
Role of Rural Non-Farm Activities in Poverty Alleviation: A case study from Murshidabad District of West Bengal

Puja Putatunda*
Arnab Ghosh**

Abstract

In recent times, one of the most important issues that have been raised, in the context of rural development, is whether rural livelihood diversification, through the generation of non-farm income, can reduce rural poverty as well as inequality. In this paper, it is intended to develop a concrete understanding regarding the poverty implication of rural non-farm activities with special reference to Murshidabad district of West Bengal and hence also try to establish a general relationship between share of non-farm income and poverty from the dataset of sampled households. The paper also tries to address the burning issue whether rural non-farm activities aggravate inequality among the rural households or not. It has been found that the incidence of poverty deepens among the sampled households in both the agriculturally advanced and backward regions of our survey areas if the non-farm incomes of those households are excluded. The role of non-farm sector in reducing the intensity of poverty among the poor households has also been examined.

*Copyright © 2022 International Journals of
Multidisciplinary Research Academy. All rights reserved.*

Keywords:

Distress-Push
Diversification
Poverty
Rural Non-Farm Sector

Authors correspondence:

Puja Putatunda

Assistant Professor, The Heritage College, Kolkata, West Bengal, India

Email: pujaputatunda20@gmail.com

Arnab Ghosh

Principal, NahataJogendranath Mondal Smriti Mahavidyalaya (W.B.), India

Email: arnabghosh0306@gmail.com

*Assistant Professor, Department of Economics, The Heritage College, Kolkata, PIN-700150

**Principal, Nahata J.N.M.S. Mahavidyalaya, West Bengal, India, PIN-743290

1. Introduction

An important issue that has been raised in the empirical literature of rural development in the recent times is whether rural occupational diversification, through the generation of the non-farm income, can reduce rural poverty as well as inequality. As noted by Lanjouw (2001), there are two possible ‘transmission mechanisms’ through which poor can directly benefit from the expansion of the non-farm activities. First, the rural poor face no difficulty in getting engaged in the demand-driven and high-return non-farm activities provided there are no impediments to their participation in such activities. On the basis of his household survey in Ecuador, Lanjouw observed an inverse relationship between the incidence of poverty and the share of income from the non-agricultural sources. He argued that the rural non-agricultural sector has immense potential to fight against poverty. So poverty is expected to fall substantially with expansion of the non-farm. However, the problem is that most of the poor in the developing countries have limited access to more remunerative non-farm works due to poor assets base and lack of skills and education. Secondly, the poor are often forced to be engaged in the low-return non-farm activities in the face of income uncertainty from their traditional sources resulting in further deterioration of their poverty status arising out of some unforeseen calamities. As we observed in the previous chapter, some households in our study regions are engaged in the low-return non-farm activities due to lack of skills and education, insufficient land base, non-farm asset base etc. Therefore, the obvious question that arises is: how far these households are benefitting from their participation in the non-farm sector?

Moreover, the mere reduction in the incidence and intensity of poverty does not ensure that such rural non-farm activities have income-equalizing effect on the rural economy. There are two conflicting arguments, which are worth-mentioning here. According to some researchers, the expansion of the non-farm activities have an equalizing effect on the rural incomes as the poor households become capable of employing their resources to a greater extent and thereby increasing their net income through their participation in the non-farm activities. Valentine (1993a, 1993b) had put this view while reporting his findings from a case study conducted in Botswana between 1975 and 1986. On the other hand, some other researchers argue that diversification towards the non-farm activities has an inequality-enhancing effect on the rural income. The reason is that the richer households with better assets-base and educational status have greater access to more remunerative non-farm activities. Moreover, as the poor face an entry barrier to participate in the high-return non-farm activities due to some socio-economic constraints, they are bound to be engaged in the low-return non-farm activities, which are necessitated by their abject poverty. Therefore, the coexistence of the high-return and low-return non-farm activities should have greater implication in the context of rural inequality. Reardon et al. (1998) too subscribed to this view while pointing out the conditions for the development of the RNFS to be more equality enhancing. So, it is necessary to examine whether such heterogeneity leads to deterioration in the distribution of rural incomes.

