Rural Employment Dynamics and Incidence of Poverty: Evidence based analysis from West Bengal

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Abstract

The analysis of the quantitative significance of non-farm sector in the emerging economy, in the process of development is important. However, the presence of significant percentage of poor in the rural areas raises question about the nature and conditions of work in which workers are participating and earning from their present job. Data on earnings generated from the non-farm sectors are not always available from Secondary sources. These data determine the potential of various non-farm sectors in the emerging economy in providing stable employment to rural workers and reducing poverty. In this chapter evidences are collected from a micro level study to understand the relationship between quality of employment, incidence of poverty and dominance of non-farm employment.
I. Introduction:

The significance of non-farm employment as an instrument of rural poverty alleviation is highly acclaimed in policy research. However, the emergence and the growth of the non-farm sector vary across regions and its impact on poverty alleviation is also mixed. This is because of the inter-regional differences in development experience. This difference may lead to a specific poverty alleviation measure being effective in one region, but not adequate for another. The incidence of poverty varies, depending on the difference in regional characteristics and on how efficiently the resources are utilized. Hence, the assessment of regional disparities in terms of characteristics and the corresponding weights, at the micro level, are essential for the right policy intervention. This identification of right policy intervention, we expect, will be effective in reducing the poverty gap.

There are a numbers of studies linking incidence of poverty (a binary variable) to various socio-economic variables using the logit or probit models with reference to World (see Bokosi, 2007) as well as India (see for e.g. Gang, Sen and Yun, 2008; Bigman and Srinivasan, 2002). A different approach, a study on ‘Poverty Measurement and Analysis’ (see Technical notes, Appendix-A, World Bank, 2002) considers the logarithm of the ratio of income to poverty line, as the dependent variable, instead of a binary dependent variable in the logit or probit regression. Technical note on ‘Poverty Measurement and Analysis’ (see Aline Coudouel, Jesko S. Hentschel and Quentin T. Wodon, 2002) states that binary choice models have greater predictive power in classifying household as poor and non-poor. Here we categorize the households as poor and non-poor by using binary variables. It takes the value ‘1’ if the household is poor and ‘0’ if it is non-poor. Under the hypothesis of a normal standard distribution of the error term, the model is estimated as a probit. If the error term is assumed to have a logistic distribution, the model is estimated as a logit. The main problem with these regressions is that estimates are sensitive to specification errors. With probit the parameters will be biased if the underlying distribution is not normal. More generally, the model does not make use of all the information available because it collapses income or expenditure into a binary variable.

\footnote{see Yun, M.S (2004) and Chattapadhyay, S (2011).}
Using a different approach, the study (see Aline Coudouel, Jesko S. Hentschel and Quentin T. Wodon, Technical notes, Appendix-A, World Bank, 2002) proposed the logarithm of the ratio of income to poverty line as the dependent variable, instead of a binary dependent variable in the logit or probit regression. The incidence of poverty differences (between two regions) then is decomposed using Oaxaca decomposition method (1973).

The decomposition method proposed by Oaxaca (1973) has been applied when there is a need to explain the differences between two comparison groups (see Yun, 2004). The Oaxaca decomposition explains the gap in the means of outcome variable between two groups. The gap is decomposed into the part that is due to group differences in the magnitudes of the determinants of outcome and group differences in the effects of these determinants.

Oaxaca (1973) in his seminal paper showed that women participation in the labour force gets restrictive constraints through culture, tradition and over discrimination between men and women. The unfavorable occupational distribution of female workers with respect to the male workers is caused by the influences of the above mentioned factors. He found out that the result of the influence of these factors is a chronic wage gap between male and female workers. He also explained that wage differential can be decomposing into the effects of discrimination and the effects of differences in individual characteristics. Therefore, the difference in wages can be explained by the differences in characteristics (i.e. characteristics effect) and by the differences in regression coefficients (i.e. the coefficient effects).

Oaxaca decomposition methodology is also important for the analysis to determine the effect of the difference in the characteristics of the two regions that cause the regional difference in poverty incidences. It is also important to find out the effect of the differential impact of the characteristics over two regions. This is done so that proper policy measures can be formulated in terms of enhancement of either the characteristics or the impact of the characteristics over the regions.

A number of studies (as mentioned below) used this decomposition method to analyze the differences in the poverty incidences between two study regions.

A study by Yun (2004) proposes a general and systematic methodology for the detailed decomposition of the differences in the first moment i.e. differences in the mean value of the
variable of interest. The dependent variable proposed to be a linear combination of
synthesizes the approaches proposed in Technical notes of World Bank (2002) and Yun
(2004) for studying differences in poverty incidence between Serbians and Albanians in
Kosovo using Living Standard Measurement Survey. The difference in poverty incidences is
decomposed into characteristics effect and the coefficients effect. Chattapadhyay, S (2011)
analyses the causes of the differential levels of economic well being in the two parts of West
Bengal, North and South Bengal, measured in terms of incidence of poverty and various
socio economic explanatory variables. Using a regression based technique (as mentioned
above), the incidence of poverty in these two parts of Bengal are found separately. The
difference in poverty estimates is decomposed into a characteristics effect, showing the effect
of the regional characteristics and a coefficients effect, showing the effects of the differential
impact of the characteristics over the regions using the Oaxaca decomposition method. The
characteristics effect shows the differential degree of availability of resources (i.e. the
determinants of the outcome or the interest variable) given that the degree of utilization of
resources is the same in the study regions. Hence, in the study (by Chattapadyay, S., 2011)
characteristics effect has been interpreted as ‘Resource Effect’. The coefficients of the
variables (or the determinants) in the regression equation can be interpreted as the degree of
resource utilization in achieving certain level of income or outcome. Hence, the coefficient
effect in the study has been interpreted as the ‘Efficiency Effect’ which gives the differential
degree of utilization of resources (or the determinants).

All these studies are important to provide policy measures at the aggregate level. Analysis of
the differences in the incidence of poverty at a micro level (village level), by using
information of households through primary survey, helps to provide proper policy measures
at the micro level that in turn reduces the poverty gap between two regions.

In order to cover the gap of existing studies, we used regression technique to estimate
incidence of poverty in the two study regions (advanced region and backward region)
separately. The logarithm of the ratio of per capita income to poverty line is regressed on
various socio economic explanatory variables. Our particular emphasis is on the qualitative
aspects of non-farm employment. The mode of employment is used as an indicator of
assessing the qualitative aspects of employment. The analysis is done in terms of actual
income at the household level. The difference in poverty incidences then decomposed into characteristics effect and coefficients effect using Oaxaca decomposition methods (following, Bhaumik, S.K, Gang, I.N and Yun, M.S (2006) and Chattapadhyay, S (2011)). Such analysis helps us to examine whether there is a need to improve characteristics (i.e. resources) or the coefficients (i.e. efficiency) to remove the gap in the level of well being, measured in terms of incidence of poverty.

