

**Impact of Socio Economics Variables on Poverty: An Empirical Analysis for District Chitral of KPK
Pakistan**

Faiz Muhammad*, Amjad Ali
Karakoram International University Gilgit Baltistan, Pakistan
faiz.eco006@gmail.com

Abstract: This study investigates the impact of socio economic variables on household poverty in Chitral valley, the largest district of Khyber Pakhtunkhwa Province of Pakistan. The household poverty index has been constructed while calculating multidimensional poverty index for each household. For this purpose, a representative sample of 252 households have been surveyed while distributing questionnaire to each household. The data have been collected through stratified sampling technique and the collected data then analyzed while applying descriptive statistical tools and regression techniques. The regression analysis has done while taking explanatory variables as income of household, gender of household head, lives stock population of household, age of household head and dependence ratio of household. Results of the regression analysis show that lives stock population and income of household have significant negative impact on household poverty. The results further reveal that dependency ratio has also significant positive impact on household poverty. Different diagnostics tests have also been applied in order to test the assumptions of liner regression model and the results of all the diagnostics show the absence of econometric problems in the estimated model.

Keywords: *Socio-economic variables, Multidimensional Poverty Index, Chitral*

1. Introduction

Poverty is a complicated phenomenon to understand based on a network of interlocking economic, social, political, demographic and cultural factors. It's prerequisite to understand existence of poverty especially in the rural areas; it is a socioeconomic factor persists everywhere but a little bit complexes to find out the dimension and strength. Most societies face such dynamic vicious issue and large numbers of peoples live in miserable condition of the poverty. In Chitral the poverty is becoming a serious issue like that of other areas of Pakistan. Poverty is not an individual hard issue solely for one country or an area but it's a past, present and future phenomenon, and it justifies with different dimension with respect to different areas. Although, poverty is related to socioeconomic factor, the people they cannot meet their basic needs and unable to afford essential necessities. Living conditions of poverty aside for a moment, it must be true that, however unwelcome, the temporary experience of low-income is much less likely to damage life chances and lead to serious deprivation than is repeated or long-term exposure to low income. Poverty also encompasses low level of health and education, poor access to clean water and sanitation, inadequate physical security. Usually poverty is measured by the poverty line.

This study is an effort to identify the socioeconomic factors which determinant the poverty in Chitral Valley. This rigorous issue has been analyzed in many studies, but theses study have been ordinarily failed to incorporate different socioeconomic variables in their analysis. In this study, we have endeavored to analyze the impact of socioeconomic variables on poverty. This issue has not been examined in the context of Chitral valley which is the largest district of Khyber Pakhtunkhwa Province of Pakistan where significant number of people face multidimensional poverty especially in terms of education, health and living standard. The existence of multidimensional poverty in this mountainous region could be possible due it's geographically location and being far away from the cities of the countries. Therefore, investigating the socio economics determinants of multidimensional poverty is crucial in the current era in order to develop policies to eliminate the multidimensional poverty in the region.

2. Literature Review

Wardhana (2010) conducted study about the multidimensional poverty dynamics in Indonesia. He stated that the poverty line is often; derive from consumption level of every individual and costs of the basket of the basic needs. He analyzed that a single indicator such as consumption, expenditure and per capita income to

determines the poverty. He examined in the study and stated that there is difference between the poor and non-poor the basis of poverty line. He also discussed that the human and physical assets are much important to measurement for the poverty, especially in Indonesia where the chronic poor characterize the poverty problem. Chaudhry, Malik, & Hussan (2009) studied the impact of socioeconomic and demographic variable on poverty while selecting southern Punjab. They used regression technique for the study and found the different socioeconomic and demographic variables which impact on poverty. They examined that the age of household head has negative relationship with per capita income and indirectly positive relationship with poverty. The study also concluded that the highest education attainment of household head has indirect relation with poverty.

