The Pakistan Development Review
35 : 2 (Summer 1996) pp. 171—187

Determinants of Rural Poverty in Pakistan: A Micro Study

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Using micro survey data obtained from a Punjab village we study a large number of rural-specific and household-specific variables besides landholding, in an attempt to determine their role in raising levels of living of rural masses. We investigated the reasons as to how some of the landless households managed to escape poverty whereas some cultivating households failed to do so. The main factors responsible for this outcome were found to be favourable/unfavourable distribution by size of landholding, household size, educational attainment, dependency ratio, participation rates, female-male ratio, and age of the household head. The landless households escaping poverty, however, remained in a low-income category. Whereas our analysis highlighted the importance of institutional setting for a better distribution of assets and access to resources, at the same time it pointed to the fact that numerous non-farm activities also enable the rural households to generate incomes and thus avoid poverty.

1. INTRODUCTION

As the experience of a large number of LDCs in general and that of Pakistan in particular shows, the substantial advances in agricultural production on account of the Green Revolution failed to benefit the lower sections of rural society especially in relative terms [Naseem (1973), p. 317; Guisinger and Hicks (1978), p. 1274]. Although considerable interest was generated to study the possible 'trickle-down' effect that might have resulted from increased productivity in the agricultural sector, yet the conclusions were rather of a mixed nature. In this regard, it seems appropriate to mention Griffin (1981), who provides a persuasive account of the relationship between high agricultural growth and absolute/relative condition of a significant proportion of rural population in Asia. According to Griffin,

> it seems safe to assume that except in countries which have had a radical redistribution of land, the degree of inequality in rural Asia has not diminished significantly and in most countries has increased. Indeed there is evidence supporting the even stronger proposition that in many areas the absolute standard of living of a significant minority

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Author's Note: This article is based on my Ph.D. thesis submitted to the University of Sussex, U.K. I am thankful to my supervisor Professor Pramit Chaudhuri for guidance and encouragement, and to an anonymous referee for making useful suggestions.

> of the rural population has declined. That is, despite the growth of per capita income and per capita agricultural output, large numbers of people in Asia have experienced absolute impoverishment (p. 289).

Griffin points out three main causes behind this phenomenon, what he calls 'immiserising growth': (i) concentration of productive wealth, especially land, in a few hands; (ii) resultant high degree of inequality in income distribution; and (iii) the control by a small segment of the population of the instruments of the state and the use of these to further their own economic interests.

There is little to disagree with in the above explanation. The experience of Pakistan since the seventies—e.g., undiminished inequality in land distribution and high growth leading to increased inequality and diminished absolute poverty seem to be consistent with that view. As it is generally believed, such a trend may have been due to the influence of some non-farm factors. One can further add that the poverty of rural masses may not be completely eradicated through the redistribution of land alone because there simply is not enough land to go round. However, redistribution of land must provide a major component of any such attempt [Chaudhuri (1979); Lipton (1991)].

With these observations in mind, we study a large number of rural-specific and household-specific variables besides landholding, in an attempt to determine their role in raising levels of living of rural masses. In Section 2 below we outline, briefly, the data and methodology used. Section 3 provides the framework for evaluation, while results are reported in Section 4. Lastly, in Section 5, we offer concluding remarks and policy implications.

2. DATA AND METHODOLOGY

The present study shifts the focus from the indices of rural-specific variables at an aggregative level [This study is a part of the larger work as reported in Malik (1992)] to various village-specific and household-specific variables at a disaggregative level. The study is based on a village survey conducted in Pakistani Punjab containing 100 households. The village 'Wanda' (District Bhakkar, Punjab), situated at a distance of 4 miles from the river Indus, which forms the boundary with the North West Frontier Province, could be taken as a fair representative of the characteristics of the two provinces. The survey, carried out in March/April, 1990, makes no claim to being completely representative of rural Pakistan. We do feel, however, that the findings based on this sample, when broadly interpreted, can serve as useful generalisations. This view is based on the data given in Table 1, which summarises and compares the main features of the present survey with that of the Federal Bureau of Statistics, 1986-87 (a summarised description of the survey is given in Appendix 1).