Accordingly, present paper consists of eight sections. In section II, we explain study region, section III describe the incidence of poverty in our study regions. Regression based analysis of poverty and the Oaxaca decomposition methodology are presented in section IV. Factors determining the ratio of per capita income and the official poverty line are presented in section V. Section VI describe the Oaxaca decomposition results in our study region. Working of some government policies (particularly NREG and performance of SHG) at the ground level are presented in section VII. Section VIII analyses what causes poverty?.

II. Study Region

This study is based on primary data collected from the Nadia district of West Bengal. A four stage stratified purposive sampling technique was adopted for collection of primary data in the study. In the first stage, the district for survey was chosen purposively. Out of the seventeen districts of West Bengal, we have purposively chosen Nadia district. Geographically, the Nadia district has its border with the districts Murshidabad, Bardhaman, Hugli and North 24 Parganas. It has an international border with Bangladesh. Nearly 79 percent (in 2001) of its population resides in rural areas.

Socio-Economic indicators show that Nadia is agriculturally advanced. District Statistical Handbook, Nadia (2007) shows that it has 290 thousand hectares of cropped area, 75.13 percent of which is irrigated in the year 2006-07. Rice is the main food crop in the district. Gross cropped area under rice is 250 thousand hectares (35.65 percent of Gross cropped area) and the productivity of rice is 2707 kg per hectares in 2006-07 and it is above the state average (2593 kg per hectare). Another important crop in the area is jute. 18.18 percent of Gross cropped area is under jute production and its productivity is 2601 kg per hectare and it is above the state average of 2545 kg per hectares in 2006-07. So, there is incidence of commercialization of agriculture. However, the percentage share of agriculture in total
employment decreases and there is an increase in the share of non-farm employment. The trend which is found from the National and the state records is evident in Nadia.

The district of Nadia consists of 17 administrative divisions, called blocks. Two blocks (Krishnanagar-II and Nakashipara) out of seventeen blocks in the district are chosen for field survey. The percentage share of non-farm employment in total employment is same and it is nearly 48 percent. Consequently, the share of agriculture in total employment is also same. But, considering the percentage of households in the rural area, living below the poverty line, we can see that 29 percent of households in Krishnanagar-II in the rural areas are living below the poverty line and the corresponding figure for Nakashipara is 46 percent. Therefore, there is significant difference in the incidence of poverty (though they have the same sectoral distribution of workers between the farm and the non-farm sector).

From each block 2 villages are chosen randomly. Belpukur under Belpukur Gram Panchayat and Sonatala under Noapara-II Gram Panchayat are selected. These two villages are agriculturally advanced (and henceforth constitute advanced region of our study) and Muragacha under Muragacha Gram Panchayat and Dharmada under Dharmada Gram Panchayat are chosen and they are relatively agriculturally backward (and constitute backward region of our study).

We prepare a complete list of households for each village. The total households in each of the four villages have been classified into four categories:

i) landless,

ii) medium land owners i.e. owned 0.01 acres to 0.99 acres,

iii) small land owners i.e. owned 1.00 acres to 2.49 acres.

iv) we combine all land owners i.e. owned 2.50 acres and above.

At the final stage, households were randomly selected from each of these strata, in each of the villages. Each of the sample size is a weighted representation of their corresponding size of the strata. Therefore, the households are so chosen that they represent different landholding

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2 We consider agricultural performance of our study villages as agrarian structure is an important determinant of labour use option particularly in the rural areas. Agricultural performance is based on the productivity and yield rates of Principal crops.

3 These two villages are also identifies as Backward villages by Rural Household Survey, 2005, undertaken by the Panchayet and Rural Development, Government of West Bengal.

4 We combine them as the numbers of large land owners are extremely low in our study region.
strata starting from landless to large landholders. Following this principle, 65 and 85 households were selected from the two villages, grouped under the advanced region. Similarly, 95 and 55 households were selected from the two villages, classified under the backward region. Therefore, in total, 300 households were selected for field survey. The sample households are surveys at two points of time during the agricultural year July 2010 to June 2011(Once in December, 2010 and again in mid of May to June, 2011). This is done to achieve accuracy in data collection. We analyzed primary data both at the household level and at the individual worker level.

In our study farm sector employment is obtained by summing over employment for crop production, livestock, fishery etc and agricultural wage labour. Non-farm employment is obtained by summing regular employment, self employment activities and casual employment in non-farm sector. Income from crop production is the difference between value of output and all paid out cost as well as imputed value of inputs(except family labour), we consider ‘net income’ for livestock, fishery etc. In case of agricultural labourers we consider their wage earnings less their transporting cost. On the other hand non-farm income is obtained by summing income from regular employment, self employment and non-farm wage employment. Here, we also consider their ‘net income’.

III. Incidence of poverty in our study region
For computing poverty ratio of various groups of households, we computed the annual per capita income for each household during the year of survey (2010-11).Both farm and non-farm income of households are taken together to compute annual per capita income. From this, we calculated per capita monthly income, which has been compared with the ‘poverty line’. The poverty line, as suggested by the Planning Commission, is Rs 356 per capita per month in rural India in the year 2004-05. Making some adjustment\(^\text{5}\), we re-estimated the poverty line for the year 2010-11 and it is Rs 601 per capita per month for rural India. Comparing the sample households per capita per month income with this poverty line in the year 2010-11, we have grouped the households into poor and non-poor categories.

Table-1 presents data on the incidence of poverty among the households belonging to different size group of land holdings. Percentage of poor households in the advanced region is 34 percent and for the backward region the corresponding figure found to be 42 percent. It

\(^\text{5}\)\scriptsize{(CPI for Agricultural Labour in the year 2010-11/ CPI for Agricultural Labour in the year 2004-05)*Rs 356=Rs 601(Revised Poverty line in 2010-11).}
is also observed from Table-1 that the incidence of poverty is extremely high among the households belonging to the smaller land holdings. 72 percent of landless households in the advanced region are found to be poor and the corresponding figure in the backward region is 58 percent. Higher incidence of poverty is evident among the marginal (42 percent) and small land owners (38 percent) in the backward region compare to that in the advanced region. Increasing cost of agricultural production, bad harvest affected marginal and small farmers badly in the backward region.

