

## POVERTY DYNAMICS OF RURAL PUNJAB AND OVER TIME CHANGES

S. Akhtar, A. Saboor, A. Q. Mohsan, F. U. Hassan\*, A. Hussain\*\*, N. Khurshid, A. U. Khan, U. Mustafa\*\*\* and I. Hassan\*\*\*\*

Department of Economics and Agriculture Economics PMAS Arid Agriculture University, Rawalpindi, Pakistan.

\*Department of Biosciences, Comsats, Park road, Islamabad, Pakistan

\*\*Social Sciences Division, Pakistan Agricultural Research Council, Islamabad

\*\*\*Training and Evaluation Division, Pakistan Institute of Development Economics, Islamabad, Pakistan.

\*\*\*\*Agricultural Extension and Adoptive Research, Government of Punjab, Lahore, Pakistan

Corresponding Author E-mail: saeedbrdp@yahoo.com

### ABSTRACT

In Pakistan, poverty is mainly a rural phenomenon. Though poverty exists in urban areas also but rural poverty presents a bleak picture. Rural poverty varies from region to region, from one administrative division to other division. In the history of Pakistan the persistent increase in rural poverty with few exceptions, provide enough material and raise numbers of questions in the mind of researcher. To address the issue of poverty, many of the researchers generally used secondary data to find various dimensions of poverty across regions and provinces and at the country level. In this regard very little attention was given to economically analyze the factors affecting rural poverty at divisional and district levels. The present research endeavour aimed at finding out the incidence, depth and severity of rural poverty in Punjab province. The data source for regression analysis was retrieved from Household Integrated Economic Survey (HIES) for the years 2004-05 and 2007-08. Logit regression model was used to gauge and find out over time changes in poverty profile in rural areas of Punjab. The estimations of incidence of poverty in Punjab in the years 2004-05 and 2007-08 were 28.6 and 19.4 percent respectively. The decrease in poverty was attributed to the better economic policies of the government and the execution of development projects in the rural area particularly in the infrastructure sector. The need based development interventions keeping in view the specific measures for specific region can go a long way in alleviating poverty in rural areas of the province.

**Key words:** Poverty, Alleviation, Retrieved, Logit Regression Model, Incidence .

### INTRODUCTION

The concept of poverty have different forms i.e. low income, low expenditure, no access to the resources, no access to the justice, absence of education, weak health conditions and lack of essential needs such as food style and refuge. Precisely poverty is defined as a state in which a person or community lacks the financial resources to enjoy a minimum standard of life and well-being that is considered acceptable in society (Government of Pakistan, 2014). The causes of poverty differ from society to society and even person to person but the effects are well known and upsetting. It has been reported that on the globe, about 1.2 billion people are living in extreme poverty with income of less than \$ 1.25 a day and also indicated that about two and half billion people are living with income of \$ 2 a day (World Bank, 2011). It has been claimed in another report of International Fund for Agricultural Development (IFAD) that though poverty has decreased in past few years but extreme poverty has become the rural phenomenon particularly in Sub-Sahara and South Asia (IFAD, 2011).

Poverty in Pakistan increased considerably in 1960s due to absence of anti-poverty policies. The increase in poverty in 1960s led to take some effective measures to alleviate it and on account of these measures

decrease in poverty was observed in 1970s. In 1980s poverty also showed downward trend but in 1990s poverty increased and this increasing trend continued to some extent in 2000s (Arif and Farooq, 2012). Suitable measures for eradication of poverty calls for proper identifications of its root causes. Discussions in seminars and in workshops can find some solution of this social menace but some solid steps should also be taken in this concern. Developments programs and projects can alleviate poverty but execution of these programme and projects needs some sound ground realities (Cheema and Naseer, 2013; Khan *et al.*, 2014). Since seventies and eighties researcher tried to find out the causes of poverty and suggested different measures for its alleviation but unfortunately they have taken only one aspect in their studies and ignored the others. There is abundant literature regarding the estimation of poverty but these estimates do not provide different results. Though, some studies have close estimates of poverty but don't have same findings. Some researchers have estimated the incidence of poverty as 38.6 percent and 38.1 percent respectively during 2001-02 (Khan *et al.*, 2013). In some studies same authors by using same data during same period have reported different results. Anwar and Qureshi (2002) calculated head count ratio for the year 2001-02 as 35.6 percent, whereas same author estimated headcount

ratio as 38.1 percent for the year 2005-06. They used 2250 calories poverty line in their first study whereas they used an official poverty line of 2350 calories in their second study.

