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SOCIO ECONOMIC MILIEU OF SMALL FARMERS IN SARGODHA DISTRICT

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This paper narrates the poverty correlates among small farmers in the Central Punjab. It is based on the survey conducted in the three districts of Central Punjab for the year 2004-05 aby interviewing 150 small farmers. A logistic regression approach was used to explore the parameters of poverty -inducing factors. Results revealed that 43 percent of the respondents were below the poverty line on the head count basis. The corresponding poverty gap was 50 percent. Logistic model estimates revealed that among the lower farm productivity, age of the head, lower prices of the outputs, bigger household size, lack of infrastructure, and high dependency ratio were the major determinants of poverty, while education and health of the household head were the poverty-reducing factors.

INTRODUCTION

Agriculture is the mainstay of the economy of Pakistan. About 45 percent people generate their income from agriculture sector and 85 percent of them are small farmers. The number of small farms has increased over time from 82 percent in the year 1990 to 86 percent in the year 2000 (Pakistan's Agricultural Census 2000).

It is ironic that small farms are not only becoming smaller, but land distribution is also skewed and concentrated more among larger farms. It is noted that nearly 14 percent of the large farms own 54 of the area and 86 percent cultivates 46 percent of the farm area. According to the standard definition, small farmer is operating less than 12.5 acres of irrigated land or less than 25 acres of un-irrigated land (Agricultural Census 2000).

Small farmers are a significant and vital segment of farming community. The prevalence of small-farms upto the proportion of about 90 percent is a critical factor in agricultural development of South Asian countries (Oxfam). Small farms contribute 30-35 percent to total the total agricultural productivity. Sustainable intensification of smallholder agricultural production should be a key component of national anti-poverty strategies. Sustainable intensification means that smallholders are able to raise crop yields or livestock production without depleting the natural resource base on which their production depends (Peacock And Jowett 2004).

The socio-economic gap between rural poor and urban poor is becoming wider over time which calls for corrective action. Poverty has been higher in rural areas (38.65 percent) than urban areas .i.e. 22.39 percent (Govt. of Pakistan 2003). The majority of these rural poor are included in the category of small farmers. Thus targeting of small farms seems imperative in alleviating rural poverty improving the social condition of the general masses. The empowerment of small farmers in terms of their social, political and economic status is sine qua non for the development of agriculture and hence improving livelihood pattern. The objective of the study is to determine and identify the factors responsible for socio-economic milieu of small farmers.

METHODOLOGICAL CONSIDERATIONS

A random sample of 150 respondents, from the mixed cropping zone of Sargodha district was taken. A well structured questionnaire was designed to collect data on the family structure, education and health status of the farmers, cropping pattern, crop yield, farmer's perceptions regarding their social status (Poor/Non poor), knowledge about growing of fruits and vegetables, and rearing of livestock etc.

There are several econometric techniques applied in determining the causes of poverty. The income approach to poverty is attributed to the reduced command of economic resources available to the household. Thus, in general terms, poverty is thought, as limited assets owned by the poor and the low productivity of these assets. Several variables are considered as the correlates of income, and thus, of socio-economic conditions. These variables are divided into two general areas: the characteristics associated with the income generating potential of individuals and the characteristics associated with the socio-economic context in which the individual lives.

There are severe problems in determining the direction of causality. The causality runs both ways i.e. poverty causes the characteristic or the presence of a given characteristic, which causes poverty? For instance

poverty causes large households or a large household causes poverty. However, the issue of uni-directional or bidirectional causality is not the main focus of this study.

In order to determine correlates of poverty and testing the corresponding hypothesizes, a probability Model i.e. binary logistic model was used.

Mathematically model is:

$$Y_i = X_i\beta + u_i$$

Where:

Y_i: dependent variable that indexes the measure of Poverty;

X_i: independent variables; u_i is the stochastic error term and β is the parameter to be estimated.

In this model, the response variable was binary, taking values as one if the household was poor, zero otherwise.

Following Greene (1993) and assuming that the cumulative distribution of u_i was Logistic, a logistic model was employed. In this case, the probability of

$$\Pr ob(Yi = 1) = \frac{\exp(X`i\beta)}{1 + \exp(X`i\beta)}$$

being poor was estimated by using the logistic probability model given as:

The variables included in the model are defined as follows:

Dependent Variable

POOR: Binary variable taking the value as one if household is below the poverty line, zero otherwise.