Sabir & Tahir (2012) analyzed that the different macroeconomic variables have impact on the welfare of poor in Pakistan. The study revealed that the GDP growth, per capita income, major crops and livestock inversely related with poverty while the population growth, inflation and so other variables which have positive impact upon poverty. They explored that in the long run reduction or alleviate in poverty in Pakistan is driven by the change different macroeconomic variables. Aue & Roosen (2010) found about the relationship between two multidimensional the low socioeconomic and health behavior, including dietary behavior, weight status and health behavior. This finding conducted based on the primary data and it collected through questionnaires from Germany. Public health have shown the low socioeconomic status and found that the poverty is related to lower level of health. They also concluded in the study both multidimensional indicators shows inverse relationship between socioeconomic status and several type of health behavior. They also analyzed that there are other key socioeconomic variables which have a major impact on poverty with along forth side such as unemployment, health behavior and weight status. Faridi, Chaudhry, & Anwar (2009) found in the study the women work participation which impact socioeconomic and demographic variable and the study is based on cross sectional data collected through field survey. They explore that the participation of educated females in labor force cannot give a fruitful result but the tendency of labor force of the women's directly impact on poverty. They analyzed that the basic education is not sufficient in the participation of economic activities for production purposes but increase the quality of women's education become fruitful.

Freeman (2010) explored the factors which cause poverty. In the analysis, he collected data from the longitudinal survey and panel study income dynamics of US. To estimation for the data regression model has been used. The main finding of the study is that the poorness of the neighborhood effect overall environments and he explored in the study that the racism is also a factor which divided the people in different group due to the separate tradition and ethnic group which impact socioeconomically and become a reason of the social evil such as poverty. Duclos & Grégoire (2001) analyzed regarding to the absolute and relative deprivation and the measurement of poverty. The data drawn from the Luxembourg Income Study (LIS) data sets of Belgium and Denmark (1992) and of Italy and the USA (1991). They investigated that the relationship between poverty and inequality through the class of poverty indices, which concern to relative and absolute poverty and fined the indices, can be easily used to evaluate the impact of growth on poverty. The impact of growth on poverty is also seen to depend on the presence of and on concerns over relative de-privation. Achia, Wangombe, & khadioly (2010) explored the key determinant of poverty in Kenya using the demographic and health survey data. They estimated the data a Logistic regression model. In their study, they focused the demographic variables as an independent variables and SES (poor and non-poor) considered the dependent variables. The study conclude and determine that the demographic and socio economic status have correlate to poverty.

Arif (2000) analyzed the factor, which causes rise in poverty in the poor households in Pakistan. In his study has used data through household survey about the 1992, and 1996-1997 and socioeconomic survey. He explored that the rise in poverty in 1991 chronically affected the poor household of the country and the primary enrollment of School has decreased, health and housing conditions have extremely declined. The study concludes that there was a big gap between poor and non-poor families as well as between urban and rural areas. Usman & Marmara (2015) explored that the poverty is a phenomenon correlates to households' environmental indicator in Nigeria. In the study used the survey data (secondary data 2006-2014) on environmental health indicator to know about the poverty in Nigeria. They used the logistic regression technique to estimation for the poor and non-poor. Explained that the poverty encompasses due to the lack of basic necessities such as education, health services, clean water and sanitation, which are the fundamental

necessities for human survival and the study conclude that the non-improved cooking and drinking water, toilets facilities and cooking fuels, such essential needs are correlated to the poverty.

Kimsun & Bopharath (2011) examined the factors which impact of environmental degradation on poverty in Cambodia. They used the socioeconomic survey in (2007) and other secondary data to know about the impact of environmental income and the variables such as livestock population, drought, land sliding and flood on poverty. The simple descriptive method has been used to assessment for the data. They analyzed that the less motivated strategies of the household and limited response of the government create a risk for the environmental changes. The study concluded that the drought and poverty has positive relationship but probably the flood and poverty has negative relationship. Waheed & Ahmad (2012) studied concern to Pakistan and they studied the terrorism is chronic effect on socioeconomically. The qualitative data used in the study and t-test is used to estimation for the data. Their study they analyzed the terrorism is intense impact on socioeconomically such as education, health, academic performance, and even the people become mentally disturb. The study concluded the impact of terrorism directly affect on individual as well as over all family. Barma (2011) examined concern to the socioeconomic and demographic impact on the child labor. In the study, the primary data has been used and taken from different area or cities in India. He explored that the high level participation of labor force is negative associated with education of the parent as well as children and also mention here that the improvement of education may be reduce participation rate of child labor and reduce the social problem. The main finding of the study is the education levels of the parent, wealth status reduce the participation in labor force, and also explored that the participation rates of the child labor force are high in India.