In this paper, we specifically seek to understand the poverty implications of the rural non-farm activities with special reference to the field survey conducted by us in eight villages in the district of Murshidabad in West Bengal. The paper is divided into six sections. Section 1 provides the background of the study and section 2 discusses on methodology adopted to facilitate our study. Section 3 seeks to explore the role of the non-farm activities in influencing the absolute poverty status of the sampled households. Section 4 examines the implication of the non-farm income on the intensity of poverty of the sampled households. Section 5 attempts to identify some factors that determine the poverty status of the sampled households. Finally, section 6 summarizes the overall insights that have been gathered from this paper.

2. Methodology

We adopted a four-stage stratified sampling technique for collection of primary data. In the first stage, we chose the district for field survey purposively out of fifteen districts of West Bengal. We selected Murshidabad district of West Bengal because of its geographical and historical significance, socio-economic diversity and rather high concentration of the non-farm workers in rural areas. The district of Murshidabad is fundamentally a rural economy with almost 88 per cent of its population resides in the rural areas. It is basically an agrarian economy supplemented by cottage industries for a long period of time.

Data provided in Table 1 shows that the district has 396 thousand hectares of net sown area, 61 per cent of which is irrigated in 2010-11. The Census data for 2011 show that Murshidabad ranks sixth among all districts of West Bengal in terms of percentage of the non-farm workers to total workers in rural areas. While the percentage of the rural non-farm workers for the state as a whole is found to be nearly 39 per cent in 2011, the corresponding figure for Murshidabad is 41 per cent. An important point to be noted is that although the rural female worker-population ratio is only 14 per cent in Murshidabad, an overwhelming majority of them (81 per cent) participate in the non-farm sector. In fact, Murshidabad ranks first among all districts of West Bengal in terms of percentage of female non-farm workers. It also had a strong background of traditional handicraft industry covering ivory, silk, wood, *sholapith*, brass and bell metal etc. There has been a coexistence of the agricultural and non-agricultural activities for a long period of time. Another feature of this district is that the shares of the two important religious groups – the Hindus and the Muslims – are quite significant (35.92 percent and 63.67 per cent, respectively). Thus, the district has lot of heterogeneity within it, in terms of economic activities pursued, levels of agricultural development in various blocks, socio-religious groups etc. A district such as this seemed suitable to examine the issues we had identified for our research.

Table 1: Some Socio-economic Indicators of Murshidabad District in 2011

Population (in thousands)	7102.00
Density of population (in sq. km.)	1334.00
Percentage of male	51.10
Percentage of female	48.90
Percentage of rural population	87.51
Rural male literacy rate	69.52
Rural female literacy rate	62.84
Rural literacy (Person)	66.27
Rural male worker-population ratio (main plus marginal)	55.27
Rural female worker-population ratio (main plus marginal)	14.19
Rural worker-population ratio (main plus marginal)	35.21
% of rural male non-agricultural worker (main plus marginal)	31.41
% of rural female non-agricultural worker (main plus marginal)	80.52
% of rural non-agricultural worker (main plus marginal)	41.02
Net sown area (in 1000 hectare)	396.00
Gross cropped area (in 1000 hectare)	867.00
Cropping intensity	2.19
% of net irrigated area to cultivated area	61.00

Sources: Census of India (2011), Economic Review (2011-12), Department of Statistics and Programme Implementation, Govt. of West Bengal

The district of Murshidabad consists of twenty-six administrative blocks. In the second stage of our sampling, we purposively selected four blocks of which two are agro-climatically advanced and the other two are backward. All these blocks display concentration of a fair mix of non-farm activities. Berhampore and Kandi were selected as 'advanced' blocks and Raghunathganj-I and Suti-I as backward blocks in terms of agricultural performance and agro-infrastructure like irrigation facilities etc. Some basic features of the blocks are summarized in Table 2 which focuses on the socio-economic characteristics of the selected blocks.