Independent Variables

LOWPROD: Binary variable taking the value as one if household has low farm productivity, zero otherwise.

AGE: Age of the household head in years.

POUTPUT: Binary variable taking the value of one if the poverty was due to low farm product prices zero otherwise.

PINPUT: Binary variable taking the vale of one if the household poverty was due to high prices of inputs or zero otherwise.

HSIZE: Size of the household.

HEADEDU: Indicating the education of head as years of schooling.

POORBASE: Binary variable taking the value of one if the poverty of the household was due to poor resource base or zero otherwise.

INFRAST: Binary variable taking the value as one if the household's poverty was due to non-access to farm infrastructures otherwise zero.

HEALTHS: Binary variable taking the value of one if the poverty of the household is due to poor health status otherwise zero.

EMPIRICAL RESULTS

The estimated logistic regression results are shown in Table 1. The results revealed that the coefficients of independents variables have expected sign and consistent with the logic of economic theory. In order to determine the correlates of poverty several hypotheses were formulated. The following null hypotheses (H_o) and alternate hypothesis were formulated.

Table 1. Logistic estimates of poverty determinants in Faisalabad

Variables	βs	SE	t-value
LOWPOD	0.59	0.03	17.62***
AGE	0.22	0.01	15.42***
POUTPUT	1.05	0.04	23.31***
PINPUT	0.55	0.42	1.31
HSIZE	0.13	0.07	1.77*
HEADEDU	-0.09	0.03	2.80***
POORBASE	0.30	0.03	11.01***
INFRASTR	0.57	0.29	1.98**
HEALTHS	0.28	0.12	2.24**
Constant	-5.08	1.07	000

It was envisaged that farm's lower productivity lead to poverty. Statistically the coefficient of low yield was significantly different from zero at 5 percent probability level indicating that low yield of crops was a poverty causing factor. Thus the H_o cannot be accepted and hence low farm productivity causes poverty. The coefficient of "Headage" was significantly different from zero at .01 percent level of probability, indicating Null Hypothesis is not accepted and hence old age is the cause of poverty. The results are consistent with the study of Garza (2000). The coefficient ($\beta 3$) of low prices was highly significant and different from zero, and is one of the causal factors. So the Null Hypothesis was not accepted. The sign of coefficient input prices was positive but not significantly different from zero showing that this variable could not be considered as poverty causing factor. So the null hypothesis can not be rejected that high input prices are not the causing factors of the poverty.

The coefficient for the variable House hold size has positive sign and statistically significant different from zero at .01 percent level of probability, indicating that this variable was the cause of poverty. So the Null Hypothesis is not accepted that the bigger house hold

size was not the cause of poverty. Thus the household size affects the poverty. The results revealed that coefficient for the education of head has negative sign, showing inverse relation with poverty. When the validity of coefficient (β6) was statistically tested, it was significantly different from zero at .01 percent level of probability indicating that Null Hypothesis being incorrect cannot be accepted. The results are consistent with Szekely (1998).who also concluded that education of the house hold head reduces the poverty. The coefficient "POORBASE" has positive sign and is significantly different from zero at .01 percent probability level, indicating that poor resource was the cause of poverty. The sign of the coefficient was positive indicating that lack of infrastructure may be the cause of poverty but it was significantly different from zero at 5 percent level of probability, suggesting that null hypothesis cannot be accepted. So the lack of infrastructure was the cause of poverty. The results showed that coefficient for Health Status had negative relation with poverty. Further more the coefficient was significantly different from zero at 95 percent confidence interval suggesting that null hypothesis can not be accepted. So a good health status was a poverty-reducing factor.

CONCLUSIONS

The study was conducted in Sargodha district to highlight the socio-economic milieu of rural. The study showed that a large majority of the small farmers are living below the official poverty threshold. Nine hypotheses were tested to determine the correlates of poverty. The major poverty causing factors were low productivity of crops, bigger family size poor resource base, lack of infrastructures and dependence ratio. The education of head was a poverty reducing factor. The major emphasis should be given to increased productivity at the farm level, expand the resource base of farmers through diversification and development of infrastructure. The literacy rate and level of education should be given priority to improve the socio-economic condition of the small farming community.

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