A significant percentage of households among the landless are agricultural labourers in the advanced region. Their earnings are seasonal because of the volatility and seasonality of their work. Therefore, sometimes they participated in some low paid non-farm casual work for their alternative source of livelihood. Consequently, a significant percentage (72 percent) of households among landless remain poor. Incidence of poverty is relatively less among the marginal (35 percent) and small land owners (7 percent) compare to backward region. In overall, the incidence of poverty in backward region (42 percent) is higher than that in the advanced region (34 percent).
Table- 1: Incidence of poverty in our Study Regions:

<table>
<thead>
<tr>
<th>Region</th>
<th>Size Group of Land Holding (in acres)</th>
<th>No. of households</th>
<th>Considering both Farm and Non-farm Incomes</th>
<th>Percent of poor</th>
<th>Percent of non-poor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced</td>
<td>0.00</td>
<td>18</td>
<td>72.22</td>
<td>27.78</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.01-0.99</td>
<td>101</td>
<td>34.65</td>
<td>65.35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.00-2.49</td>
<td>14</td>
<td>7.14</td>
<td>92.86</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.50 &amp; above</td>
<td>17</td>
<td>11.76</td>
<td>88.24</td>
<td></td>
</tr>
<tr>
<td></td>
<td>All Sizes</td>
<td>150</td>
<td>34.00</td>
<td>66.00</td>
<td></td>
</tr>
<tr>
<td>Backward</td>
<td>0.00</td>
<td>19</td>
<td>57.89</td>
<td>42.11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.01-0.99</td>
<td>113</td>
<td>41.59</td>
<td>58.41</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.00-2.49</td>
<td>13</td>
<td>38.46</td>
<td>61.54</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.50 &amp; above</td>
<td>05</td>
<td>0.00</td>
<td>100.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>All Sizes</td>
<td>150</td>
<td>42.00</td>
<td>58.00</td>
<td></td>
</tr>
<tr>
<td>Combined</td>
<td>0.00</td>
<td>37</td>
<td>64.85</td>
<td>35.15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.01-0.99</td>
<td>214</td>
<td>38.32</td>
<td>61.68</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.00-2.49</td>
<td>27</td>
<td>22.22</td>
<td>77.78</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.50 &amp; above</td>
<td>22</td>
<td>9.09</td>
<td>90.91</td>
<td></td>
</tr>
<tr>
<td></td>
<td>All Sizes</td>
<td>300</td>
<td>38.00</td>
<td>62.00</td>
<td></td>
</tr>
</tbody>
</table>

Source: Computed from Primary field Survey

IV. Regression based estimate of poverty and Oaxaca Decomposition

Methodology:

The model\(^6\) is specified as:

\[
(y/z)\_i^* = X_i \beta + \varepsilon_i ; \quad i=1, 2, 3 \ldots \ n
\] (1)

Where \((y/z)_i^* = \ln (y/z)_i\); \(y\) is the household per capita income per month, \(z\) is the poverty line. The subscript \(i\) denotes the \(i^{th}\) household. \(X\) is a vector of socio-economic variables influencing income.

Here, the logarithm of the ratio of income to poverty line is regressed on a set of socio-economic factors and from the parameter estimates the probability of poverty incidence is

\(^6\) See also Yun, M.S., 2004; and Chattapadhyay, S, (2011),
obtained for each household. Poverty incidence for a region is then obtained as the sample average of household level probabilities of poverty incidence.

The $i^{th}$ household will be poor if its per capita income is less than the poverty line. That is, the probability of the incidence of poverty of the $i^{th}$ household,

$$p_i = \text{prob} \left( \frac{y_i}{z_i} < 1 \right) = \text{prob} \left( \frac{y_i}{z_i} < 0 \right) = \text{prob} \left( X_i \beta + \epsilon_i < 0 \right) ; \quad \text{[from (1)]}$$

$$= \text{prob} \left( \epsilon_i < -X_i \beta \right).$$

That is, $p_i = \Phi \left( \frac{-X_i \beta - E(\epsilon_i)}{\sqrt{\text{var}(\epsilon_i)}} \right)$; \quad [\Phi \text{ is the C.D.F of standard normal distribution}] 

$$= \Phi \left( \frac{-X_i \beta}{\sigma} \right); \quad \text{[Assuming var} (\epsilon_i) = \sigma^2]$$

$$= \Phi (X_i \beta^*) ; \quad \text{[} \beta^* = \frac{-\beta}{\sigma}] \quad ; \quad (2)$$

Now we consider our two study region: Backward Region (Region A) and Advanced Region (Region B). The poverty measure for Backward Region (Region A) will be the sample average of household level probability of poverty incidence.

Therefore, the poverty measure for region A will be

$$H_A = \frac{1}{n_A} \sum_{i=1}^{n_A} \Phi \left( X_i \beta_A^* \right); \quad n_A \text{ being the number of households in Region A.} \quad (3)$$

Similarly, the poverty measure for region B will be

$$H_B = \frac{1}{n_B} \sum_{i=1}^{n_B} \Phi \left( X_i \beta_B^* \right); \quad n_B \text{ being the number of households in Region B.} \quad (4)$$

The difference of poverty estimates between the regions A and B may thus be written as:

$$H_A - H_B$$

$$= \left[ \frac{1}{n_A} \sum_{i=1}^{n_A} \Phi \left( X_i \beta_A^* \right) \right] - \left[ \frac{1}{n_B} \sum_{i=1}^{n_B} \Phi \left( X_i \beta_B^* \right) \right]$$

$$= \Phi \left( \bar{X_A} \beta_A^* \right) - \Phi \left( \bar{X_B} \beta_B^* \right); \quad \text{(the over bar denotes sample average)}$$

$$= \{ \Phi (X_A \beta_A^*) - \Phi (X_B \beta_B^*) \} + \{ \Phi (X_B \beta_B^*) - \Phi (X_B \beta_B^*) \} \quad (5)$$
The first part in the bracket is the aggregate characteristics effect, C, say, and the other part in the bracket is the aggregate coefficient effect, D, say. In other words, in the difference of poverty, C explains the portion that is due to the difference in the characteristics (X’s), given the coefficients (β’s) and D explains the portion that is due to the difference in the coefficients, given the characteristics.

The decomposition is done from the viewpoint of Region B in the sense that

\[ \Phi(X_B \beta_A^*) = \frac{1}{n_B} \sum_{i=1}^{n_B} \Phi(X_i \beta_A^*) \]

is actually the counter-factual poverty in Region B i.e., the poverty level that would prevail in Region B if it would have the same coefficient vector (β*) as in A.