Table 1

Primary Survey Data Summarised

Indicators	1989-90 (Present Survey)	1986-87 (FBS Survey)
Total Household	100	9459
Total Population	625	59781
Members/HH	6.25	6.32
Earners/HH	1.62	1.70
Total LHO (Acres)	8.30	–
LHO/HH	8.30	–
LHO (Gini)	0.56	0.55[+]
Income/HH (Rs)*	2794.00	1774.83
Income/per Capita	446.04	282.00
Pov Line I	192.65	170.56
II	215.62	190.70
HCR (Pop) I	18.56	21.42
II	20.32	27.01

LHO = Landholding; HCR = Headcount Ratio.
[+] Based on 1980 Census data; * Income/month.

The survey was a 'one-shot' exercise and repeated surveys were not possible. Within the community, the objective was the total enumeration of households. The village had 100 households and 100 percent enumeration was obtained. In general, households tended to have multiple attributes in terms of sectoral and organisational involvements. Data on production activities, income, and employment were obtained.

Per capita rural income is considered to be an important measure of the level of living and, hence, is used as the key/dependent variable here. The hypotheses as outlined in the next section are tested mainly by means of decomposition of FGT index for $\alpha=2$ [Foster *et al.* (1984)] in terms of various characteristics/determinants of the rural households' level of living. In the end, regression analyses are also carried out to confirm the above results.

3. HYPOTHESES AND SELECTION OF EXPLANATORY VARIABLES

The explanatory variables are described as follows:

Landholding (LHO)

The ownership/holding of agricultural land is considered to be the main factor capable of pulling a household/individual out of poverty. The variable used here is the extent of landholding per household in acres. This incorporates owner-cum-share-

croppers as well as share-croppers. On the basis of the role it plays in a rural economy, we hypothesise that landholding has an income-enhancing (poverty-mitigating) role.

Other Assets (AST)

Apart from landholding, other assets such as draught cattle, tractor, tube-well, etc., also contribute in raising the earnings of the households owning them. In the present survey, we have obtained detailed information on such assets. These are measured in terms of rupee value of total assets. We hypothesise that other assets have an income-enhancing role.

Household Size (HSZ)

The evidence shows that the proportion of poor households in the total number of households of a given size rises with an increase in household size upto 7-8 persons, and then gradually declines [Anand (1977); Gaiha and Kazmi (1981)]. One reason may be that the proportion of children (≤ 14 years) tends to be high over this range. In other words, the number of potential earners in a household increases beyond this range. As the average number of members per household in our survey happens to be slightly over 6, i.e., less than the range after which earnings start picking up, we hypothesise that a higher household size has a poverty-increasing role.

Education (EDU)

It is generally believed that the best investment of all is the one made in people. According to human capital models, education is an important dimension of non-homogeneity of labour. Hence, high educational attainment may imply a larger set of employment opportunities, and specifically in a rural context a better awareness of the full potential of the new agricultural technology and associated agricultural practices. The education data in our survey is obtained according to the following procedure:

No education by a household member	...	...	...	0 points
Education upto secondary level	...	...	...	5 points
Education upto college/university.	...	...	...	10 points

It would be proper to note that there was greater differentiation to any education upto secondary level. Indeed it would be desirable to measure the variable continuously by equating points with numbers of years of schooling. However, the above procedure is followed to keep the analysis within manageable limit.

The required level is arrived at by dividing total of educational points by the household size. In view of its potential role we hypothesise that the higher the educational attainment, the higher the per capita income.

Dependency Ratio (DEP)

For a given household size, a larger number of children and old age members would imply a smaller number of earners in the household. In the present analysis, the dependency ratio is defined as the ratio of number of members ($\leq$14 years and $\geq$65 years) to household size. We hypothesise that the higher the dependency burden, the lower the per capita income.

Participation Rate (PAR)

The participation rate is the first of the two employment variables used in the analysis. According to Lipton (1983), the higher is illness, disability, income per capita, intensity in customs and religious beliefs, status, and the general welfare level and asset holding, the lower are the participation rates in the LDCs. In other words, comparing the non-poor and the poor, the positive incentive given by poverty to participation outweighs the negative effect on it of the higher unemployment rates normally prevailing amongst the poor. Hence, they participate more than the non-poor.

A comparison of the poor and the extremely poor, however, suggests that the damage that extreme poverty does to the ability to participate (due to illness, disability, etc.) often tends to push the extremely poor's participation rates below those of the poor. This implies that the extremely poor's ability to participate would be less than the poor's but more than that of the non-poor. In the present analysis, the participation rate is defined as the ratio of number of workers to number of adults in a household. In accordance with the above arguments, the participation rates are expected to give results.