With the help of actual data we can determine poverty line which will lead to develop socio-economic profile and with the help of this profile we can identify the characteristic of the household that determine the poverty. The prime objective of the present research is to assess the poverty situation in rural areas of Punjab province keeping in view the detailed socioeconomic profile of the poor residing in these areas. An attempt has been made to find the incidence, depth and severity of poverty. Through this study we can find the hierarchy of the poor, characteristics correlate to the in and out of poverty and what should be the efficient measures for the alleviation of poverty.

## MATERIALS AND METHODS

Poverty measurement is a statistical phenomenon, necessitating the indexing approaches to quantify the extent of the problem. Many alternatives are being used but the most prominent among them is the FGT (Foster *et al.*, 1984). The empirical analysis is carried out by applying Logit Model. This study is based on Household Integrated Economic Survey (HIES) data for the years 2004-05 to 2007-08, collected by the Federal Bureau of Statistics (FBS), Statistics Division, Government of Pakistan. Three aspects are being kept in mind while measuring the poverty; suitable indicator of well being, poverty line selection - a threshold level to classify the poor and minimum acceptable standard. Poverty lines are cut off points that separate the poor from the non poor. There are two poverty lines i.e relative and absolute but our emphasis is on absolute poverty line because it is more relevant to the developing countries particularly to the Pakistan (Sen, 1999; Choudhury, 2014).

Head count measures ( $P_0$ ) depicts the proportions of people below the poverty line / causing poverty incidence and its value ranges from 0-1. Head Count Measures does not locate the exact position of the poor with reference to the poverty line and this denies the distributional consideration within the poor population. Poverty gap measures ( $P_1$ ) is the one, which is more commonly used for measuring of poverty. It is also called poverty income deficit (g). It gives the distance between the income of the poor (y) and the poverty line (x). Its value ranges over the interval (0,z). Poverty gap measures ( $P_1$ ) is insensitive to the numbers of poor people under the poverty line (Sen, 1976). Squared Poverty Gap ( $P_2$ ) measure the difference within the poor i.e. inequality among the poor.  $P_2$  relatively gives more weight to the very poor as compared to the less poor. It is some what difficult to understand its application.

## RESULTS AND DISCUSSION

Rural poverty profile of the Punjab province for the year 2004-05 is given in Table 1. The poverty in Rahimyarkhan district was highest, 56.2%. Rahimyarkhan district of Bahawalpur division is at the confluence of three provinces i.e Sindh, Baluchistan and Punjab. It covers vast tract of Cholistan desert and it also consist of perennial and non perennial canal irrigated agricultural land. Like the other part of country here is also a surplus and disguised labor in agriculture sector (Khan *et al.*, 2014). Unemployment particularly in rural areas is due to fewer industrial units. Moreover brackish underground water, closure of the canals and costly fuel charges for extracting underground sweet water make the agricultural farming more expensive and uncertain. Lack of the infrastructure facilities in rural areas increases the income inequality among the masses.

Similarly among the divisions the incidence of poverty was highest in Bahawalpur division (46.2%) and lowest in Rawalpindi division (5.5%). The difference in incidence of poverty in Rawalpindi and Bahawalpur divisions depicted the discrepancies regarding absence and existence of factors that increase or decrease the poverty in rural areas (Khan *et al.*, 2013). Rural poverty profile of the Punjab province for the year 2007-08 is given in Table 2. The incidence of poverty was on higher side in D.G. Khan and Bahawalpur Divisions. Both divisions are a part of the comparatively deprived region of southern Punjab. D.G. Khan division comprises districts of Rajanpur, Muzaffargarh and Layyah. Semi-arid climate and marginal agricultural farming make this tract less prosperous. Although irrigation system is well developed but the feudal lords with large land holdings exploit the peasants with regard to the canal water and other resources as also reported in the earlier studies by Khan, *et al.* (2013); Arif and Farooq (2012); Alam and Hussain (2013); etc . Lack of agro-based industry further limit the employment opportunities in these areas.