The aggregate characteristics effect, C, is thus the difference of the actual level of poverty at Region A (=H_A) and the counter-factual poverty of Region B (=H_B) with Region A’s coefficient vector. The aggregate coefficient effect, D, is the difference of the counter-factual poverty of Region B (=H_B) with Region A’s Coefficient vector and the actual level of poverty in Region B (=H_B).

**Detailed Decomposition analysis:**

The aggregate characteristics effect, C and the aggregate coefficient effect, D contain the effects of all the explanatory variables. The contribution of specific factors can be factored out from the overall contribution as follows:

Following (Yun, 2004) and (Chattapadhyay, S, 2011), the weight i.e. the share of a particular variable in the aggregate characteristics effect of the k^th explanatory variable is

\[ C_k = w_k \cdot C, \]  \hspace{1cm} (6)

Where \[ w_k = \frac{(X_A^k - X_B^k) \beta_A^*}{(X_A^k - X_B^k) \beta_A^*}, \]  \hspace{1cm} (7)

and \[ C = \sum_k C_k. \]

Again, the weight i.e. the share of the particular variable in the aggregate coefficients effect of the k^th explanatory variable is \[ D_k = w'_k \cdot D, \]  \hspace{1cm} (8)

Where \[ w_k' = \frac{X_B^k (\beta_A^* - \beta_B^*)}{X_B^k (\beta_A^* - \beta_B^*)}. \]  \hspace{1cm} (9)

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7see Chattapadhyay, S. (2011).
and \( D = \sum_{k=1}^{K} D_k \)

V. Factors determining the ratio of per capita income and the official poverty line

This section examines the implications for socio-economic characteristics of household in general and qualitative aspects of employment (we consider non-farm employment only) in particular for rural poverty in our study region. The logarithm of ratio of per capita per month income to poverty line, \( R (= \ln(y/z)) \) is the variable under study. Poverty line \( y \) has been calculated from the official National poverty line of Rs 356.30 per capita per month for rural India, in 2004-05. The revised estimate\(^8\) of poverty line for the year 2010-11 is Rs 601. The explanatory variables are broadly categorised as:

i) Demographic Characteristics of Households

ii) Educational Status

iii) Wealth Status

iv) Qualitative Aspects of Employment

The variables under these broad categories are:

i) 1-Dependency Ratio: Dependency Ratio (DEPRAT) is defined as :

\[
\text{DEPRAT} = \frac{\text{total number of children and old person in the household}}{\text{household size}}
\]

Higher DEPRAT have some negative influence on per capita income of household. Therefore, we consider 1-DEPRAT as our explanatory variable.

ii) Educational Status (EDU):

The most important human capital of the workers in a household is their educational achievement. Higher education leads to better skill and are likely to improve employment (and hence earnings) prospect. Here we consider the proportion of usual (principal plus subsidiary) status of workers (of all ages and both gender, taken together), who have up to or above secondary level education as our explanatory variable.

\(^8\)\( \frac{\text{CPI for agricultural labour in 2010-11}}{\text{CPI for agricultural labour in 2004-05}} \times (356.30) = Rs\ 601. \)
iii) Wealth Status:

3. Per Capita Land (PLAND): In terms of physical assets, land is one of the key assets in the rural context. Since the survey reports the land possessed by the household, the size of land possessed can be normalized by the household size and per capita land possessed can be taken as a continuous variable\(^9\). Higher PLAND have some positive impact on per capita income.

4. Non-farm Asset (NFA): The ownership of non-farm asset(s) is important for accessing the employment opportunities and hence earnings in the non-farm sector. Often, the lack of such asset causes an entry barrier for the worker in the labour market (Reardon et al, 2000, Ellis, 2000)\(^10\). Ownership of a minor asset (e.g. bicycle) might be beneficial as that helps the worker to access work opportunities at a distant place (nearby villages, Urban centers etc).

5. Access to Electricity (AE): AE is an important explanatory variable. Our study reveals the importance of AE in rural economy. In the areas surveyed, it appeared that most of the women remained busy with household work in the day time. So they could engage themselves with household base activity during the night time, if they have access to electricity. This in turn would help in increasing the per-capita income of the household.

iv) Qualitative Aspects of Employment: The relation between the participation in non-farm employment\(^11\) and the incidence of poverty is mixed. It varies from one region to another region. In our study region a significant percentage of household in the rural areas are depended on non-farm sector though a significant percentage of household (which is above the state average, particularly in Backward Region) still remain poor. Therefore, it is important to analyze the various non-farm activities and the condition under which people are engaging themselves in these activities. So, the qualitative aspects of employment are an important indicator.

The variables we consider under this category are:

\(^9\) See Sundaram, K. and Tendulkar, S. (September, 2002);
\(^10\) See also Bhaumik (2007).
\(^11\) We consider non-farm employment only as our present study emphasis qualitative aspect of non-farm employment.
Mode of Employment mainly categorized as 6. self-employed, 7. regular and 8. casual workers, is usually used as a broad indicator of assessing quality of employment of employed person (we therefore consider, for each household, the Proportion of workers in Non-farm Self-Employment (PWNFSE), Proportion of workers in Non-farm Casual Employment (PWNFCL) and Proportion of workers in Non-farm Regular Employment (PWNFRW) as our explanatory variable.

9. Multiple Occupations (MO): Workers may hold multiple jobs for variety of reasons. One reason is that their main job does not offer enough hours or earnings to meet households’ needs. Another is that the level of earnings or employment in the main job is highly variable so that the workers engage in multiple jobs as livelihood diversification. In our study region significant percentage of workers engaged in multiple jobs due to above mentioned factors. Participation in multiple activities can raise their income but these jobs are also associated with lower quality of employment.

The variable R is regressed on these explanatory variables (equation (1) is estimated by OLS as used by the World Bank, 2002), separately for advanced region and backward region.

The regression estimates are given in Table-2. All the coefficients turn out to be positive. All coefficients except (1-DEPRAT) and PWNFCL in advanced region (i.e. Region-B) and PWNFSL and MO in backward region (i.e. Region-A) are statistically significant.

Considering Backward Region as Region A and Advanced Region as Region B, the incidence of poverty have been estimated for these regions using equations (3) and (4) and the estimates of the parameters are presented in Table-3. The estimates of poverty in Backward Region (H_A) and Advanced Region (H_B) is given in Table-3. The value for Backward Region is 0.46 and the value for Advanced Region is 0.37\(^{12}\).