Female-Male Ratio (FMR)

Female-male ratio is the second of the two employment variables used in the analysis. In view of the fact that female members in a household in rural Pakistan are mostly constrained by their customs and religious norms from work outside the household, their attitude to participation is rather discouraging. This suggests that a high female-male ratio may be poverty-enhancing.

Age of Household Head (AGE)

The age and sex composition is important in a household in the determination of the attitude towards work. The age of the household head has a similar role as the sex composition, discussed above, in determining income per capita in an LDC like Pakistan. Income per capita and age of household head can be assumed to have a positive relationship over the age bracket of 25 to 45 years, and a negative relationship beyond this bracket. However, since the sample household heads tend towards the

upper age bracket (40 years and above), we assume a negative relationship between these two variables.

4. ESTIMATES AND RESULTS

A summary of the survey data is given in Table 1. For purposes of comparison we have also reported a summary of comparable country level data, based on the HIES, 1986-87. The representative nature of the survey can be seen by comparing the data on members per household, earners per household, landholding Gini coefficients, and income per household as well as per capita income in real terms. As we can see, these figures are reasonably comparable. The decrease in percentage poverty over the period also makes sense keeping in view the declining trend witnessed over the last two decades. However, one slight variation is observable. The range of poverty estimates based on two poverty lines is far narrower in our survey. This may well be due to the small sample size of the present survey. Another possibility is that gradually the range of poverty estimates based on different poverty lines is narrowing down.

The data on distribution of landholding is given in Table 2. The present survey and the Government of Pakistan Census, 1980 give roughly similar distributions. The figures suggest that the distribution of landholding is highly skewed as shown by the value of Gini coefficient, which is 0.56 in 1989-90 and 0.55 in 1980. The detailed disaggregated survey data provides us with some interesting information. We find that 19 out of 100 households are landless but not all of these are in poverty. In fact, a 10 of the 19 landless households are found to be poor; which means about 50 percent of the total landless households are in poverty. We have carried out FGT decomposition of poverty based on the size of landholding (Table 3). The results suggests that the

Table 2

Distribution of Landholding, Survey Data, 1989-90

Size (in Acres)	HH (No.)	% of Total	Cumu-lative	Area (in Acres)	% of Total	Cumu-lative
Landless	19	19	19	–	–	–
1–2.5	10	10	29	20	2.3	2.3
2.6–5.0	19	19	48	70	8.2	10.5
5.1–6.5	15	15	63	94	11.0	21.5
6.6–12.5	23	23	86	225	26.3	46.8
12.6–25.0	6	6	92	109	12.8	60.0
25.1–50.0	6	6	98	204	23.9	84.5
50.0 & +	2	2	100	132	15.5	100.0
Gini Coefficient = 0.56						

Table 3

Decomposition of Poverty (FGT Index, α=2) by Size of Landholding Based on Micro Survey Data, 1989-90

Size (in Acres)	Number of HH	Popu-lation	Average Income of Poor	% Group Poverty	% Share in Total Poverty	FGT (α=2)
Landless	19	19	121.11	65.00	65.8	0.089
1–2.5	10	54	154.00	61.00	18.3	0.025
2.6–5.0	19	126	155.32	17.00	11.5	0.006
5.1–6.5	15	76	145.83	11.00	4.4	0.006
6.6–12.5	23	162	–	–	–	–
12.6–25.0	6	49	–	–	–	–
25.1–50.0	6	43	–	–	–	–
50.0 & +	2	16	–	–	–	–
Total	100	625	137.14	20.32	100.0	0.016

intensity of poverty is most severe among the landless population, with FGT measure equal to 0.089. This sub-group also contributes most prominently to total poverty: 65.8 percent of total population in poverty is accounted for by this sub-group. Both intensity and contribution to total poverty decline as the size of landholding increases, which is in line with our hypothesis.

As noted above, 9 landless households (out of 19) have, somehow, managed to escape poverty. Let us follow these 9 households in some detail. One household consisting of four members has been able to acquire a tractor (through some loans and a retirement gratuity) which is run on a commercial basis. Two households, each containing four members, run their own small businesses. We find one of these 9 households as the only member of the household, a blacksmith by profession. The remaining five households are government employees. One can infer a lot from this tiny bit of information. For instance, small household size together with favourable earner's ratio is enough to avoid poverty. This has already been illustrated by this author using aggregated HIES data [Malik (1992)]. Presently, we cross-check it with the help of micro survey data. The results are given in Table 4.