Poverty incidence of rural Punjab revealed recurring behavior during 2004-05 to 2007-08 (Table 3). Its regional distribution exhibited that between 2004-05 and 2007-08, the incidence of poverty increased in some divisions of northern and central Punjab as compared to divisions of southern Punjab. Like the incidence ( $P_0$ ), other poverty indices; poverty gap ( $P_1$ ) and severity of poverty ( $P_2$ ) observed the same parity. In general the results ascertain that during the study period an increase in incidence of poverty was observed in D. G. Khan Division. In D. G. Khan division the incidence of poverty increased by one percent. Maximum decline in incidence of poverty was observed in Multan division followed by Bahawalpur division.

**Table 1. Punjab Rural Poverty Profile: 2004-05**

Division Wise Analysis					District wise Analysis				
S. No.	Division	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>	S. No.	District	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>
1	Rawalpindi	5.5	0.37	0.03	1	Attock	6.2	0.28	0.02
					2	Rawalpindi	5.3	0.42	0.06
					3	Jhelum	6.2	0.53	0.05
					4	Chakwal	6.6	0.25	0.02
					5	Sargodha	33.3	6.95	2.11
2	Sargodha	32.1	5.9	1.63	6	Khushab	42.2	6.91	1.64
					7	Mianwali	12.5	2.08	0.63
					8	Bhakkar	32.8	4.61	0.95
					9	Faisalabad	24.1	5.05	1.71
					10	TT Singh	7.0	2.05	0.84
3	Faisalabad	26.3	5.95	2.04	11	Jhang	49.2	11.25	3.74
					12	Gujranwala	17.5	2.83	0.61
					13	Gujrat	6.2	0.47	0.05
					14	Sialkot	15.6	1.86	0.38
					15	Hafizabad	19.8	3.24	0.79
4	Gujranwala	15.6	2.42	0.57	16	M.Bahauldin	10.9	2.17	0.56
					17	Narowal	21.9	3.05	0.78
					18	Lahore	24	4.73	1.56
					19	Kasoor	29.9	5.34	1.58
					20	Shakhupura	25.8	5.74	1.91
5	Lahore	27.8	5.93	1.95	21	Okara	31.5	7.87	2.76
					22	Vahari	40.9	10.44	3.65
					23	Sahiwal	33.6	7.26	2.34
					24	Multan	37.5	9.6	3.4
					25	Khanawal	25	4.25	1.06
6	Multan	35.4	8.18	2.77	26	Pakpattan	38.6	8.89	3.18
					27	Lodhran	28.1	5.19	1.44
					28	DG Khan	35.9	6.81	1.98
					29	Rajanpur	14.3	1.67	0.3
					30	Muzafargarh	50.4	12.45	4.32
7	D G Khan	36.5	7.8	2.49	31	Layyah	31.2	5.59	1.5
					32	Bahawalpur	43.1	9.89	3.01
					33	Bahawalagar	21.9	3.89	1.28
					34	Rahimyarkhan	56.2	13.19	4.2

**Table 2. Punjab Rural Poverty Profile: 2007-08**

Division Wise Analysis					District wise Analysis				
S. No.	Division	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>	S. No.	District	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>
1	Rawalpindi	2.8	0.44	0.14	1	Attock	3.1	0.42	0.15
					2	Rawalpindi	4.6	0.39	0.04
					3	Jhelum	7.8	1.31	0.41
					4	Chakwal	5.8	0.63	0.08
					5	Sargodha	21.1	3.45	1.04
2	Sargodha	24	5.08	1.75	6	Khushab	14.1	3.09	1.41
					7	Mianwali	17.2	4.88	2.33
					8	Bhakkar	35.2	7.8	2.52
					9	Faisalabad	7.8	1.13	0.24
					10	TT Singh	15	2.16	2.5
3	Faisalabad	13.3	1.84	0.43	11	Jhang	17.7	2.34	0.54
					12	Gujranwala	7.3	1.15	0.26

