Income Status of the Ultra poor

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Abstract

This paper reports on income status, major sources of income and determinants of income of the ultra poor Mean per capita income was calculated to be Tk.3,385, per annum that was even less than the estimated lower poverty line income. The contribution of males and females to total household income was found to be 66% and 34% respectively. Variations in the male female contributions were due to differences in the number of economically active males and females within the household, household resource base, and sex and occupation of the household heads. The study came up with the following conclusions. First of all differential income and its sources for different region indicate that the effect of any similar kind of intervention would be different for different regions. To minimize regional variations detail knowledge on specific region would help for its further modification. Secondly, insignificant positive contribution of external capital and NGO presence indicate that micro-credit can not be the only alternative for their poverty eradication. Since 77% of the ultra poor were mainly depended on wage employment, any wage-based development would be more beneficial to them. Thirdly, high dependence on others' help indicated that in any development programme for to the ultra poor, a provision of safety net would be necessary.

This report describes on income status, major sources of income and determinants of income of the ultra poor. Data used in this report were collected in December 1998 from 1,250 ultra poor households residing in five districts under 25 BRAC's RDP Area Offices. These are the households who were eligible for NGO membership but not participated in the NGO activities. In sample selection the list of all ultra poor households living in the villages of all RDP working areas but not participating in NGO activities prepared by RDP local staff in 1997 was used. The five districts selected for this study were Comilla, Jamalpur, Faridpur, Rangpur and Bogra where concentrations of the non-participating ultra poor households were highest. From each selected region five Area Offices (AOs) were sampled based on the higher frequency of non-participating households.

In the process of computation of income both cash and kind income are included. Income in kind is converted into cash based on the money value of specific goods and services in the local market. Estimation of income is always difficult since no one wants to share this information with others especially with the strangers/outsiders. There is also a general human tendency of underreporting income and overreporting expenditure. Numbers of income sources and their types are important determinants in income variations. Here income data were collected based on verbal answers of the respondents. The total household income has been calculated by considering gross income from crop and non-crop agriculture, agricultural and non-agricultural wage labour, net income from business and trade, services, income from other sources like pension, food for education, begging and receipt of wheat from vulnerable group development fund. The use of common property resources that constitutes a significant portion of income/consumption expenditure of the ultra poor and borrowing from others are not considered in this calculation.

Level of income and the income sources

Mean annual household income of the ultra poor is estimated to be Tk. 11,839. The per capita income comes to Tk. 3,385 (Table 1). The amount increased with an increase in the number of sources. Sources of income refer to specific activities from which households receive income. In the identification of sources, the number of persons involved in specific activities was not considered. For example, in a household two members were involved in wage labour. For this household, wage labour is the only source of income. In this calculation, more weight was given to the specific activity. Number of income sources may vary from the number of income earners, depending on the activities they were involved in. For example, in a single earner household, the source could be more than one if s/he was engaged in more than one activities, or if the household received income from other sources such as VGD card holding, pension, remittance, etc.

The distribution of households according to the number of income sources shows that 60% of the households were dependent on one source of income. Another one-third received it from two sources. For only 6.8% of the cases, the number of income sources was more than two. The number of sources was found significantly correlated with total household income.

About the specific sources, 55.6% reported that wage employment was their major source. However, for 77.2% cases, it was one of their income sources. Ten percent mainly depended on income from rickshaw-van pulling. Small business and non-crop self-employment were the major sources for another 10% and 9% household respectively. For one-fifth population non-crop self-employment was one of the sources. About 12% were primarily dependent on others help, such as income earned through begging, receipt of food from VGD cards and other subsidies and also another four percent received income from this source (Table 2).

Considering multiple responses wage employment was the major source of income of the ultra poor followed by non-crop self employment, rural trading, donations and rural transport.

Male female contribution to total household income

Sixty-six percent of the total household income were earned by males whereas contribution of female was calculated to be 34% (Table 3). The contribution of males and females varied depending mainly on number of economically active male and female members in the household. It was also found to be highly correlated with household resource base, i.e., household landholding, although sex and occupation of the household heads mattered a lot. Among different landholding groups, the contribution of males was found to be highest (81.1%) and females' contribution was lowest for highest landholding group. On the other hand, male-female contribution was almost equal among the landless. It implies that with increasing household resource base reduced females' involvement in different income generating activities that has already been proved by other studies[1]. Significantly higher contribution of females for households headed by females was obvious due to lack of adult males in these households. Again low contribution of females for households headed by males was explained by the existence of traditional norms and values. Existing gender division of labour and social stigma do not allow females from relatively better-off households with higher resource base to be employed in any income earning activity. Higher contribution of females in wage employed households and those depending on charity and lower for self employed and service and other employed groups support the above. The existing socio-cultural norms also do not encourage female participation in wage earning unless under compulsion.