The estimates of the decomposed FGT measure show that the intensity of poverty gradually increases with household size upto 7 members/household. This sub-group with 0.033 FGT measure also contributes most prominently to total poverty: 31.66 percent of total population in poverty is accounted for by this sub group. As already noted, the household size found most prone to rural poverty was one with 7-8 members/household. Furthermore, the household size considered to be the optimal one (with 4 members) experiences a far lower intensity of poverty—i.e., an FGT measure of just 0.003. Here, once again, our hypothesis is not falsified.

Table 4

Decomposition of Poverty (FGT Index, α=2), HH Size by Members, Micro Survey Data, 1989-90

HH Size	Number of HH	Average Income of Poor	% Group Poverty	% Share in Total Poverty	FGT (α=2)
1	1	–	–	–	–
2	1	–	–	–	–
3	6	–	–	–	–
4	11	166.63	18.18	4.74	0.003
5	16	133.33	18.75	17.00	0.018
6	24	136.58	25.00	30.21	0.021
7	17	133.88	35.29	31.66	0.033
8	9	145.88	11.11	5.99	0.007
9	9	134.28	22.22	10.40	0.019
10 & +	6	–	–	–	–

A further perusal of the data suggests that 7 out of 9 households (landless households who managed to escape poverty) have reasonable educational levels. According to human capital models, education is an important dimension of non-homogeneity of labour. To look into this more explicitly, we decomposed the FGT index of poverty in terms of levels of educational attainment. The results are given in Table 5. The results suggest that the intensity of poverty is most severe among the popu-

Table 5

Decomposition of Poverty (FGT Index, α=2), by Educational Attainment Based on Micro Survey Data, 1989-90

Education Codes	Popu-lation	Average Income of Poor	% Group Poverty	% Share in Total Poverty	FGT (α=2)
000	123	132.50	59.00	61.40	0.057
0.01–1.00	101	114.31	37.30	36.70	0.056
1.01–3.00	349	175.92	4.40	1.90	0.0003
3.01 & +	52	–	–	–	–
Total	625	137.14	20.32	100.0	0.016

lation with no educational attainment. The FGT measure for this sub-group is equal to 0.057. This sub-group also contributes most to total poverty: 61.4 percent of total population in poverty is accounted for by this sub-group. Both intensity and contribution to total poverty decline as the level of educational attainment increases. Hence, a high educational level may imply a larger set of employment opportunities and higher wages. This fact is further verified from Table 6, which suggests that in 1984-85 an educated employee (with education upto secondary level) earned far higher wages, Rs 1337/month, as compared to an illiterate's Rs 714/month.

Table 6

Average Monthly Wages of Employees by Level of Education and Industry in Rural Pakistan, 1984-85 (Rs/Month)

	Illiterate & Less than Primary	Primary	Less than Matric	Matric and Above
Agriculture	558	739	–	1080
Manufacturing	750	638	1004	3890
Construction	611	762	1016	1333
Trade	642	931	979	970
Transport	811	1038	997	2139
Social Services	839	1019	1077	2754
All	714	889	992	1337

Household Income and Expenditure Survey, 1984-85.

It was, therefore, not surprising to see these households avoiding poverty. All these 9 households are, however, placed in a low-income group. This brief discussion leads to the conclusion that small household size, own businesses, and reasonable education level and employment are the factors that help in escaping poverty but cannot ensure reasonable income levels.

Now a few words about the 10 households which are cultivators but unable to escape poverty. These households have small landholdings ranging from 2 acres to 4 acres and, at the same time, large household sizes ranging from 4 members to 9 members per household. Further, with negligible educational levels, the employment opportunities are non-existent. Some of the members work as casual labourers but this status does not guarantee regular earnings to avoid poverty. A closer look at the economic situation of these households reveals that their poverty can be best explained in terms of unfavourable setting of one or more of dependency ratio, participation rates, and female-male ratio.