					13	Gujrat	3.2	0.38	0.06
					14	Sialkot	7.1	1	0.17
					15	Hafizabad	14.3	1.79	0.38
					16	M.Bahauldin	6.2	1.03	0.34
					17	Narowal	7.8	1.06	0.2
					18	Lahore	4.8	1.15	0.29
5	Lahore	15.2	2.46	0.62	19	Kasoor	23	4.19	1.18
					20	Shakhupura	12.9	1.66	0.33
					21	Okara	16.9	2.98	0.81
					22	Vahari	30.5	6.69	2.03
					23	Sahiwal	17.5	2.79	0.72
6	Multan	25.3	4.91	1.45	24	Multan	25	4.34	1.38
					25	Khanawal	28.1	6.09	1.81
					26	Pakpattan	25.4	4.62	1.24
					27	Lodhran	28.1	5.78	1.73
					28	DG Khan	44.5	8.41	2.27
7	D G Khan	37.5	7.33	2.03	29	Rajanpur	42.2	8.05	2.08
					30	Muzafargarh	29.7	6.17	1.81
					31	Layyah	34.4	6.83	1.95
					32	Bahawalpur	32	5.82	1.43
8	Bahawalpur	37.1	7.1	1.86	33	Bahawalagar	32.8	6.7	1.87
					34	Rahimyarkhan	43.2	8.24	2.15

Table 3. Over Time Changes in Poverty Profile 2004-05 to 2007-08

Division Wise Analysis					District wise Analysis				
S. No.	Division	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>	S. No.	District	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>
					1	Attock	3.1	-0.14	-0.13
1	Rawalpindi	2.7	-0.07	-0.11	2	Rawalpindi	0.7	0.03	0.02
					3	Jehlum	-1.6	-0.78	-0.36
					4	Chakwal	0.8	-0.38	-0.06
					5	Sargodha	12.2	3.5	1.07
2	Sargodha	8.1	0.82	-0.12	6	Khushab	28.1	3.82	0.23
					7	Mianwali	-4.7	-2.8	-1.7
					8	Bhakkar	-2.4	-3.19	-1.57
					9	Faisalabad	16.3	3.92	1.47
3	Faisalabad	13	4.11	1.61	10	TT Singh	-8	-0.11	-1.66
					11	Jhang	31.5	8.91	3.2
					12	Gujranwala	10.2	1.68	0.35
					13	Gujrat	3	0.09	-0.01
4	Gujranwala	8.5	1.43	0.36	14	Sialkot	8.5	0.86	0.21
					15	Hafizabad	5.5	1.45	0.41
					16	M.Bahauldin	4.7	1.14	0.22
					17	Narowal	14.1	1.99	0.58
					18	Lahore	19.2	3.58	1.27
5	Lahore	8.5	1.43	0.36	19	Kasoor	6.9	1.15	0.4
					20	Shakhupura	12.9	4.08	1.58
					21	Okara	14.6	4.89	1.95
					22	Vahari	10.4	3.75	1.62
					23	Sahiwal	16.1	4.47	1.62
6	Multan	12.6	3.47	1.33	24	Multan	12.5	5.26	2.02
					25	Khanawal	-3.1	-1.84	-0.75
					26	Pakpattan	13.2	4.27	1.94
					27	Lodhran	0	-0.59	-0.29
7	D G Khan	-1	0.47	0.46	28	DG Khan	-8.6	-1.6	-0.29
					29	Rajanpur	-27.9	-6.38	-1.78

					30	Muzafargarh	20.7	6.28	2.51
					31	Layyah	-3.2	-1.24	-0.45
					32	Bahawalpur	11.1	4.07	1.58
8	Bahawalpur	9.1	3.45	1.46	33	Bahawalagar	-10.9	-2.81	-0.59
					34	Rahimyarkhan	13	4.95	2.05