The difference of the poverty estimates (=0.09) between Backward Region and Advanced Region is decomposed into an aggregate characteristics effect, C and an aggregate coefficients effect D using equation (5). Table-4 presents the results relating to this decomposition. Both C (=0.05) and D (=0.04) turn out to be positive.

\(^{12}\) These regression based estimates of poverty of backward (0.46) and advanced (0.37) region are quite close to the conventional direct estimates of 0.42 and 0.34, respectively.
As observed from Table-4, the share\(^\text{13}\) of the aggregate characteristics effect (C) in the difference of the incidence of poverty between advanced region and backward region i.e. \((H_A-H_B)\), is 55.56% and the share of the aggregate coefficient effect (D) in \((H_A-H_B)\) is 44.44%.

This means that if the household of backward region had the same characteristics as those of advanced region, given the backward region coefficients, the difference in the incidence of poverty, viz, the poverty gap, \((H_A-H_B)\), would have been less by 55.56%. The poverty gap would have been less by 44.44% if the coefficients of variables influencing poverty were same for both the regions, given advanced region characteristics.

VI. Oaxaca decomposition results in our study region

Individual Characteristic Effect (\(C_k\)'s):

The aggregate characteristics effect (C) showing the effect of the regional characteristics is decomposing into contributions (\(C_k\)'s) by individual explanatory variables by using the relationship in (6) and (7).

If the individual characteristic i.e. \(C_k (=w_k \cdot C)\) is positive, it means that \((\bar{X}_A^k - \bar{X}_B^k)\) and \(\beta^{\star k}\) have the same sign\(^\text{14}\). For a positive impact of any particular variable (kth variable) on income means coefficient \(\beta\) is positive and hence \(\beta^{\star} = -\beta/\sigma\) is negative, therefore \((\bar{X}_A^k - \bar{X}_B^k)\) is negative. That is the explanatory variable k has a lower average value in backward region (Region A) than in advanced region (Region B). Similarly, for a variable that has a negative impact on income, the explanatory variable in backward region would have a higher average value than in advanced region (for positive \(C_k\)).

On the other hand, \((\bar{X}_A^k - \bar{X}_B^k)\) and \(\beta^{\star k}\) have opposite signs for a negative value of individual characteristic i.e. \(C_k\). This would mean that the explanatory variable that has a positive impact on income would have a higher average value in backward region (Region A) than in advanced region (Region B). Again the explanatory variable that has a negative impact on income would have a lower average value in backward region than in advanced region.

\(^{13}\)The share of aggregate characteristics effect in \((H_A-H_B) = C/ (H_A-H_B) \times 100\) and the share of aggregate coefficients effect in \((H_A-H_B) = D/ (H_A-H_B) \times 100\).

\(^{14}\) Since \(C_k = w_k \cdot C\) and \(w_k = \{(\bar{X}_A^k - \bar{X}_B^k)\beta^{\star k} / \{(\bar{X}_A - \bar{X}_B) \beta^{\star} \}\) \quad \text{if } C_k > 0 \text{ implies } w_k > 0 \text{ since } C > 0.

Now, \(w_k > 0\) implies \(\{(\bar{X}_A^k - \bar{X}_B^k)\beta^{\star k} / \{(\bar{X}_A - \bar{X}_B) \beta^{\star} \}\}) > 0\)

Since \(\{(\bar{X}_A - \bar{X}_B)^{\star} \beta^{\star} \} = 0.24 > 0\) implies for positive \(w_k (\bar{X}_A - \bar{X}_B)\) and \(\beta^{\star k}\) must have the same sign.
From Table-3, it may be observed that the characteristic effect due to the educational status is 44%. Among all the individual characteristic, it is the highest contributor.

The wealth status of the households with a share of 22% stands next to the educational status. The mode of employment of the households with a share of nearly 1% is the third among the entire individual characteristic.

In the wealth status P-LAND has got a share of nearly 17% followed by AE with 3% and NFA with nearly 2%. PWNFRW stands at 12% with PWNFSE at nearly 2%, in terms of contribution, under mode of employment. All these variables have positive shares. It also signifies that poverty gap will be decline by the respective shares by the equalization of above mentioned factors between the advanced region and the backward region, given the coefficients.

From Table-4, it also observed that 1-DEPRAT, PWNFCL and MO have negative values of $C_k$ (and hence negative share in $(H_A-H_B)$). Given that all the coefficients in the estimation of equation (1) are positive, backward region has higher average values for the variables 1-DEPRAT, PWNFCL and MO.

Allover, the average magnitudes of the variables explaining income of the households, are lower in the backward region in comparison to the advanced region (see Table-5). Therefore, equalization of resources over the region will decrease the poverty gap by an amount equal to the share of characteristics effect in the poverty gap i.e. 55.56%.

**Individual Coefficient Effects ($D_k$’s):**

Aggregate coefficient effect $D$ is decomposed into contributions ($D_k$) by individual explanatory variables using the relationships (7) and (8). For any particular variable, $D_k$ with positive coefficient ($\bar{\beta}_k > 0$) and also a positive contribution in the overall coefficient effects would mean that coefficients attached to the variable is low in backward region compare to advanced region\(^\text{15}\). This signifies that backward region is less efficient than advanced region with respect to utilization of those particular resources.

\(^{15}\)Since $D_k = w_k \cdot D;$ if $D_k > 0$ implies $w_k > 0$ since $D > 0$
Now, $w_k = \frac{\bar{X}_B (\bar{\beta}_{A} - \bar{\beta}_{B})}{(\bar{X}_B (\bar{\beta}_{A} - \bar{\beta}_{B}))} > 0$
Since, $\bar{X}_B (\bar{\beta}_{A} - \bar{\beta}_{B}) = 0.08 > 0$ (in our case)
Therefore, $(\bar{X}_B (\bar{\beta}_{A} - \bar{\beta}_{B})) > 0$ implies $(\bar{\beta}_{A} - \bar{\beta}_{B}) > 0$
Again for a particular variable, $D_k$, with positive coefficient ($\hat{\beta}_k > 0$) but a negative contribution in the overall coefficient effects would mean that coefficients attached to the variable is high in the backward region compared to advanced region. This signifies that backward region is more efficient than advance region with respect to utilization of those particular resources.