3. Methodology

Study area and Sample Size Distribution: The Chitral region has been selected for this study. Chitral is the largest district of Khyber Pakhtunkhawa Province of Pakistan. This is situated the north side in Pakistan and meet to Afghanistan from both side north and south, western side has Gilgit Baltistan approximately associated with a small distance. The Chitral district have two tehsils, tehsil Chitral ordinarily consider this area is lower Chitral, while the second is tehsil Mastuj, generally the upper areas of the district come to this tehsil. The data have been selected through questionnaire and stratified random sampling technique has been used to select the sample. For this purpose data have been collected from Ounavich, GarumChashma, Torkhow (Rech), Shust and Broghil village.

Table 1: Distribution of sample

	Shust	Ounavich	Torkhow (Rech)	GarumChashma	Broghil	
Respondent (N=252)	37	46	68	65	36	252

Source: Field visit (2015)

Specification of Econometric Model: Following Chaudary, Mailk and Hassan (2013) we have constructed the following econometric model:

$$Pov = \alpha + \beta_1 DR + \beta_2 Y + \beta_3 GR + \beta_4 Age + \beta_5 LP + \mu$$

Pov = poverty measured by multi-dimensional poverty index

DR = Dependency Ratio of household

Y = Income of the household

GR = Gender of household

Age = Age of Household Head

LP = Live Stock Population

4. Data Analysis and Results

Table 2: Descriptive Statistics

S/No	Characteristics	Frequency (f)	percentage (%)	
1	Income Range	Below 5000	176	69.7
		5000-10,000	44	17.4
		10,000-15000	19	7.6
		Above 15000	13	5.3
2	Size Range	1-2	4	1.5
		3-6	59	23.5
		7-9	90	35.6
		Above 9	99	39.4
3	Earner Range	1-2	204	81.1
		3-4	42	16.7
		Above 4	6	2.2
4	Occupation	Farmer	92	36.4
		Employed	27	10.6
		Labor	133	53.0
5	Landholding Range	1-5 Kanal	143	56.8
		6-10	82	32.6
		11-15	17	6.8
		16-20	10	3.8
6	Ranges of Livestock Population	1-5	31	12.2
		6-10	84	33.3
		16-20	112	44.7
		Above 20	25	9.8
7	Gender of household	Male	231	91.7
		Female	21	8.3
8	Level of Education (Hh)	Literate	32	12.9
		Illiterate	220	87.1
9	Type of Household	Pacca	31	17.4
		katcha	221	87.6
10	Range of Room in (Hh)	1-2	181	72.0
		4-6	52	20.5
		Above 6	19	7.5
		Total	252	100

Table 2 shows the per month income of households surveyed in July, 2015. The income ranges show that the income of 176 (69.7%) household falls in the income range of below 5000 and per month income of 44 (17.4%) household falls in the income range of 5000 to 10,000. Similarly, the monthly income of 19 (7.6%) household falls in the income range of 10,000-15000 and household income of 13 (5.3%) household falls in the income range of the household above 15000. The analysis show that majority of the households have per month income falls in the income category of below 5000. This also indicates that majority of the households selected for this study are poor. Table 2 also results show that 4 households (1.5% of the total no of households) have family members falling in the rage of 1-2. 59 households (23.5%) have household members,

falling in the range of 3-6. Similarly 90 household (35.6%) have household member falling in the range of 7 to 9 and 52 households (39.4%) household member falling in the range of above 9. It also results that majority of the households has household size of more than 9 members.