Level of income and geographical locations

One of the determinants of income variation is geographical location. The income of a similar socio-economic group may vary across regions due to the differential scale of

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[1] See Husain A.M.M. (ed.) 1998 *'Poverty Alleviation and Empowerment: The Second Impact Assessment Study of BRAC's Rural Development Programs'*, BRAC.

95

infrastructural development, the differential scope for employment, the wage rate, the cost of living, the demand and supply of labour and so on. The sample includes both the high and low poverty areas considering the classification pattern of different districts done jointly by the Planning Commission and World Food Programme (WFP). It was based on seven indicators which were 1) incidence of natural disasters, 2) foodgrain deficit/surplus, 3) agricultural wage rate, 4) ownership of cultivable land, 5) unemployment rate, 6) sex and 7) literacy status of the household head. Based on these seven indicators, they developed an index by giving equal weight to each of these indicators and then reclassified all districts into four categories reflecting relative levels of food insecurity: very high, high, moderate and low. Based on the levels of food insecurity, WFP then redistributed its food and other assistance support[2]. According to the WFP poverty mapping, Jamalpur is a very high food insecure region. The food insecurity status of Rangpur and Faridpur is also high. Comilla and Bogra are less insecure regions in comparison.

Based on per capita income, results presented in Table 4 give a different picture. According to the table, the highest per capita income was found in Faridpur followed by Jamalpur, Bogra and Comilla regions. Rangpur stands in the last position. The dependency on a single source of income was found to be highest in Bogra followed by Faridpur (68%), Rangpur (63.6%), and Comilla (61.6%). In Jamalpur, only 36.4% of the households were found who received income from only one source, 43% had two sources and 20.8% had more than two sources.

Although it is mentioned in other chapters of this present study that historically Faridpur is one of the ultra poor area, the highest income, both household and per capita, indicates the opposite. One of the explanations could be the fact that the major sources of income here were wage-employment, rickshaw/van pulling and small

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[2]*Presently WFP is working on another map given the higher weights on the vulnerability, which will be more Union Parishad specific.*

trading – return from such sources was relatively higher than the others. Highest wage rate in Faridpur as mentioned in Chapter 5 was also contributed to their higher income (Table 5). On the other hand relatively low per capita income in Comilla was explained mainly by their bigger household size and lower participation rate in income earning activities.

Determinants of income

For analyzing determinants of income a multivariate regression model has been estimated using household level data. Although land size is considered as the most significant contributing factor for rural income, it is return from labour that comprise the only source of income for the ultra poor as they have very low or no land. That is why extent of employment, composition of labour and productivity of the activities in which they are involved in are very important. The return from labour depends on the skill and experience of the employees concerned which are also significantly correlated with their level of education..

The regression equations are estimated in log linear terms. Natural logarithms are taken for the dependent variable of household income and for land, annual days of employment per worker, female participation ratio to total number of household income earners and age of the household head squared. A significant proportion of females was found to have participated in different income earning activities, but return from male or female labour may differ. Gender variation in income is captured by using two variables, namely the ratio of female to total workers (NMIE-F) and the dummy of sex of the household head. To capture the effect of education, a dummy variable on the literacy status of the household head instead of the educational level is used, keeping in mind that majority of the ultra poor are illiterate which is taken as a control. Among the literate, an insignificant percentage had five or more years of schooling. The number of districts is used to capture the multiplier effect of village-

level development and other exogenous factors. Two dummies on the types of involvement of household heads are also used to show variations, if any, within the ultra poor. The effect of life cycle factors is captured by using two variables i.e., age of the household head and logarithm of age squared. The role of development interventions and the contribution of capital to household income is captured by using one dummy on NGO membership and the amount of loan[3]. For NGO membership, a household is given value '1' if any member of that household was attached to any development organization any time in the past and '0' otherwise.