Now, we consider the contributions ($D_k$’s) by individual explanatory variables in the aggregate coefficients effect ($D$), which has a share of 44.44% in the poverty gap ($H_A - H_B$). Educational status has the highest contribution ($D_k$) with a share ($\frac{D_k}{(H_A - H_B)} * 100$) of 125% (taking absolute value) in the difference in the incidence of poverty. This is followed by Demographic characteristics (116%), wealth status (111%), mode of employment (3%) and multiple occupations (22%). Except for Demographic Characteristics, Educational Status and PWNFRW, all the variables have positive contributions ($D_k$) and hence positive shares meaning that backward region is attaching lower coefficient with the respective variables (for which $\hat{\beta}_k > 0$) compare to the advanced region. This means that, given the characteristics, by increasing the coefficient attached to wealth status, mode of employment (particularly for PWNFSE) and multiple occupation in backward region to that in advanced region, poverty gap can be removed by 111%, 3% (but 17% for PWNFSE) and 22% respectively.

On the other hand negative share indicate that equalization of the regional coefficients will make backward region (Region A) worse off (Bhaumik, Gang and Yun, 2006 and Chattapadhyay, S, 2011) because by increasing $\hat{\beta}_k$ in Region B, poverty will decrease in Region B and the poverty gap will increase as ($H_A - H_B$) is positive. The coefficient of constant term is positive with a share of 149% in the poverty gap ($H_A - H_B$), indicates that average baseline income level is lower in Region A.

If the coefficients would have been equalized over the regions, the poverty gap would have reduced by the share of aggregate coefficients effect in the poverty gap that means by an amount of 44.44%.

It is already mentioned that our particular emphasis is on the qualitative aspects of employment and the mode of employment is used as a broad indicator of assessing qualitative

\[
\text{Implies } \left( \frac{\sigma_A}{\sigma_A} - \frac{\sigma_B}{\sigma_B} \right) < 0 \quad \text{[Since } \bar{\sigma}_A^k - \bar{\sigma}_B^k = - \frac{\bar{\sigma}_A^k}{\sigma_A} \text{ and } \bar{\sigma}_B^k = - \frac{\bar{\sigma}_B^k}{\sigma_B} \text{]} \quad \text{Implies } \bar{\sigma}_A^k < \bar{\sigma}_B^k \quad \text{(as } \sigma_A < \sigma_B \text{ the estimated value of } \sigma_A \text{ and } \sigma_B \text{ are 0.1989 and .2054 ).} 
\]
aspects of employment. Our study reveals that average values for the variables like PWNFSE and PWNFRW are lower in backward region (Region A) compare to advanced region (Region B). Again, by increasing the coefficient attached to PWNFSE in backward region (Region A) to that in advanced region (Region B), poverty gap can be removed by 17% (see Table-4). Therefore, effort should be taken for the expansion of non-farm self employed activities in our study regions particularly in the backward region.

Considering the education of households, we already mentioned that higher education leads to better employment prospects and hence earnings. Our study reveals that average value of the variable like EDU is lower in (see Table-5) the backward region compare to the advanced region. Therefore, effort should be taken to improve the level of education particularly in the backward region.

Land is an important determinant of labour use option in the rural areas. Per capita availability of land is lower in the backward region than in the advanced region. Therefore, landless workers are pushed to participate in some low paid casual work for their livelihood.

Access to non-farm assets and electricity also are important to determine the income of households. But, both in terms of availability and utilization the value of these variables are lower in the backward region than in the advanced region (see Table-5 and 4).

The average value of the variable Multiple Occupation (MO) is higher in the backward region than the advanced region (see Table-5). This signifies the fact that more households in the backward region are participating in multiple jobs. This may due to the lack of their sufficient earnings from their main source of employment.

Therefore, lack of access to land, non-farm assets, electricity and sufficient earnings from the main sources of employment reduces the income of households in the backward region and push them to live below the poverty line.

Table - 2: Estimates of Parameters of Equation (1) for the Advance and Backward Region (Dependent Variable: ln(y/z))

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Variables under characteristics</th>
<th>Backward Region (Region A)</th>
<th>Advanced Region (Region B)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Estimate</td>
<td>t-value</td>
</tr>
<tr>
<td>Demographic Characteristics of</td>
<td>1-DEPRAT</td>
<td>0.2648*</td>
<td>3.18</td>
</tr>
<tr>
<td>the households</td>
<td>AYE</td>
<td>0.0040*</td>
<td>6.47</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>-------</td>
<td>---------</td>
<td>--------</td>
</tr>
<tr>
<td>Educational Status of the households</td>
<td>PLAND</td>
<td>0.1444***</td>
<td>1.74</td>
</tr>
<tr>
<td>Wealth Status</td>
<td>NFA</td>
<td>0.0931*</td>
<td>3.73</td>
</tr>
<tr>
<td></td>
<td>AE</td>
<td>0.0856***</td>
<td>2.00</td>
</tr>
<tr>
<td>Qualitative aspects of Employment</td>
<td>PWNFSE</td>
<td>0.0909</td>
<td>0.72</td>
</tr>
<tr>
<td>Mode of Employment</td>
<td>PWNFCL</td>
<td>0.1861**</td>
<td>1.95</td>
</tr>
<tr>
<td></td>
<td>PWNFRW</td>
<td>0.6646*</td>
<td>4.28</td>
</tr>
<tr>
<td>Multiple Occupation</td>
<td>MO</td>
<td>0.0457</td>
<td>1.07</td>
</tr>
<tr>
<td>Constant</td>
<td></td>
<td>-0.4023</td>
<td>-6.47</td>
</tr>
</tbody>
</table>

Source: Computed from Primary field Survey; * significant at 1%, ** significant at 5%, *** significant at 10%.

Table-3: Estimates of Poverty in Backward and Advanced Region

<table>
<thead>
<tr>
<th></th>
<th>Sample Size</th>
<th>Poverty Incidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backward Region</td>
<td>150</td>
<td>( H_a = 0.46 )</td>
</tr>
<tr>
<td>Advanced Region</td>
<td>150</td>
<td>( H_b = 0.37 )</td>
</tr>
</tbody>
</table>

Difference in poverty incidence: \( (H_a - H_b) = 0.09 \)

Source: Computed from Primary field Survey

Table - 4: Oaxaca decomposition results in our study region:

<table>
<thead>
<tr>
<th>Aggregate Effect</th>
<th>Aggregate Characteristics effect(C)</th>
<th>Aggregate Coefficients effect(D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimate</td>
<td>Share in ( (H_a - H_b) )</td>
<td>Estimate</td>
</tr>
<tr>
<td>0.05</td>
<td>55.56</td>
<td>0.04</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Decomposition of Aggregate Effect</th>
<th>Individual Characteristics effect ( (C_x) )’s</th>
<th>Individual Coefficient effect ( (D_x) )’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimates</td>
<td>Shares in ( (H_a - H_b) )</td>
<td>Shares in ( (H_a - H_b) )</td>
</tr>
</tbody>
</table>
## Table-5: Observed Resource Vector