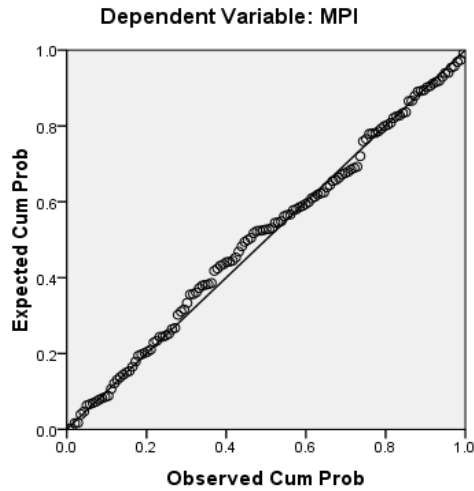
The table further shows that 204 households (81.1%) have earner in household members falling in the range of 1-2. The above table indicates that 42 household (16.7%) earner in household members falling in the range of 3-4 and 6 household (2.2%) have earner in household members falling in the range of above 4. This analysis show that the most of household has earner of 1-2 only, and the figure in 4.2 shows that majority of the household size of the household has household size of more than 9 members. We can conclude from this analysis that in the Chitral dependent ratio is very high. Table 2 further shows 92 (36.4%) occupations of household head are farmer. The table also indicate that the household 27 (10.6%) have occupation of household employed and the household 133 (53%) occupied in labor force in household head. This analysis reveal that the majority of the household members engage in labor force and this also describe that most household has earn from labor force and a small fraction of household head occupied in agriculture sector and a minimal part of household head has employed. The land holding of household is also presented in the table. The land holding range show that the land holding of 143 (56.8%) households falling in the range of 1 to 5 kanal and landholding of 82 (32.6%) household land holding falling in the range of 6 to 10 kanal. Similarly the landholding of 17 (6.8%) household landholding have 11 to 15 kanal and landholding of 10 (3.8%) have household landholding falling in the range of 16-20. Table 2 indicates that the majority of the households of household landholding has 1-5 kanal.

The table 2 explains that 84 households have (33.3%) household livestock population falling in the range of 6-10. Similarly, 112 households have (44.7%) total number of livestock population in the household falling in the range of 16-20 and 25 households have (9.8%) livestock population in the household falling in the range above 20. Table 2 also shows that 231 households (91.7%) have male head and 21 households have (8.3%) female head. The table shows 32 household (12.9%) have literate in total number of household head) and 220 household (87.1%) have illiterate household head. The analysis indicates that most of the household head illiterate and the table further show the type of Household in the study area. The table presents that the 31 household (17.4%) have pacca type of household and the 221 (87.6%) have katcha household type. The study reveals that the majority people living in Katcha type of houses and a few numbers of household members have the capability to live in pacca type of house. This indicates that most of the people in valley victim of extreme poverty. The analysis also describes the number of room in household. The table shows that the 181 household (72%) have room in household falls below in the range of 1-3 and 52 household (20.5%) have room in household falling in the range of 4-6, similarly 19 household (7.5%) have room in household falling in the range of above 6. The analysis show that majority of household has 1-3 rooms and a few household has four to six or above six rooms in table 2. This result also concluded that, people in Chitral is tend to live in joint family.

Regression Analysis: A regression model requires different assumption to hold in order to get reliable and authentic results. Non-fulfillment of the assumption may lead to wrong interpretations of the regression results and therefore, we have applied different test in order to confirm the assumptions of regression model to hold.

Normality Test: The purposes of normality test is to know distribution of the variables in constructed model. (I, 2005) states that the normality can be seen on the data distribution curve when the curve does not pass through either the left or the right. As demonstrated in Figure 1, it shows that the data output is normally distributed.

Normal P-P Plot of Regression Standardized Residual



Multicollinearity Test: In order to test the problem of multicollinearity we have applied VIF criteria Menard (1995) find out that the VIF value greater than 10 indicates a collinearity problem. For this model, as given in Table 3, the VIF values are all well below 10. Therefore, it is safe to conclude that there is no issue of Multicollinearity in the model.

Table 3: Multicollenearity Test

Variables	Tolerance	Collinearity Statistics
		VIF
Y	0.948	1.0548
DR	0.948	1.0548
Age	0.949	1.0537
Gen	0.939	1.0649
LsP	0.967	1.0341

Multi-regression model has been used to investigate the impact of different socio economics variables on poverty and the results are reported in table 4. The explanatory variables gender, dependency ratio has positive relationship with poverty while variables income, livestock population and age have negative relationship with poverty.