The regressions have been estimated for the entire population as well as for the absolute landless and for those who own homesteads and for both male and female headed households (Tables 6 and 7). For the absolute landless, an additional dummy variable on ownership of living houses is used to measure the effect of vulnerability. For those who own homestead only, the amount of the homestead land is considered to find out its relationship with income.

Results of equation I presented in Table 6, show that for the ultra poor, annual days of involvement of worker and number of income earners in the household were the most important determinants of their income. The elasticity of income with respect to the extent of employment per worker is estimated at 0.93, suggesting that a 100 percent increase in the days of employment would increase income by 93 percent. Beta value on the effect of number of income earners (NMIE) indicate that with one more employment the household income would increase by 27%. By increasing the rate of female participation within the households, total household income decreases, implying that either female workers are employed in low productive activities and/or they are paid lower wages compared to that of the male. Contribution of land was also found significant for the ultra poor. Income of households with literate household heads was found to be 10% higher than the households headed by illiterate heads.

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[3] *Both cash and kind loans were included. Loans in kind were converted to cash.*

Income of the households headed by females was found to be 32% lower compared to that of the male. A significant negative coefficient for the age of the household head and a positive coefficient for the age squared indicate the effect of life cycle factors. The increasing age of household heads increases household dependency to a certain point of time after which the dependency goes down with increasing number of working age population. The effect of regional variation in per capita income was found positive but not significant.

Results of the occupational dummies of household heads indicate that beggar households are the most vulnerable people, earning 51% less than those involved in self employment and those who did regular job. The differences were found highly significant. Although the wage-employed group earned significantly less, their income was higher than the most vulnerable group (eq. II). The elasticity of income with respect to external capital is estimated at 0.02, suggesting that an increase in borrowing capital from outside by 100 percent would increase income by only two percent. The effect of outside capital was found to be significant (eq. III). Results on NGO dummy indicate that development intervention would help to increase income to some extent but this is found to be insignificant (eq. IV).

Determinants of income for different groups of households

The previous section provided an overview in terms of factors responsible for income variation for all households. But the poor are not a homogeneous group. Factors influencing income generation may vary for households of different land ownership groups or, for example, households headed by males or females. In this section, attempts have been made to find out if other factors made any impact in the income variation for different types of households. For this analysis the same multivariate regression model referred in the previous section has been used. Equations I and II are estimated for the absolute landless and households owning only homesteads

respectively. Since a few households among sample owned both agricultural and homestead land, they have been excluded from this analysis assuming the fact that the large majority among the ultra poor are landless. Equations III and IV are estimated for female and male headed households (Table 7).

For the absolute landless, the number of income earners and their extent of employment were found to be the most important factors. The increase of an additional income earner increases total household income by 37%. The effect of an additional employment is found to be highest for the female-headed households followed by the landless. Although the extent of employment measured by the annual days of involvement per person contributed significantly in increasing total household income irrespective of their landholding or the sex of the household head, the magnitude of effect was found to be highest for the female-headed households and lowest for the landless. For them regional variation did not make any differences. The effect of life cycle factors was significant for all except the landless. It is important to mention here that ownership of living houses is a symbol of stability and income was found to be significantly correlated with housing. The income of households, owning living houses, is 25% higher than those who do not own it. Although significant gender variation in income is prevalent among the landless, the magnitude of variation is relatively less compared to others.

Results on occupation dummies indicate that among the landless poor only income of the beggars varied with the others. Income of the wage-employed group is not significantly different from the rest of the sample. Less variation in income of the wage employed group is also prevalent among the female-headed households. This suggests that there is less variation in income among the most vulnerable population - those with little asset base and those who are mostly educationally dark.

Conclusions

100

Mean per capita income of the sample households was calculated to be Tk.3,385, per annum which was even less than the national average estimated lower poverty line, i.e., Tk. 5,289 as per capita annual income. Lower per capita income of the sample indicates their severe poverty condition. High dependence on wage employment and limited income sources were explained by their poor resource base and its quality. High dependence on others' help indicate their higher vulnerable condition.

The contribution of males and females to total household income was found to be 66% and 34% respectively. Variation in the contribution of males or females was due to differences in the existence of number of economically active males and females within the household, household resource base, and sex and occupation of the household heads. Among the landless the contribution was almost equal. The contribution of female was higher among the female-headed households and the wage-employed group. On the other hand, male contribution was higher among the male-headed households. The rate of female contribution reduced with increasing household wealth.