To get a closer view of the above three aspects, we have decomposed the FGT index of poverty in terms of each of these. We start with the dependency ratio which

may be regarded as having a significant impact on a household's well-being. The estimates, given in Table 7, show an increase in the intensity of poverty with an increase in the dependency ratio. The sub-group with the highest dependency ratio encounters the highest FGT measure (0.053). This sub-group also contributes substantially more to total poverty: 81.42 percent of total population in poverty is accounted for by this sub-group.

Table 7

Decomposition of Poverty (FGT Index, α=2), by Dependency Ratio Based on Micro Survey Data, 1989-90

Dependency Ratio	Population	Average Income of Poor	% Group Poverty	% Share in Total Poverty	FGT (α=2)
0.00–0.33	255	150.00	3.92	6.33	0.002
0.34–0.50	193	155.78	11.92	12.25	0.004
0.51–1.00	177	131.64	53.11	81.42	0.053
Total	625	137.14	20.32	100.00	0.016

Next, we have decomposed the FGT index of poverty in terms of the participation rates. The participation rate is the first of the two employment variables used in the analysis. As may be recalled, we noted previously that the extremely poor's ability to participate would be less than the poor's but more than that of the non-poor (Lipton's proposition), which forms a useful hypothesis. The estimates of the decomposed FGT index, given in Table 8, show that the extremely poor sub-groups with FGT measures of 0.009 and 0.026 have participation rates in the range of 0–0.50. The less poor sub-group with an FGT measure of 0.001, on the other hand, has participation rates in the range of 0.51–1.00, which is higher than those of the extremely poor. These estimates give some indication in favour of the proposed hypothesis.

Table 8

Decomposition of Poverty (FGT Index, α=2), by Participation Rates Based on Micro Survey Data, 1989-90

Participation Ratio	Population	Average Income of Poor	% Group Poverty	% Share in Total Poverty	FGT (α=2)
0.00–0.33	155	146.64	16.23	16.40	0.009
0.34–0.50	363	131.27	25.62	81.11	0.026
0.51–1.00	108	175.92	8.33	2.49	0.001
Total	625	137.14	20.32	100.00	0.016

Last poverty group to be decomposed is in terms of the female-male ratio. The results are given in Table 9. The estimates show an increase in the intensity of poverty with an increase in female-male ratio. The sub-group with the highest female-male ratio experiences the highest FGT measure (0.040). This sub-group also contributes significantly more to total poverty: 35.75 percent of total population in poverty is accounted for by this sub-group. This suggests that a household with high female-male ratio may be more prone to poverty in rural Pakistan.

Table 9

Decomposition of Poverty (FGT Index, α=2), by Female-Male Ratio Based on Micro Survey Data, 1989-90

Female-Male Ratio	Popu-lation	Average Income of Poor	% Group Poverty	% Share in Total Poverty	FGT (α=2)
0.00–0.67	283	139.86	14.84	32.50	0.009
0.68–1.50	283	147.96	17.31	31.75	0.011
1.51 & +	59	143.50	61.02	35.75	0.040
Total	625	137.14	20.32	100.00	0.016

This discussion leads us to an important dimension of rural poverty—poverty among female-headed households. In rural Pakistan, female-headed households form a highly heterogeneous group. There could be many factors leading to female-headed households, including not only widowhood but also male migration and divorce, amongst others. Little can be inferred about the proportion of a particular sub-group from aggregative observations but one fact remains clear that female heads in rural Pakistan are often found to include a very large proportion of widows.

The empirical links between female-headedness and rural poverty in Pakistan remain to be investigated in some detail. For example, there is no evidence that female-headed households in rural Pakistan are in fact 'poorer' than male-headed households. While remaining within the limitations of our small sample survey, we attempt to establish that female-headed households (especially widows) are a group more prone to deprivation and poverty.

Our sample of 100 households contains just two cases of female-headedness. Incidentally, both belong to the widow's sub-group and both failed to cross the poverty-line. This gives rise to the following comments. First, these female-headed households are on average smaller than male-headed ones. We know from our earlier findings that the proportion of poor households in the total number of households of a given size rises with an increase in the household size upto 7-8 persons and then the proportion gradually declines due to the increase of potential earners beyond this range.

Secondly, the dependency ratio among these households is high which simultaneously suggests that the households have a low earners' ratio. The relationship between a low earners' ratio and poverty is evident, a fact that this author has shown in detail elsewhere [Malik (1992)]. Thirdly, the household earners in the above two households lack any regular wage-employment. This is yet another common reason behind rural poverty. Albeit the sample is small, the evidence suggests that female-headed households characterised by these features are likely to end up in poverty.