Table 4: Regression Analysis

Dependent Variable= MPI

Variables	Co-efficient	t-value
C	.610	3.096
Y	-.008	2.25
Gender	.074	8.18
DR	.078	8.70
Age	-.139	-1.516
LsP	-.128	3.91

R-square =.54

Adj R-square = .51

It has been empirically analyzed that the coefficient of income is statistically significant and reveal negative relationship with the poverty. This tendency indicates when the income tends to increase of the household the poverty will decline. The result empirically analyzed and justify that the income is very characterizing factor regarding to the living standard of household members. It can be said that high level of income become helpful to the expenditure and consumption of the households. When the income will increase the consumption and expenditure of household will be more and nearly poverty will decrease, so the income and poverty has an inverse relationship. It has been analyzed that the coefficient of gender is statically significant and indicate positive related to poverty. This analysis shows that if the household head is women this becomes a reason to increase the poverty. There are few fundamental scenario and structural socio dynamical issues which become vicious cause of poverty. Women often have to live with greater social constraints than men do. Legal sanctions on the ownership of land or access to loans, for example, mean that women have fewer possibilities than men of improving their lives economically by their own efforts and more effective in productive purposes. What is more, the obligations compelled by their reproductive responsibilities, such as household duties and caring for children leave them less time for other pursuits. The female headship provide a basic guide line to household but these are generally tend to failed to proceed further steps due to meet different unwanted constraints. Thus it does justify that, the female headship and poverty has direct relationship.

Similarly, the dependency ratio has also a positive relationship with poverty and the coefficient of dependency ratio is statistically significant and shows that the higher dependency ratio causes to make poor and a witness of existence poverty. The dependency ratio assumed to be measure the household members below 15 ages and above 64 age who dependent on the household head earning. It is because of the household member who below the age of 15 they are child not in workforce and the member of household who above the age of 64. It has been empirically proven that the coefficient of livestock is statistically significant and shows negative relationship with poverty. This indicates that the poverty will decrease with the increase of livestock population. Animals are means of food, more especially for human diets, employment, income and possibly used for other need base. For low income producer, livestock population support as a store of wealth. The livestock considers being a source of asset for the household, particularly in rural areas. Livestock sector development not only helps in reducing the poverty levels but it can also satisfy the domestic needs and it's only a highest degree to increase the individual income of the household in rural areas and this probably a best source to alleviate and deprive the poverty. Thus, it is proven that the livestock population and poverty have a negative relationship, the poverty will decrease cause by the increase in livestock population.

5. Conclusion and Policy Recommendation

This study examined the impact of socioeconomic variables on poverty in Chitral Valley. For this purpose descriptive statistics tools and regression technique have been employed. Based on regression analysis the study concluded that variables income, livestock population, gender, age and dependency ratio have significant impact on poverty. Livestock population and income are significant and negatively related to poverty. It is found that the poverty would be decline with increase in livestock population and income of household head. Secondly, the dependency ratio has a positive related to poverty and the coefficient of dependency ratio is statistically significant and shows that the higher dependency ratio causes to make poor and a witness of existence poverty. It is concluded that the poverty will decrease with decline the dependency ratio it's because of the few numbers household members, which is facilitated by the household head easily, so, the less dependency ratio means less intensity of poverty. Similarly, coefficient of variable gender is statistically significant and positive impact on poverty indicates that poverty tend to increase when the household has female head, and so the study conclude that the female head do not efficient to perform in economic activities as compare to male head of household due to the fact that women cannot easily access to loan as compare to men and they are also subject to discrimination in labor, credit and a variety of other markets and they own less property less productive compared to men.

Based on the results of this study the following policy recommendations are recommended.

- Since poverty is the emerging issue in developing countries special in rural areas, the governments of Pakistan should develop different program like Benazir Income Support Program (BISP) that aims to

per month cash support to the poor households. This income support will decrease the poverty in the target area.

- Our study reveals the poverty tends to increase if household has female head. Since female could not participate in income generating as male can participate. Therefore, women empower programs should be launched in order to give equal opportunities to women in all spare of life.
- High dependency ratio in the study area is one of the main causes of poverty. Therefore, people of study should be educated about job opportunities so that maximum members of the households can participate in the job market and in this dependency ratio can be reduced.

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