Significant regional variations have been identified in the number of income sources, the per capita and total household income. Average household and per capita income were highest in Faridpur and lowest in Rangpur region. Faridpur like Rangpur is categorized in the poverty mapping of WFP as the high and Jamalpur as the highest food insecure regions. But if income is considered, which is correlated with all the indicators included in poverty mapping index of WFP, findings of this study are inconsistent with the WFP categorization. It may be so, because in the WFP poverty mapping index equal weight has given to all the seven indicators considered in it, which to some extent may be inappropriate. Secondly, the role of NGOs working with the rural poor and the intensity of their working areas have not been considered there. Thirdly, in their calculation they have used secondary information, which may

have influenced the results. Presently, the WFP is working with the map for revising it.

Results of the multivariate analysis show that for the ultra poor, annual days of employment is very important for increasing income. The return from female participation was found to be lower than male. Household landholding, sex, occupation and educational attainment of income earners had significant influence on income. The effect of external capital was found to be significant. NGO involvement also contributed positively in increasing income although the effect was not significant. The effect of regional variation was found positive but not significant.

For the landless and female-headed households, the contribution of an additional income earner and their extent of employment were found to be higher than those of the average poor. For these groups regional variations did not make any differences.

Policy implications

Findings of this chapter have some policy implications for those who are dealing with the ultra poor. These are discussed below:

Differential income and its sources, permit us to conclude that the effect of similar kind of intervention would be different for different types of households and for different regions. To reduce/minimize regional variations detail knowledge on localilty is very important.

Insignificant positive contribution of external capital and NGO presence indicate that micro-credit can not be the alternative for eradication of poverty of the ultra poor. Since it is revealed from the study that 77% of the ultra poor is dependent on wage employment, any wage based development will be more beneficial to them.

High dependence on others' help indicate that in any development programme directed to the ultra poor the provision of safety net would be necessary for the elderly, disabled and those who physically unfit for any development programme.

Table 1. Distribution of households by number of income sources and other household indicators

Indicators	Number of income sources					
	One	Two	Three	Four	Total	Remarks
% of households	59.8	33.4	6.2	0.6	100	
Mean household income (Tk.)	10,078	14,160	15,483	21,297	11,839	$p < .01$
Mean p/c income (Tk.)	3,209	3,617	3,727	4,644	3,385	ns

Table 2. Distribution of households by major sources of income (considering multiple responses)

Types of sources	Number of sources				
	First	Second	Third	Fourth	Total
Crop agriculture	0.7	0.7	0.1	-	1.5
Wage employment	55.6	19.7	1.8	0.1	77.2
Rural transport	10.1	3.0	0.2	-	10.3
Begging/VGD/other donations	11.5	3.6	0.7	-	15.8
Non-crop self employment	8.7	7.1	3.0	0.5	19.3
Small trading	10.2	5.2	0.8	-	16.2
Services and others	3.1	0.9	0.2	-	4.2
Total	100.0	40.2	6.7	0.6	

Table 3. Contribution of male and female in total household income (%)

Indicators	Male	Female
A. Landholding category	66.2	33.8
Absolute landless	51.0	49.0
Only homestead	69.7	30.3
Homestead + cultivable	81.1	18.9
B. Sex of the household head		
Male	92.7	7.3
Female	15.4	84.6
C. Education of the household head		
Illiterate	63.9	36.1
1-5 class	83.3	16.7
>5 class	89.7	10.3
D. Sex of income earners		
Households with female earners only	0.2	99.8
Households with male & female earners	71.7	28.3
Households with male earners only	100	-
E. Occupation of the household head		
Wage employed	68.6	31.4
Self employed	82.7	17.3
Begging/disabled/old age	27.3	72.7
Others	71.4	28.6

* 17 households without any direct sources

Table 4. Distribution of households by number of income sources and other household indicators

Regions	Food insecurity category*	No of sources				Hh income	
		One	Two	Three	Four	Total	Per capita
Average		59.8	33.4	6.2	0.6	11,850	3,385
Rangpur	High	63.6	32.0	4.4		7,464	2,199
Comilla	Moderate and low	61.6	34.0	4.0	0.4	13,818	3,146
Bogra	Moderate	69.6	27.2	3.2	-	10,613	3,307
Jamalpur	Very high	36.4	42.8	18.4	2.4	13,188	3,889
Faridpur	High	68.0	31.2	0.8	-	14,168	4,385

