



A Comparative Study of Borrowing and Non-Borrowing Agricultural Households in Marginal Size Class in Nadia District of West Bengal

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ABSTRACT

For conducting this study two villages from Haringhata and Chakdah blocks in Nadia district of West Bengal were selected purposively. Out of 122 marginal agricultural households 50 (fifty) were selected by the technique of Simple Random Sampling Without Replacement. Data were collected from sample agricultural households by survey method on size of operational holding, size of family, area of land under various crops, amount of credit taken from various sources and its uses, source wise income earned, etc. Objectives of the study were to find allocation of land to various crops by borrowing and non-borrowing agricultural households, to compare costs and returns in crop production, income earned from various sources in these two categories of agricultural households. The results of the study revealed that the agricultural households in borrowing category recorded higher percentages of land allocation than those in non-borrowing category for oilseeds, vegetables and fruits. On the other hand percentage areas under cereals, pulses, fibre crops, potato and spices were found to be higher in non-borrowing category than in borrowing category. Level of input use, gross return and net return were noted to be higher in non borrowing category than in borrowing category. Average annual level of income earned from various sources was higher in agricultural households in non-borrowing category than that of agricultural households in borrowing category. In spite of use of a portion of credit in crop production, level of input use was recorded to be lower in the category of borrowing households than in the category of non-borrowing households. Availability of higher amount of credit to the borrowing agricultural households could enable them in using inputs in larger quantity.

Keywords: Operational holding, simple random sampling without replacement, marginal agricultural household, gross cropped area, gross return, net return

Two important objectives of agricultural planning in India are to raise the standard of living of agrarian community and to attain self sufficiency in food through increase in agricultural production in the country. Any production activity requires various factors of production like land, labour, capital and entrepreneurship. With limited capital farmers cannot utilise other factors in proper way. Today agricultural development largely depends upon penetration of technology in agricultural fields. Adoption of technology necessitates strengthening of the base of capital of the cultivators. They cannot undertake high value crops which generally

require relatively higher amount of fund. In this situation agricultural credit plays an important role in strengthening capital base of the marginal and small farmers. In general, rural people have to face a number of problems with credit. They do not obtain it in time, in adequate quantity, sometimes they get but at exorbitantly high rate of interest. These phenomena happen to a larger extent in case of marginal farmers who are also burdened with collateral problems. As a result marginal farmers cannot improve their fund capability. Consequently they cannot attain average productivity level of the farming community. In this study it was attempted

to compare level of input use as reflected by cost of the agricultural households in borrowing and non-borrowing categories. Level of productivity as reflected by return was also compared between two categories of households in this study. It is a general opinion of the cultivators that amount of loan is not available with the farmers in an amenable condition as desired by them. Though it was a cross sectional study this would reveal some facts which might help in framing policy regarding agricultural credit.

Objectives

The specific objectives of the study are as follows:

- ♦ To make a comparison in respect of allocation of land to different crops between borrowing and non-borrowing marginal agricultural households.
- ♦ To compare level of input use in crop production of borrowing and non-borrowing marginal agricultural households.
- ♦ To compare income earned from various sources of the two categories of agricultural households.

MATERIALS AND METHODS

The study was conducted in Nadia district of West Bengal. Two villages, from Haringhata and Chakdah blocks were selected purposively. Complete enumeration of rural households was exercised in respect of their operational holding and borrowed fund, if any. The whole of the agricultural households were divided into two viz. borrowing and non-borrowing categories. In proportion of dominance of borrowing and non-borrowing categories of agricultural households in the population 17 (seventeen) agricultural households from borrowing

and 33 (thirty three) from non-borrowing category were selected as ultimate samples by the technique of Simple Random Sampling Without Replacement. Data were collected by survey method from sample agricultural households in both borrowing and non-borrowing categories. Data were collected on size of operational holding, size of family, area under different crops, input used in crop production and their costs, source wise income earned, amount of credit taken from various sources and uses, etc. A uniform cost for each individual item of input and a uniform price for each individual agricultural commodity were considered for both the category of agricultural households. The concept of Cost C was used in this study. Tabular method of analysis was extensively used in this study. This is a cross sectional study. The reference period of the study pertained to 2011-12 agricultural year.

RESULTS AND DISCUSSION

Operational holding of marginal agricultural households in borrowing and non-borrowing categories was presented in table 1. It was found that the borrowing agricultural households accounted for 34 per cent of the total agricultural households whereas non-borrowing agricultural households accounted for 66 per cent of the total agricultural households. Concerned to the ownership of land it was noted that borrowing categories of agricultural households owned about 33 per cent of the total owned land. The corresponding figure for non-borrowing category was found to be 67 per cent. Leased in land as percentage of total operational holding in borrowing category were 15.12. Amount of leased-in land in non-borrowing category accounted for 27.50 per cent of the operational holding. Borrowing category of agricultural

Table 1: Operational Holding of Marginal Agricultural Households in Borrowing and Non-Borrowing Categories

Category of households	Number of agricultural households	Owned land (ha)	Leased- in land (ha)	Leased- out land (ha)	Operational holding (ha)	Average size of operational holding (ha)
Borrowing	17 (34)	5.05 (32.75)	0.90 (15.12)	—	5.95	0.35
Non borrowing	33 (66)	10.37 (67.25)	3.63 (27.50)	0.80 (7.71)	13.20	0.40
Combined	50 (100)	15.54 (100.00)	4.53 (23.65)	0.80 (5.18)	19.15	0.38

NB: i) Figures in parentheses in column 2 and 3 indicate percentage of total in combined category.

ii) Figures in parentheses in column 4 indicate percentage of total operational holding in respective categories.

iii) Figures in parentheses in column 5 indicate percentage of owned land in respective categories.

households was not reported to lease out their land. In non-borrowing category amount of leased out land was found to be 7.71 per cent of the owned land. Average size of operational holding per non-borrowing agricultural household was noted to be slightly higher than that per borrowing agricultural household.

Irrespective of the categories of the agricultural households it was noted that amount of leased in land accounted for 23.65 per cent of the total operational holding. Amount of leased out land was found to be 5.18 per cent of the owned land. Average size of operational holding was noted to be 0.38 hectare.

Size of family of marginal agricultural households in borrowing and non-borrowing categories was displayed in table 2. In both the categories of agricultural households percentage of male population was higher than that of female population. Percentage of male population was found to be higher in borrowing category than in

non-borrowing category. But percentage of female population was noted to be almost same in both the categories of agricultural households. Percentage of children was observed to be higher in non-borrowing category than in borrowing category of agricultural households. Average size of family was recorded to be slightly higher in non-borrowing category than in borrowing category. Irrespective of the categories average size of family was recorded to be 5.64.

Average size of land (ha) under various types of crops per marginal agricultural household in borrowing and non-borrowing category was displayed in table 3. Different types of crops which were cultivated by two categories of agricultural households were cereals, pulses, oilseeds, vegetables, fibre crops, potato, spices and fruits. Percentage areas under different types of crops of gross cropped area were also presented in the table. In the category of borrowing households percentage area under oilseeds was found to be the highest. No wide difference was noted between percentage areas

Table 2: Size of Family of Marginal Agricultural Households in Borrowing and Non-Borrowing Categories

Category of households	Number of people				Average size of family
	Male	Female	Child	Total	
Borrowing	41 (44.08)	36 (38.71)	16 (17.21)	93 (100.00)	5.47
Non-borrowing	74 (39.15)	72 (38.09)	43 (22.75)	189 (100.00)	5.72
Combined	115 (40.78)	108 (38.29)	59 (20.92)	282 (100.00)	5.64

NB: Figures in parenthesis indicate percentage of total in the respective category.

Table 3: Average Size of Land (Ha) Under Various Types of Crops per Marginal Agricultural Household in Borrowing and Non-Borrowing Categories

Particulars	Category of households	Borrowing	Non-borrowing	Combined
Food grains	Cereals	0.157 (17.41)	0.208 (23.83)	0.191 (21.66)
	Pulses	0.058 (6.43)	0.058 (6.64)	0.058 (6.57)
Oilseeds		0.212 (23.50)	0.167 (19.13)	0.182 (20.63)
Vegetables		0.204 (22.62)	0.115 (13.17)	0.145 (16.44)
Potato		0.043 (4.77)	0.64 (7.33)	0.057 (6.46)
Spices		0.086 (9.53)	0.088 (10.08)	0.088 (9.98)
Fruits		0.069 (7.65)	0.022 (2.52)	0.037 (4.20)
Fibres		0.073 (8.09)	0.151 (17.30)	0.124 (14.06)
Gross cropped area		0.902 (100.00)	0.873 (100.00)	0.882 (100.00)
Net cropped area		0.354	0.405	0.387
Cropping intensity		254.80	215.55	227.90

NB: Figures in parenthesis indicate percentage area to gross cropped area in the respective category.

under oilseed and vegetable crops in this category. After next vegetables a large area in terms of percentage was found to be allocated to cereals. The other types of crop in descending order of percentage coverage of gross cropped area were spices, fibre crops, fruits, pulses and potato. In this category percentage area under various types of crops was found to range from 4.47 per cent to 23.50 per cent. Pattern of allocation of land in the category of non-borrowing agricultural households was observed to differ from that in the category of borrowing agricultural households. In non-borrowing category cereals were found to cover the largest area. Oilseeds were noted to occupy second position in terms of percentage coverage of gross cropped area. Next to oilseeds a larger area was also found to be allocated to fibre crops. The other types of crops in descending order to percentage coverage of gross cropped area were vegetables, spices, potato, pulses and fruits. In this category percentage area under various types of crops ranged from 2.25 per cent to 23.83 per cent.

Irrespective of the categories it was observed that land under cereals account for the highest percentage

of gross cropped area. No wide difference was noted between the percentage shares under this type of crop and oilseeds. In land allocation vegetables and fibre crops were also important to the agricultural households in terms of percentage coverage of land. The other types of crops in descending order to percentage coverage of land were spices, pulses, potato and fruits.

Cost, gross return and net return in crop production of marginal agricultural households were presented in table 4. These three variables were displayed per household basis and per hectare basis. Cost, gross return and net return per agricultural household were found to be higher in the non-borrowing category than in the borrowing category. The former category was also noted to be in superior position to the later in respect of cost, gross return and net return per hectare. Obviously the marginal agricultural households in borrowing category had no fund capability for increasing level of input used in crop production at least to the extent up to which inputs were applied by the non-borrowing category of agricultural households. Consequently this was reflected on earning of gross return per

Table 4: Costs and returns in crop production of marginal agricultural households in borrowing and non-borrowing categories in 2011-2012

Category of households	Gross cropped area per agricultural household (ha)	Cost per agricultural household (₹)	Gross return per agricultural household (₹)	Net return per agricultural household (₹)
Borrowing	0.902	43610 (48348)	68030 (75421)	24420 (27073)
Non-borrowing	0.873	55855 (63981)	83792 (95982)	27937 (32001)
Combined	0.882	51692 (58608)	78433 (88926)	26741 (30318)

NB: Figures in parentheses indicate per ha costs and returns in the respective category.

Table 5: Average annual income per marginal agricultural household from various sources in borrowing and non-borrowing categories

Category of households	Amount of income from various sources (in ₹)						Total annual income	Per capita income
	Crop production	Livestock	Fishery	Service	Business	Wage labour		
Borrowing	24420 (52.13)	12327 (26.32)	909 (1.94)	5091 (10.87)	2941 (6.28)	1151 (2.46)	46839 (100.00)	8563
Non-borrowing	27937 (54.07)	7710 (14.92)	2118 (4.10)	8118 (15.71)	5152 (9.97)	635 (1.23)	51670 (100.00)	9033
Combined	26741 (53.45)	9280 (18.55)	1707 (3.41)	7089 (14.17)	4400 (8.80)	810 (1.62)	50027 (100.00)	8870

NB: Figures in parentheses indicate percentage of total annual income in the respective categories

unit area. Cost per hectare was found to be less in borrowing category of households than in non-borrowing category. In spite of allocation of land by the former category of households to high value crops like fruits and vegetables requiring more fund was higher as compared to that by the later, cost per hectare was found to be less in the former category of households (as referred to table 3 and annex table 1).

Annual income of marginal agricultural households in two categories was presented in table 5. Marginal agricultural households in both the categories were found to earn their income from various sources like crop production, livestock, fishery, service, business and wage labour. Agricultural households in borrowing category were observed to earn the largest portion of annual income from crop production. In this category the other sources of income were found to be livestock, service and business. In non-borrowing category also the largest share of annual income was found to be accrued from crop production. The other important sources were service, livestock and business in this category. Source wise comparison of income between two categories revealed that agricultural households in borrowing category were in superior position when sources of income like livestock and wage labour were taken into account.

Table 6: Average Amount of Credit Obtained Per Marginal Agricultural Households and Its Uses

Credit and its various uses	Amount (₹)
Credit obtained from various sources	36000 (100.00)
Amount of credit used in:	
I Crop production	13647 (37.91)
II Ceremony	4118 (11.44)
III Food consumption	2647 (7.35)
IV Health care	3823 (10.62)
V Housing	11765 (32.68)

NB: Figures in parentheses indicate percentage of credit received by borrowing agricultural households.

On the other hand, income earned from crop production, fishery, service and business in non-borrowing category were noted to be higher than incomes of those sources in borrowing category. Annual income per agricultural household was

found to be higher in non-borrowing category than borrowing category. Per capita income was also recorded to be higher for agricultural households in non-borrowing category. As a whole i.e. irrespective of the categories the highest income which was more than half of the total income was earned from crop production. The other sources in descending order of generating annual income were found to be livestock, service, business, etc.

Uses of credit taken by borrowing marginal agricultural households were displayed in table 6. Credit taken by agricultural households was noted to be used in crop production, ceremonies, food consumption, health care and house building. A large portion of credit was found to be used in crop production. This accounted for about 38 per cent of the total credit. The other uses of credit in descending order of percentage share were related to house building, ceremonies, health care and food consumption. Though the highest percentage of credit was utilized by the agricultural households in crop production, this was less than requirement (as referred to table 4). If higher amount of credit was available, level of input use could be increased to some extent.

CONCLUSION

The study revealed that level of input use in crop production of borrowing agricultural households was lower as compared to that of non-borrowing agricultural households. Though optimum use of inputs in crop production of non borrowing agricultural households was not attempted in this study, obviously higher level of input use in this category resulted in higher level of return. Borrowing agricultural households utilised a lion share of their credit for other purposes which were more important to them than crop production. A higher amount of credit than what was available with borrowing households could only enable them to increase the level of input use in crop production.

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Annex table

Types of crops	Average area under crops (ha)	Gross return per agricultural households (₹)	Gross return per hectare	Cost per agricultural household (₹)	Cost per hectare	Net return per agricultural households (₹)	Net revenue per hectare
Cereals	0.191	17362	90898	9991	52309	7371	38592
Pulses	0.058	3601	62086	1407	24267	2194	37828
Oilseeds	0.182	9113	50071	6843	37599	2270	12473
Vegetables	0.145	23456	161766	13527	93290	9929	68476
Fibre crops	0.124	5211	42025	7068	57000	-1857	-14976
Potato	0.057	5473	96018	5098	89439	375	6579
Spices	0.088	6665	75739	3509	39875	3156	35864
Fruits	0.037	7552	204108	4249	114839	3303	89270
All crops	0.882	78433	88926	51692	58608	26741	30318