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Variables under characteristics</th>
<th>( \bar{x}_k )</th>
<th>Region A (Backward Region)</th>
<th>Region B (Advanced Region)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I Demographic characteristics of the households</td>
<td>1-DEPRAT</td>
<td>0.7380</td>
<td>0.7100</td>
<td></td>
</tr>
<tr>
<td>II Educational Status of the households</td>
<td>EDU</td>
<td>20.6667</td>
<td>29.9222</td>
<td></td>
</tr>
<tr>
<td>III Wealth Status</td>
<td>PLAND</td>
<td>0.0850</td>
<td>0.1818</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NFA</td>
<td>0.3587</td>
<td>0.3748</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AE</td>
<td>0.4133</td>
<td>0.4467</td>
<td></td>
</tr>
<tr>
<td>IV Qualitative Aspects of Mode of employment</td>
<td>PWNFSE</td>
<td>0.0879</td>
<td>0.1059</td>
<td></td>
</tr>
</tbody>
</table>
VII. Government Policy on ground

One of the major causes of rural poverty is the lack of employment opportunities or regular employment opportunities. Several policy instruments are introduced by the government for rural poverty alleviation. In this section we analyze the performance of such two policy instruments viz. National Rural Employment Guarantee Programme (NREGP) and Swarnajayanti Gram Swarojgar Yojana (SGSY).

**Performance of NREGP on ground:** The most important feature of NREG as a demand driven employment programme is exhibited by its capacity to provide work for those who demand along with the resource support from the government\(^\text{16}\). In our study region, the coverage of households under NREG in terms of providing job cards is impressive. However, if we move from coverage to creation of person day’s work, then the results show a different reality. In advanced region 86.00% of household got registered but number of employment days per household is low as 26 days\(^\text{17}\). In backward region the corresponding figures are 85.33% and only 13 days per household respectively. It is stated that job card holders are provided wages for unskilled labourer. In West Bengal the wage is Rs 81.00 per person per day from 1\(^{st}\) January 2009. In both advanced and backward region average wage earned per day is below than this official rate (see Table-6). From discussion with the villagers it become clear that availability of only a few days of uncertain work, delay of wage payments dampened the initiative of the household to participate in NREG work. It fails not only to provide 100 days of employment to all households but also fail to provide unemployment benefits in case the Panchayat could not provide work within a stipulated time the job demanded.

NREG is expected to implement properly in places where significant percentage of workers are agricultural labourers and large number of households living below the poverty line. Since, the nature of work of agricultural labourers and poor household workers are seasonal or volatile in nature, therefore, measures should be taken to create more employment days for

\(^{16}\)see District Development Report, Birbhum;

\(^{17}\)in the financial year 2009-10.
poor people. Again, NREGS is demand driven programme; therefore, the Gram Panchayets should take initiatives to develop adequate number of schemes and therefore, enable to absorb the labour who demands employment under NREGS.

**Performance of Self-help Group:** The Swarnajayanti Gram Swarojgar Yojana (SGSY) aims at alleviating rural poverty by facilitating creation of self-employment opportunities for the poor. Organizing the poor, particularly poor women, in Self Help Groups (SHG) has been given priority under this scheme\(^{18}\).

Analysis of the performance of the Self Help Group in our study region reveals that in Sonatala under Noapara-II Gram Panchayet, total number of groups formed is 126 (see Table-7a). However, the number of groups passed Grade-I and Grade-II are 38 and 35 respectively. In Belpukur under Belpukur Gram Panchayet total number of groups formed is 133 but the number of groups passed Grade-I and Grade-II are 44 and 21 respectively. Therefore, in advanced region (combining Sonatala and Belpukur) total number of groups formed is 223 and the number of groups passed Grade-I is 82 (36.77\%) and Grade-II is 56 (25.11\%) \(^{19}\) (see Table-7a). Total number of groups formed in Muragachha under Muragachha Gram Panchayet is 166 and the number of groups passed Grade-I is 159. But the number of groups passed Grade-II is only 28. In Dharmada total number of groups formed is 143 and the number of groups passed Grade-I is 109 but only 1 group passed Grade-II. Therefore, in backward region (combining Muragachha and Dharmada) total number of groups formed is 309, the number of groups passed Grade-I is 268 (86.73\%) but the number of groups passed Grade-II is 29 (9.39\%) (see Table-7b).

Above analysis thus reveals the large number of groups formed both in the advanced region and in the backward region. But most of them are not operating because of a number of reasons:

i) Lack of co-ordination among the group members, ii) Non-cooperation from their group monitor, iii) Most of the members are illiterate, therefore, proper maintenance of their account become cumbersome, iv) Problem of selling product, and v) Banks performance with regard to delivery of credit related services is poor. Therefore, measures should be taken

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\(^{18}\) see Economic Review, 2009-10, Government of West Bengal.

\(^{19}\) Since inception up to February, 2011.
to improve the performance of such Self help Groups as the expansion of self-employed activities are important to improve the quality of employment.

Table - 6: NREG on Ground:

<table>
<thead>
<tr>
<th>Name of the Village</th>
<th>Number of households who got registered</th>
<th>Percentage of rural household got registered</th>
<th>Number of household demanded employment</th>
<th>Number of person-days generated per household</th>
<th>Average Wage Earned Per Day(Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advanced Region</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belpukur</td>
<td>45</td>
<td>69.23%</td>
<td>36</td>
<td>27</td>
<td>75</td>
</tr>
<tr>
<td>Sonatala</td>
<td>84</td>
<td>98.82%</td>
<td>83</td>
<td>36</td>
<td>78</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>129</td>
<td>86.00%</td>
<td>119</td>
<td>26</td>
<td>76.5</td>
</tr>
<tr>
<td><strong>Backward Region</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muragachha</td>
<td>88</td>
<td>92.63%</td>
<td>82</td>
<td>14</td>
<td>80</td>
</tr>
<tr>
<td>Dharmada</td>
<td>40</td>
<td>72.73%</td>
<td>37</td>
<td>21</td>
<td>70</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>128</td>
<td>85.33%</td>
<td>119</td>
<td>13</td>
<td>75</td>
</tr>
</tbody>
</table>

Source: Computed from Primary field Survey

Table - 7a: Performance and Progress of SHG in our study region under SGSY (since inception, up to February, 2011): Advanced Region