- *according to WFP poverty mapping*

Table 5. Sources of income for different regions (considering multiple responses)

Sources of income	Rangpur	Comilla	Bogra	Jamalpur	Faridpur
Agriculture	.8	3.2	.8	1.2	1.6
Wage employment	61.6	57.2	75.6	68	73.6
Rural transport	15.2	11.6	6.4	13.6	18.8
Begging/VGD/other donations	22.4	14	14.4	18.4	7.2
Non-crop self employment	13.6	14	13.6	34.8	6.4
Small trading	16	21.2	10.8	19.2	11.6
Services and others	2.0	10.4	0.8	5.2	2.4

Table 6. Determinants of per capita income

Explanatory variables	EQATION I		EQATION II		EQATION III		EQATION IV	
	Beta	t-value	Beta	t-value	Beta	t-value	Beta	t-value
Constant	2.16	2.54	2.72	3.29	2.68	3.25	2.74	3.32
NMIE	0.27	9.17	0.29	9.93	0.29	9.96	0.29	9.82
WPNMIE (LN)	0.93	27.43	0.91	27.56	0.91	27.68	0.90	27.54
Female participation rate in the NMIE (LN)	-0.64	-10.70	-0.56	-9.66	-0.56	-9.51	-0.57	-9.68
Regional variations	0.01	1.44	0.01	1.14	0.004	0.69	0.01	1.16
EDCNN			0.10	2.50	0.09	1.86	0.10	2.03
AGE_H	-0.04	-6.64	-0.03	-5.10	-0.03	-4.96	-0.03	-5.08
AGE_HSQ (LN)	0.76	5.39	0.62	4.50	0.50	4.36	0.61	4.48
LANDTOT (LN)	0.03	2.92	0.02	2.27	0.21	2.23	0.02	2.26
SEX_H	0.33	6.87	0.32	6.71	0.31	6.60	0.31	6.66
Begging as the main occupation of household heads			-0.51	-9.20	-0.50	-9.03	-0.50	-9.12
Wage employment Single member household			-0.15	-4.24	-0.14	-4.19	-0.14	-4.20
LOAN_LG					0.02	2.17		
NGO membership							0.03	0.82
N	1250		1250		1250		1250	
R²	0.65		0.67		0.68		0.67	
Adjusted R²	0.65		0.67		0.67		0.67	
F	257.50		232.51		214.16		213.13	

Note: * denotes significance at less than 10 percent
       ** denotes significance at less than 5 percent probability error
       *** denotes significance at less than 5 percent probability error

Table 7. Determinants of per capita income

Explanatory variables	EQATION I Landless		EQATION II Homestead		EQATION III Female headed household		EQATION IV Male headed household	
	Beta	t-value	Beta	t-value	Beta	t-value	Beta	t-value
Constant	2.28	1.11	3.49	3.83	3.28	1.97	4.05	4.37
NMIE	0.37	4.76	0.25	8.29	0.46	7.14	0.19	6.28
WPNMIE (LN)	0.89	13.57	0.90	22.85	0.92	21.86	0.74	12.01
Begging as the main occupation of household heads	-0.38	-2.95	-0.50	-8.12	-0.39	-4.47	-0.57	-7.24
Wage employment	-0.04	-0.43	-0.16	-4.25	-0.09	-1.11	-0.18	-4.93
Female participation rate in the NMIE (LN)	-0.39	-2.35	-0.60	-9.82	-0.62	-5.35	-0.48	-7.32
Regional variations	0.002	0.18	0.004	0.80	-0.01	-1.28	0.02	3.69
EDCNN	-	-	0.12	2.35	0.19	1.28	0.06	1.17
AGE_H	-0.03	-1.88	-0.03	-3.75	-0.03	-2.03	-0.03	-3.58
AGE_HSQ (LN)	0.49	1.45	0.51	3.36	0.43	1.52	0.53	3.53
SEX_H	0.39	3.20	0.26	5.07				
House	0.25	3.10			0.19	2.68	0.003	0.06
LOAN_LG	0.05	1.59	0.01	1.43	0.10	4.29	-0.002	-0.21
HOMELAND	-	-	0.003	0.76				
LANDTOT (LN)	-	-			-0.02	-1.08	0.03	3.05
N	275		913		439		811	
R²	0.70		0.66		0.72		0.42	
Adjusted R²	0.69		0.65		0.71		0.41	
F	54.60		144.49		91.02		47.73	

108