In addition to the above, these hypotheses may also be tested using the cross-section survey data on 100 households. Here we have also included the remaining two variables—AST and AGE—which were not analysed above due to some data problems. In order to carry out estimation, we propose the following general formulation of multivariate log-linear relationship:

$$Y = BX + U$$

where '*Y*' stands for vector of '*n*' observations on dependent variable, '*B*' is the coefficient vector, '*X*' stands for matrix of observations on explanatory variables and '*U*' represents the error vector. The variables (all in logs) used here are defined as follows:

(i) the dependent variable is measured as income per capita;
(ii) the explanatory variables such as LHO, AST, HSZ, EDU, DEP, PAR, FMR, and AGE as defined above; and
(iii) The error term is as usually defined.

In order to have an optimal use of the survey data, the regression analysis has been carried out at three different levels, as described below:

(i) analysis of the complete sample of 100 households to infer into the totality;
(ii) analysis on the basis of higher income households (43 households with per capita income greater than Rs 300 per month); and
(iii) analysis on the basis of lower income households (57 households with per capita income less than Rs 300 per month).

The results are reported in Table 10. As we can see, the explanatory power of regression Equation 1, as measured by R^2 is significantly high. The joint test of significance, *F*-test, is accepted at 1 percent level. The results suggest that the coefficients on LHO, HSZ, AST, EDU, and DEP are significant at 1 percent to 5 percent level and have signs in accordance with our hypotheses. The coefficients of FMR and AGE have the correct signs with the latter significant at 10 percent whereas the former gives insignificant result. Just as we anticipated in the previous section, the PAR has given inconclusive results.

Table 10

The Determinants of Rural Income/Capita
Log-linear Regression Results, 1989-90

Explanatory Variables	Estimated Coeff. (Eq. 1)	Estimated Coeff. (Eq.2)	Estimated Coeff. (Eq. 3)
Intercept	7.08	7.13	6.21
	(8.67)	(4.74)	(9.68)
LHO	0.061	0.095	–0.034
	(3.96)	(2.40)	(2.89)
HSZ	–0.412	–0.478	–0.340
	(2.90)	(1.91)	(2.66)
AST	0.074	0.041	0.004
	(6.36)	(2.03)	(0.24)
EDU	0.089	0.106	0.062
	(3.67)	(1.73)	(3.66)
DEP	–0.184	–0.180	–0.226
	(1.97)	(1.16)	(2.36)
PAR	–0.011	–0.688	0.156
	(0.06)	(1.93)	(1.10)
FMR	–0.036	–0.036	–0.149
	(0.53)	(0.28)	(2.83)
AGE	–0.263	–0.304	–0.057
	(1.27)	(0.79)	(0.36)
R^2	0.62	0.46	0.58
F-test	18.63	3.58	7.26

Note: Equation 1 is based on the complete sample of 100 households.
Equation 2 is based on 43 higher-income households.
Equation 3 is based on 57 lower-income households.
The dependent variable is rural income/capita.
The figures in parentheses are *t*-ratios.

LHO = Landholding (area in acres). HSZ = Household size.
AST = Other assets. EDU = Household education level.
DEP = Dependency ratio. PAR = Participation rate.
FMR = Female male ratio. AGE = Age of the household head.

Equation 2 reports estimates on 43 higher income households. The R^2 is moderately high whereas the *F*-test is significant at 1 percent level. The results derived here are not much different from those of Equation 1 above. There are, however, some minor variations. The coefficients on LHO and EDU variables are found to be slightly larger than those arrived at on the basis of complete sample estimates. This is to be expected as the higher income households derive a larger part of their income from those sources. An interesting picture is presented by the coefficient of PAR which is large and significantly negative. This suggests, in line with our hypothesis, that the higher the income the lower the participation.

Equation 3 gives estimates based on 57 lower-income household. The R^2 is moderately high and *F*-test significant at 1 percent level. As the results suggest, almost all the coefficients have 'correct' signs. The coefficients on LHO and EDU are smaller than those obtained from previous equations. This is to be expected. DEP and FMR have a strong negative effect on the dependent variable which highlights the vulnerability of low-income households to a high level of dependency and female-male ratio. Another important result is in terms of AST, which turns out to be highly insignificant. This implies that other assets do not contribute much to the incomes of the lower-income households. Once again, the coefficient on PAR presents a variation. This time it turns out to be positive with significance level at 10 percent. This means the lower-income households tend to participate more as compared to the higher-income households—just as Lipton proposed.