<table>
<thead>
<tr>
<th>Name of the Bank Branch</th>
<th>Name of the GP</th>
<th>Total No. of Group</th>
<th>Type</th>
<th>Gr.-I</th>
<th>Gr.-II</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBI Radhanagar</td>
<td>Noapara-I</td>
<td>150</td>
<td>Female 119  Male 20  Mixed 11</td>
<td>98 37</td>
<td></td>
</tr>
<tr>
<td>B.G.V.B. Sonatala</td>
<td>Noapara-II</td>
<td>126</td>
<td>Female 109  Male 1  Mixed 7</td>
<td>38 35</td>
<td></td>
</tr>
<tr>
<td>U.B.I Sadhanpara</td>
<td>Sadhanpara-I</td>
<td>123</td>
<td>Female 91  Male 28  Mixed 4</td>
<td>40 29</td>
<td></td>
</tr>
<tr>
<td>U.B.I Dhubulia</td>
<td>Sadhanpara-II</td>
<td>83</td>
<td>Female 56  Male 16  Mixed 11</td>
<td>35 21</td>
<td></td>
</tr>
<tr>
<td>B.G.V.B. Belpukur</td>
<td>Belpukur</td>
<td>133</td>
<td>Female 114  Male 10  Mixed 9</td>
<td>44 21</td>
<td></td>
</tr>
<tr>
<td>U.B.I Dhubulia</td>
<td>Dhubulia-I</td>
<td>61</td>
<td>Female 50  Male 9  Mixed 2</td>
<td>0 10</td>
<td></td>
</tr>
<tr>
<td>Allahabad Bank,Bahadurpur</td>
<td>Dhubulia-II</td>
<td>47</td>
<td>Female 46  Male 1  Mixed 0</td>
<td>6 7</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>723</td>
<td>Female 585  Male 85  Mixed 44</td>
<td>258 163</td>
<td></td>
</tr>
</tbody>
</table>

Note: Number of SHG taken up economic activities under Grade-I in GP-2 and GP-6 are 35

Source: District Rural Development Cell Nadia

Table - 7b: Performance and Progress of SHG in our study region under SGSY (since inception, up to February, 2011): Backward region

<table>
<thead>
<tr>
<th>Name of the Bank Branch</th>
<th>Name of the GP</th>
<th>Total No. of Group</th>
<th>Type</th>
<th>Gr.-I</th>
<th>Gr.-II</th>
</tr>
</thead>
<tbody>
<tr>
<td>BGVB-Gachha</td>
<td>Muragachha</td>
<td>166</td>
<td>Female 153  Male 11  Mixed 2</td>
<td>159 28</td>
<td></td>
</tr>
<tr>
<td>UBI-Bethuadahari</td>
<td>Bethuadahari-I</td>
<td>53</td>
<td>Female 49  Male 4</td>
<td>47 19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bethuadahari-II</td>
<td>39</td>
<td>Female 36  Male 3</td>
<td>27 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dhananjoypur</td>
<td>102</td>
<td>Female 94  Male 8</td>
<td>87 6</td>
<td></td>
</tr>
<tr>
<td>Village</td>
<td>Sub-Village</td>
<td>Population (Male)</td>
<td>Population (Female)</td>
<td>Literacy (%)</td>
<td>Literate Males</td>
</tr>
<tr>
<td>--------------------</td>
<td>-------------</td>
<td>-------------------</td>
<td>---------------------</td>
<td>--------------</td>
<td>----------------</td>
</tr>
<tr>
<td>BGVB-Patikabari</td>
<td>Patikabari</td>
<td>80</td>
<td>73</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Birpur-I</td>
<td>44</td>
<td>41</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>BGVB-Goatpara</td>
<td>Nakashipara</td>
<td>54</td>
<td>50</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Billwagram</td>
<td>63</td>
<td>58</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>UBI-Dharmada</td>
<td>Billwagram</td>
<td>19</td>
<td>18</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Uco-Krishnagar</td>
<td>Dogachhi</td>
<td>49</td>
<td>45</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>UBI-Dharmada</td>
<td>Dharmada</td>
<td>81</td>
<td>75</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>ALB-Muragachha</td>
<td>Dharmada</td>
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<td>Majhergram</td>
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<tr>
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<td>Bikrampur</td>
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<tr>
<td><strong>TOTAL</strong></td>
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<td>1326</td>
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Source: District Rural Development Cell Nadia

VIII. **What Causes poverty?**

In this chapter we make an attempt to decompose the differences in poverty incidence using regression based estimates in our study regions. This is important to identify the factors that cause differences in poverty incidence between two regions. The poverty estimates for advanced region (Region-A) and backward region (Region B) is studied (we calculate Head Count Ratio, HCR for two study regions). The difference in poverty estimates is then decomposed into a characteristics effect (C) and coefficient effect (D) using the Oaxaca decomposition method. Following Yun (2004) and Chattapadhyay,S (2011) we regressed logarithm of ratio of per capita per month income to poverty line, \( R (=\ln(y/z)) \) on a vector of socio-economic variables (X) influencing income of the households and then decompose the differences in poverty estimates in our study regions by using Oaxaca decomposition method.

Our study reveals that the average magnitude of resources explaining income of the households is lower in the backward region in comparison to the advanced region. Equalisation of resources between the regions will decrease the poverty gap by an amount equal to the share of the characteristics effect in the poverty gap i.e. 55.56 percent.

Co-efficient effect, on the other hand, shows the differential impact of characteristics over the regions. This effect shows that backward region is less efficient in the utilization of resources except for 1-DEPRAT and Educational Status. Poverty gap would have been less by 44.44
percent if the coefficient of variables influencing poverty were same for both the regions, given the characteristics.

In both of our study regions the above analysis shows that there exist differences in the availability of characteristics and the utilization of resources (i.e. efficiency). The former effect (i.e. characteristics effect) is found to be more significant in terms of the share in explaining the poverty gap. Measures should be taken to improve the overall education level and quality of employment particularly in the backward region. Reasons behind the lower utilization of resources need to be analysed.

Expansion of NREG programme both in the advanced region and in the backward region needs to be emphasized and the performance of SHGs required to be improved. Expansion of regular employment and self-employment are important to improve the quality of work and hence the earnings of the households. Lack of effective employment cannot be always safeguarded by an increase in non-farm employment. Only non-farm employment cannot also be taken to be a panacea for poverty alleviation. Although poverty alleviation is a multidimensional concept, the prime mover has to be effective income earnings, the study shows.
References:


