding to Table Number 8.31

Input	Marginal Productivity
VAS	5.4679
HOL	4.3800
HIL	3.3618
VATS	-2.2956
VOR	4.6789
VAIN	10.168
VINS	13.333
VIR	-13.301
VAD	20.798

Table 8.54

Marginal Productivity Corresponding to Table Number 8.32

Input	Marginal Productivity
VAS	45.215
HOL	1.380
HIL	1.285
VATS	-7.063
VOR	-2.666
VAIN	4.180
VINS	-93.004
VIR	-15.350
VAD	1.826

Table 8.55

Marginal Productivity Corresponding to Table Number 8.33

Input	Marginal Productivity
VAS	-.029966
HOL	-0.1958
HIL	-0.1107
VATS	-0.2858
VOR	0.7134
VAIN	0.3567
VINS	0.9019
VIR	0.2408
VAD	-0.5236

Table 8.56

Marginal Productivity Corresponding to Table Number 8.34

Input	Marginal Productivity
VAS	-0.092
HOL	-0.030
HIL	5.723
VATS	-0.036
VOR	0.080
VAIN	8.690
VINS	0.878
VIR	-0.112
VAD	-1.242

Table 8.57

Marginal Productivity Corresponding to Table Number 8.35

Input	Marginal Productivity
VAS	.029034
HOL	-0.4023
HIL	-.081138
VATS	-.054685
VOR	0.2086
VAIN	1.5121
VINS	1.9772
VIR	4.0585
VAD	-1.8311

Table 8.58

Marginal Productivity Corresponding to Table Number 8.36

Input	Marginal Productivity
VAS	0.151
HOL	-0.022
HIL	0.044
VATS	0.081
VOR	-0.234
VAIN	0.979
VINS	1.107
VIR	2.930
VAD	-5.873

Despite difficulties of finding true input responses, we can say that the society, in general, enhanced the productivity of farms of their members through better seeds, tractor services, implements, irrigation, inorganic manures and organic manures.

There are still great scope for increased use of all these inputs. Demand for credit on the basis of expanded demand for these inputs is expected to increase many times. There is unlimited scope of diversifying the activities of members' enterprises. This is especially because there is great unused land reserve because intensity of use of lands is not very high when we compare the amounts net cultivable lands and gross cultivated lands. Unused land reserve shall remain till the ratio of gross cultivated to net cultivable land is 3:5.

Animal husbandry, pisciculture and farm forestry for organic manures and fuel wood are important activities which Sridharpur Cooperative Bank must finance with expert advice from an agricultural development planner.