TABLE 2: Some Important Socio-Economic Features of Sample Blocks and District

ITEM	Year	ADVANCED BLOCKS		BACKWARD BLOCKS		MURSHIDABAD
		BERHAMPORE	KANDI	RAGHUNATH GANJ-I	SUTI-I	
Percentage of rural non-farm worker (main plus marginal)	2001	47.08	31.58	74.76	87.42	45.62
Rural Literacy rate	2001	62.00	52.50	48.50	43.60	52.30
Geographical Area (in Hectare)	2001	32184.00	23578.00	15224.00	10730.00	531611.00
Cultivable Area (in Hectare)	2005- 06	24180.00	17800.00	9000.00	7010.00	365000.00
Cultivated Area (in Hectare)	2005- 06	22680.00	17000.00	9000.00	6135.00	360096.00
Percentage of Cultivated Area	2005- 06	0.70	0.72	0.59	0.57	0.68
Irrigated Area(in Hectare)	2005- 06	16126.00	10409.00	2870.00	1430.00	220218.00
% of irrigated area to cultivated area	2005- 06	71.00	61.00	32.00	23.00	0.61
% of district area under commercial crops (jute and potato)	2005- 06	8.64	0.67	0.45	0.32	100.00
Percentage of SC/ST	2001	19.52	17.46	24.06	9.08	14.70
Percentage of Hindu	2001	47.44	44.71	35.39	39.02	35.00
Percentage of Muslim	2001	52.45	55.14	64.51	60.93	65.00

Sources: District Statistical Handbook of Murshidabad (2007), Murshidabad Gazette(2003), Economic Survey, Govt. of West Bengal (various years)

At the third stage of sampling, two villages from each of the four blocks were chosen. The villages were selected randomly. Thus, we selected Baninathpur, Pashingamini, Patna and Jiakharda as agriculturally advanced villages. On the other hand, Katnai-Baidpur, Dholo, Nayagram and Haroa were chosen as backward villages.

At the final stage, a complete list of households was prepared for each village, and the households were distributed into the following categories of operational holdings (in acres): (i) 0.00; (ii) 0.01–0.99; (iii) 1.00–2.49; and (iv) 2.50 and above. We randomly selected 50 households from each village covering these categories with probabilities proportional to the size of their respective spectrum. Thus we had a sample of 400 households from eight villages.

Collection of primary data was made by using a well-structured questionnaire incorporating the questions that were relevant to our research questions. The reference period for our field survey was July 2009 – June 2010. The field data were collected in two rounds, covering two seasons, namely, the Kharif and the Rabi/Boro. This two-shot survey methodology was adopted in view of the wide seasonal variation in rural income. Through this repeat surveying, we were also able to cross-check the data collected in the first round of our survey which facilitated us to maintain the accuracy of our data. We adopted a ‘direct-personal-interview method’.

In our study, the farm sector employment is computed by summing over employment from crop cultivation, livestock, fishery, etc. and agricultural wage labour. The income from crop production represents farm-business income, which is the difference between total value of output including by-product and all paid-out costs as well as imputed value of all inputs contributed by the households (excluding family labour). The incomes from crop production and livestock, fishery, etc. for the households have been distributed between male and female workers in proportion to the days of work put in by them in these activities. In the case of agricultural wage labour, we considered wage received per standardized day net of transport or commuting expenses.

On the other hand, the non-farm income is obtained by adding incomes from regular employment, self employment and non-farm wage labour. As regards regular employment and wage labour, income per day net of transport or commuting expenses was used. For various kinds of self employment activities in the non-farm sector, we used the same concept of net income as used for computation of income from livestock, fishery, etc.

3. Incidence of Poverty among the Sample Households

In order to examine the poverty implication of the non-farm income/employment for the sampled households in our survey areas, it is important to fix a poverty line for rural West Bengal for the year of our survey (2009-10) that can be applied to calculate the percentage of poor people among the households from different farm-size groups. For this purpose, we first noted the poverty line for rural West Bengal for the year 2004-5 as recommended by the Tendulkar Committee which is Rs. 445.38 per capita per month. Next we adjusted this poverty line using the Consumer Price Index for the Agricultural Labourers to arrive at the poverty line for 2009-10, which works out to Rs.646 per capita per month. In the next step, we defined those households as poor whose per capita monthly income is less than Rs.646.00.

Using the above-mentioned poverty line, we computed the incidence of poverty for the sampled households, which are presented in Table 3.

Table 3: Incidence of Poverty among Sampled Households

Region	Size-Group of Operational Holdings (in acres)	No. of Households	Considering Farm Income alone		Considering both Farm and Non-Farm Income	
			Percent of Poor	Percent of Non-Poor	Percent of Poor	Percent of Non-Poor
Advanced	0	54	90.74	9.26	53.70	46.30
	0.01-0.99	49	91.84	8.16	63.27	36.73
	1-2.49	64	76.56	23.44	46.88	53.12
	2.50 and above	33	21.21	78.79	15.15	84.85
	All sizes	200	75.00	25.00	47.50	52.50
Backward	0	36	100.00	0.00	83.33	16.67
	0.01-0.99	52	100.00	0.00	88.46	11.54
	1-2.49	60	100.00	0.00	66.67	33.33
	2.50 and above	52	76.92	23.08	42.31	57.69
	All sizes	200	94.00	6.00	69.00	31.00
Combined	0	90	94.44	5.56	65.56	34.44
	0.01-0.99	101	96.04	3.96	76.24	23.76
	1-2.49	124	87.90	12.10	56.45	43.55
	2.50 and above	85	55.29	44.71	31.76	68.24
	All sizes	400	84.50	15.50	58.25	41.75

Source: Field Survey

It is found that when the farm sector incomes alone are considered, an extremely high percentage of the sampled households turn out to be poor, in both our study regions. The percentages of poor households are found to be 75 and 94 in the advanced and backward regions, respectively. However, taking into account both the farm and non-farm incomes of the households, a much lower percentage of the households fell in the poor category, in both the regions. It is found that nearly 48 per cent of the households in the advanced region and 69 per cent of the households in the backward region turned out to be the poor considering both the farm and non-farm incomes of those households. Combining both the advanced and backward regions, the incidence of poverty (considering both the

farm and non-farm incomes) becomes 58 per cent. However, when the non-farm incomes are excluded, the same increases to almost 85 per cent. All these observations indicate the important role of the non-farm sector in alleviating poverty of the sampled households and pulling a substantial proportion of them above the poverty line.

Table 3 further shows that, as expected, the percentage of poor among the landless households and the small and marginal land holders are considerably higher compared to the households belonging to the farm-size group 2.50 acres and above, in both the regions. In the advanced region, about 91 per cent of the landless and 92 per cent of marginal households are poor if we consider only the farm incomes whereas in the backward region the corresponding figures are cent per cent for both the landless and marginal households. This indicates that it is very hard for the landless and marginal households in our survey regions to get out of poverty without depending on the incomes earned from the non-farm sector. If we take into account the farm and non-farm incomes together, then the corresponding figures drop down to 54 per cent and 63 per cent respectively in the advanced region, and 83 per cent and 88 per cent respectively in the backward region. Thus, the drop in poverty rate among landless and marginal households due to the inclusion of the non-farm incomes is higher in the advanced region than that in the backward region probably due to the greater availability of relatively high-return non-farm jobs in the advanced region. The percentage of poor in the advanced region drastically drops down to 15 per cent only for the households belonging to the farm-size group of 2.5 acres and above probably due to the higher returns from the farm sector in the presence of relatively better agricultural infrastructure. On the other hand, this fall in poverty rate in the backward region is not as high as in the advanced region. In the backward region, the percentage of poor for the households belonging to farm-size of 2.5 acres and above drops from almost 77 per cent to 42 per cent if we include the non-farm incomes.

Thus, it is clearly established from the above discussion that the incidence of poverty deepens for the households from all farm-size groups if the non-farm incomes are excluded. This is much more so in the case of the households belonging to the smaller farm-size groups and the landless households indicating that the non-farm incomes are most vital for them.

4. Intensity of Poverty among the Sample Households

The mere classification of households into poor and non-poor groups does not provide the complete picture about the intensity of poverty and the level of deprivation the poor households are subjected to, and also the role of the non-farm sector in improving their relative poverty status. So, to shed some light on this aspect, we have categorized the poor households into different groups depending on the deviation of the households' monthly per capita incomes from the rural poverty line as determined earlier. Here we form three categories of poor households depending upon their intensity of poverty. These are:

- (1) **Moderately Poor:** These are the poor households having 75 per cent or more of the poverty line income.
- (2) **Very Poor:** These poor households have 50 per cent or more but less than 75 per cent of the poverty line income.
- (3) **Destitute:** These are poor households having less than 50 per cent of the poverty line income.

On the basis of this categorization, we calculate the percentages of households of different farm-size groups belonging to moderately poor, very poor and destitute categories first considering only the farm income and then considering both the farm and non-farm incomes. The relevant information in this regard is summarized in the Table 4. It is found that about 48 per cent of poor households in the advanced region and nearly 41 per cent in

the backward region belong to the 'destitute' category when both the farm and non-farm incomes are considered. Moreover, almost 35 per cent of the poor households in the advanced region and 42 per cent of the poor households in the backward region belong to the 'very poor' category. Thus, the problem of poverty for a large section of the poor households has been severe in both the advanced and backward regions. It is also observed that the percentage of the 'destitute' increases significantly to 71 per cent in the advanced region and 84 per cent in the backward region if we exclude the non-farm incomes.

Another important point to note is that, in our study regions, the percentage of 'very poor' and 'moderately poor' households increase and the percentage of 'destitute' decreases if we consider both the farm and non-farm incomes. This indicates that a large section of the 'destitute' households are able to reduce the depth/intensity of their poverty through their earnings from the non-farm sources. Thus, the rural non-farm incomes not only help to prevent more household from falling below the poverty line but also to reduce the intensity of poverty.

Table 4: Intensity of Poverty among Poor Households

Region	Size-Group of Operational Holdings (in acres)	No. of Poor Households	Percentage Distribution of Poor Households as			
			Destitute	Very Poor	Moderately Poor	Total
Considering Farm Income Alone						
Advanced	0	49	87.76	10.20	2.04	100.00
	0.01-0.99	45	77.78	11.11	11.11	100.00
	1.00-2.49	49	53.06	30.61	16.33	100.00
	2.50 and above	7	42.86	57.14	0.00	100.00
	All sizes	150	71.33	19.33	9.33	100.00
Backward	0	36	100.00	0.00	0.00	100.00
	0.01-0.99	52	96.15	3.85	0.00	100.00
	1-2.49	60	83.33	10.00	6.67	100.00
	2.50 and above	40	55.00	20.00	25.00	100.00
	All sizes	188	84.04	8.51	7.45	100.00
Considering Both Farm and Non-Farm Income						
Advanced	0	29	55.17	37.93	6.90	100.00
	0.01-0.99	31	48.39	29.03	22.58	100.00
	1-2.49	30	40.00	40.00	20.00	100.00
	2.50 and above	5	60.00	20.00	20.00	100.00
	All sizes	95	48.42	34.74	16.84	100.00
Backward	0	30	53.33	33.33	13.33	100.00
	0.01-0.99	46	39.13	47.83	13.04	100.00
	1-2.49	40	30.00	50.00	20.00	100.00
	2.50 and above	22	45.45	27.27	27.27	100.00
	All sizes	138	40.58	42.03	17.39	100.00

Source: Field Survey

5. Factors Influencing the Poverty Status of the Households

In this section, we seek to identify some important determinants of poverty status of the households in our survey areas. For this purpose, we have estimated some binary logistic regression models where the 'poverty status' of the households is taken as a binary dependent variable which takes two values, '0' and '1' for the 'poor' and 'non-poor' households respectively. Some possible explanatory variables considered and the hypotheses to be tested are as follows.

(1) **Proportion of non-farm income (NFY)**: The proportion of the non-farm income to total income of a household plays an important role in improving its poverty status. When the proportion of the non-farm income of a household increase, its dependence on fluctuating and uncertain agricultural income declines, which causes a sustained improvement in its poverty status. Thus, we can hypothesize a positive relationship between poverty status and NFY.

(2) **Size of operational holding (OPER)**: The size of the operational holdings of the rural households may influence their poverty status. The earnings of the households with low operated area are likely to be insufficient and hence they are more likely to be poor. Therefore, the relationship between the size of operational holdings and poverty status is hypothesized to be positive.

(3) **Average education of workers (EDU)**: Educational status of the households is also likely to be another crucial factor in determining the poverty status of the households. The households having higher average education are likely to possess better skills. Consequently, they are not only expected to have greater access to high-return non-farm activities but also to earn greater income from farming through the introduction of improved and scientific methods of production. Therefore, we hypothesize a positive relationship between the poverty status of the households and their average educational status.

(4) **Cultivable Land per Worker (CLW)**: It is defined as the amount of cultivable land per working member in the family. Higher number of workers on a limited land base pushes the households in a distress situation by lowering their per capita income from land. Thus, the lower land-worker ratio leads to deterioration in the poverty status of the rural households. Thus, we hypothesize a positive relationship between poverty status and cultivable land per worker.

(5) **Caste of the household (CASTE)**: We measure caste as a binary variable which is assigned value '1' for general caste and '0' for SC/ST households. It is known that the SC/ST households belong to the backward sections of the society. So they are likely to have limited access to the non-farm activities, particularly high-return activities, which require greater skills. Therefore, we hypothesize a positive relationship between the poverty status and CASTE.

(6) **Region Dummy (REG)**: In the agriculturally advanced regions, the farm- non-farm linkages both in terms of production and in terms of expenditure are likely to be strong which would encourage the expansion of the non-farm activities making the sector more remunerative. The forward and backward production linkages increase the demand for agricultural inputs like chemical fertilizers, pesticides etc. (backward linkage) as well as agro-processing products (forward linkage). On the other hand, the expenditure linkage arises due to increase in demand for non-farm products by the farming families as their agricultural income rises. Thus, the households in the advanced region are likely to enjoy a greater scope of earnings. We use a region dummy to capture this phenomenon, which is assigned value '0' for the backward region and '1' for the advanced region. Our hypothesis is that there is a positive relationship between REG and the poverty status of the households.

Results of Binary Logistic Regression: The binary logistic regression results for households in advanced region, backward region and two combined regions are presented in Table 5.¹ When we consider the households of the advanced region only, it is found that all the explanatory variables (i.e., OPER, NFY, EDU, CASTE and CLW) have expected signs and also they (except CASTE) are statistically significant. In the backward region, the results are the same. For the two regions combined also there is no change in the results. All the explanatory variables including the region dummy (REG) have expected signs in one equation or the other as per our hypotheses and they (except CASTE) are also found to be statistically significant.

From this analysis, it is clear that the proportion of non-farm income is a statistically significant determinant of the poverty status of the households. The households having greater proportion of the non-farm incomes are more likely to be non-poor. Besides this, households with better land base, better land-worker ratio and higher educational status are more likely to be non-poor. However, caste does not play any significant role in determining poverty status of the households in our survey areas. It is also found that the estimated coefficient of the region dummy has a positive sign and it is also statistically significant implying that the households in the advanced region are more likely to be non-poor compared to the households of the backward region.

6. Summing Up

To sum up, we observed that the rural non-farm sector plays a significant role in improving the poverty situation of the poor households in our survey regions. It is found that the incidence of poverty deepens among all categories of households in our surveyed villages if their incomes from non-farm sources are excluded. This is much more so in the case of households belonging to the smaller farm-size groups and the landless households.

We also examined the role of the non-farm sector in reducing the intensity of poverty among the poor households. We found that a vast majority of the 'destitute' households are able to improve their poverty status through their earnings from the non-farm sources and thereby reduced their degree of deprivation. Thus, the poor households in our study areas find the non-farm sector as a weapon to fight against the abject poverty.

As regards the factors determining the poverty status of the households in our survey areas, our regression analysis showed that the households with greater proportion of the non-farm incomes are placed in a better position as far as their poverty status is concerned. Besides this, households with better land base, better land-man ratio and higher educational status are more likely to be non-poor. However, caste status does not play any significant role in determining poverty status of the households in our survey region. It is also found that the households in the agriculturally advanced region are more likely to be non-poor compared to those in the backward region.

¹It is observed that some of our explanatory variables have displayed strong correlations among themselves. In order to avoid the problem of multicollinearity, we have run several regressions by dropping some of the variables, which appeared to be multicollinear.

Table 5: Binary Logistic Regression Results of Determinants of Poverty Status of the Sampled Households**Binary Dependent Variable (Y_i) = 1 if household is non-poor and = 0 if poor**

Explanatory Variables	Advanced Region		Backward Region		Combined Region	
	Eqn. 1	Eqn.2	Eqn. 1	Eqn.2	Eqn. 1	Eqn.2
	NFY	3.09* (0.62)	2.25* (0.69)	7.83* (1.44)		3.98* (0.53)
OPER	1.10* (0.21)	- 0.35*** (0.02)		0.61* (0.13)		1.21* (0.15)
CASTE (Gen.=1, SC/ST =0)	0.53 (0.58)		0.26 (0.74)		0.60 (0.43)	
EDU		0.24* (0.06)		0.19* (0.05)		0.13* (0.04)
CLW		3.60* (0.80)	5.19* (0.,74)		3.46* (0.42)	
REG (Advanced =1, Sc/ST =0)					2.09* (0.29)	2.25* (0.36)
Constant	-3.11	-1.03	-3.46	-2.81	-5.55	-4.79
Chi-Square	49.66* [3]	75.04* [4]	105.69* [3]	50.70* [2]	145.59* [4]	173.32 [4]
Cox and Snell R²	0.22	0.31	0.41	0.22	0.31	0.35
Sample Size	200	200	200	200	400	400

Source: Field Survey

Notes: i) Figures in the first brackets are standard error; ii) Figures in the third brackets are degrees of freedom for computed log-likelihood ratio

statistics; and iii) *, ** and *** imply significance at 1, 5 and 10 per cent levels, respectively.

References

- [1] Barrett, C.B., T. Reardon and P. Webb (2001), 'Nonfarm income Diversification and Household Livelihood Strategies in Rural Africa: Concepts, Dynamics and Policy Implication', *Food Policy*, Vol. 26, No. 4, August.
- [2] Ellis, F. (2000), *Rural Livelihoods and Diversity in Developing Countries*, Oxford: Oxford University Press.
- [3] Govt. of West Bengal, (2010-11), *Economic Review*, Bureau of Applied Economics and Statistics.
- [4] Govt. of West Bengal, (2008), *Statistical Abstract*, Bureau of Applied Economics and Statistics.
- [5] Govt. of West Bengal, (2007), *District Statistical Handbook, Murshidabad*, Bureau of Applied Economics and Statistics.
- [6] Govt. of West Bengal, (2003), Murshidabad District Gazetteers, Higher Education Department.
- [7] Lanjouw, P. (2001), 'Non-Farm Employment and Poverty in Rural El Salvador', *World Development*, Vol. 29, No. 3, pp. 529-47.
- [8] Lanjouw, J. O. and P. Lanjouw, (1997), 'The Construction of Poverty Lines: Methods and Assumptions', Mimeo, Yale University.
- [9] Reardon, T., K. Stamolous, A. Balisacan, M. E. Cruz, J. Berdegue and B. Banks, (1998), 'Rural Non-Farm Income in Developing Countries', in *The State of Food and Agriculture 1998*, Special Chapter. Rome: Food and Agriculture Organization of the United Nations.
- [10] Valentine, T. R., (1993a), 'Drought and Transfer Entitlements and Income Distribution: The Botswana Experience', *World Development*, Vol.21, No.1, pp.109-126.
- [11] Valentine, T. R., (1993b), 'Mineral-led Economic Growth, Drought Relief and Income Policy: Income Distribution in Botswana Reconsidered', *American Journal of Economics and Sociology*, Vol.52, No.1, pp. 67-73.