As end-result of the above analyses, the extremely poor are likeliest to be in the most unemployment-prone group, casual labour, due to their extremely unskilled status. The role of education, (being skilled) and thus proper employment, in combating rural poverty has been noted by us previously. This has been emphasised by Michael Lipton as follows:

> As education raises skill levels so that some jobs once done by unskilled labourers are done (better) by those whose parents could afford the direct and the opportunity costs of their education—unemployment shifts even further towards the unskilled, under-educated poor and poorest [Lipton (1983), p. 66].

This highlights the point that not only is unemployment probably a more important determinant of poverty than is generally believed; its relative importance is probably increasing.

5. CONCLUDING REMARKS AND POLICY IMPLICATIONS

The main findings of the analysis are summarised below:

(i) The primary analysis of data reveals that our sample village turned out to be a fairly representative sample in terms of basic indicators of rural economy. The

percentage rural poverty is found to be in line with the declining trend of rural poverty in Pakistan.

(ii) The disaggregated nature of data has enabled us to pursue the problem of rural poverty in some detail. For instance, investigation of the reasons as to how some of the landless households managed to escape poverty whereas some cultivating households failed to do so gave us some useful information. To explain this phenomenon we attempted to see the relationship between poverty and certain household-specific characteristics, mostly by undertaking FGT decomposition. The main factors responsible for this outcome were found to be favourable/unfavourable distribution by size of landholding, household size, educational attainment, dependency ratio, participation rates and female-male ratio. Those households escaping poverty, however, remained in a low-income category.

(iii) Another problem discussed was poverty among female-headed households. The evidence showed that female-headedness characterised mainly by widowhood has a possibility of ending up in poverty. However, given that there were just two such cases, this conclusion needs to be viewed with caution.

(iv) The analyses were carried out at three different levels: on the basis of complete sample, low-income level, and higher-income level. We found some of the explanatory variables behaving differently at different levels of analysis, which is as expected. Landholding, household size, household educational level, and dependency ratio were found to influence the dependent variable (rural income per capita) in a significant way. Other assets and household educational level were found to enhance the per capita income of the high-income households as compared to that of the low-income households. The rationale behind this is well-understood.

(v) The two variables, female-male ratio and age of the household head, gave correct signs but did not perform well. Participation rate, a measure of rural employment, however, gave some useful results. The hypothesis that the extremely poor participate less than the poor but more than the non-poor was confirmed by our analysis.

In sum, the possibility of falling below the poverty-line is lower for a household with a larger area to cultivate for its own, access to other productive assets, a smaller number of dependents, greater participation in non-farm work, and a higher education level. Whereas our analysis highlights the importance of an institutional setting with a better distribution of assets and access to resources it points, at the same time, it points to the fact that numerous non-farm activities also enable the rural households to generate incomes and thus avoid poverty.

Appendix

Appendix 1

VILLAGE SURVEY, 1990

Background to Village Survey

The village (called 'Wanda' located in Punjab Province) survey was conducted in March/April, 1990, for six continuous weeks. The survey was mainly based on a household questionnaire largely concerned with quantitative economic analysis. The format of the questionnaire was such that the information could easily be transformed on an individual basis. The modes of data collection were the following:

(i) direct questioning of household head and other members;
(ii) extracting data from participant observation; and
(iii) interviewing of selected informants.

The survey was a 'one-shot' exercise, and repeated surveys were not possible. The events of the recent past (agriculture data, etc.) had to be based on memory recall of respondents with cross-checking from co-residents.

Within the community, the objective was the total enumeration of households. The village had 100 households and 100 percent enumeration was obtained. In general, households tended to have multiple attributes in terms of sectoral and organisational involvements. Data on production activities, income, and employment were obtained.

The village consisting of 100 households is connected to the nearest town (called 'Darya Khan' at a distance of 8 miles) by a single metalled road. It was electrified only two years ago and has educational facility upto the primary level. The primary health centre is located at a distance of 3 miles.

The village agricultural land is plain and mostly cultivable. The land tenure system consists of both owner-cropping as well as share-cropping. The main crops of the area are wheat, sugar-cane, maize, sorghum, and cotton.

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