Incidence of poverty ( $P_0$ ) decreased by 12.6% in Multan division and by 9.1% in Bahawalpur division. The maximum decline in corresponding to poverty gap ( $P_1$ ) was also observed in Multan division followed by in Bahawalpur division. The corresponding measure of severity of the poverty ( $P_2$ ) showed same results with few exceptions. The findings of this study depicted more decrease in rural poverty in two divisions of Southern Punjab i.e. Multan and Bahawalpur as compared to the other divisions of Central Punjab. Improvement in others poverty indices in these two divisions confirmed a positive relations among these indices in reducing poverty. Further the devolution of power, increase in agricultural production, execution of rural development projects especially Bahawalpur Rural Development Project (BRDP) with participatory approach went a long way in reducing the rural poverty in these divisions. The clustering of the rural population around the poverty line indicated that rural poverty is very sensitive to any economic jerk that may result in more poverty or otherwise (Wall, 2006).

Besides the changes in poverty profile on division basis the change in rural poverty profile on district basis with in the Punjab province have also been estimated. Maximum increase in incidence of poverty during the study period was observed in Rajanpur district followed by Bahawalnagar district. The increase of 27.9 percent in incidence of poverty was observed in Rajanpur district whereas incidence of poverty in district of Bahawalnagar was increased by 10.9 percent. The minimum increase in incidence of poverty was observed in Rawalpindi and Chakwal districts. The aforementioned economic analysis is based on the consumption as welfare indicator. Studies based on social welfare indicators revealed that the developed districts are generally located in the centre or northern part of the province whereas less developed districts are situated in western or southern Punjab (Pasha *et al.*, 1982; SPDC, 1998; Akhtar *et al.*, 2007; Sikandra and Ahmad, 2008; Cheema and Naseer 2013).

**Conclusion:** The analysis of the data suggests that the incidence, depth and severity of poverty are higher in the southern Punjab districts as compared to the central and northern Punjab. The reason is slack of economic activities and low employment opportunities in southern Punjab as compared to the other areas of Punjab province. The land holding is key factor with regard to the incidence, depth and severity of poverty. The tendency of land holding depicted negative relation with

the three poverty measures i.e. incidence, depth and severity of poverty. More agricultural land holding less is the incidence of poverty and less land means the poverty in its acute form. The household size comes out as another major factor regarding the poverty. More the number of household members more is the incidence poverty and vice-versa. The incidence, depth and severity of poverty have positive relation with the dependency ratio. The high dependency ratio results into an increase in the incidence, depth and severity of poverty. The analysis regarding the educational attainment and poverty showed some important results. The household with all its illiterate members is more prone to incidence, depth and severity of poverty whereas poverty began to decrease as the level of education increases. But in some cases just literate households with low education level are more liable to poverty; however as the number of educational years increases incidence, depth and severity of poverty decreases.

## REFERENCES

- Akhtar, S., S. M. Ahmad, I. Cheema, N. A, Kkan, M. N. Sarwar, L., S. Bashir and M.Sadiq (2007). Ranking of districts by quality of housing indicators: A comparison from census 1998 and Core Welfare Indicator Questionnaire (CWIQ) 2004-05 data. Center for Research on Poverty Reduction and Income Distribution (CRPRID), Islamabad.
- Alam, M. M. and S. I. Hussain (2013). Estimating the magnitude and correlates of poverty using consumption approach in Khyber Agency (FATA). *Developing Country Studies*. 3(12).
- Anwar, T. S., K. Qureshi and H. Ali (2004). Landlessness and rural poverty in Pakistan. *The Pak, Dev. Rev.*, 43(4): 855-874.
- Anwar, T. S. and K. Qureshi (2002). Trends in absolute in poverty in Pakistan: 1990-91 and 2001. *The Pakistan Dev. Rev.*, 41 (4): 859-878.
- Arif, G. M. and S., Farooq, (2012). Rural Poverty Dynamics in Pakistan: Evidence from Three Waves of the Panel Survey. *Poverty and Social Dynamics Paper Series PSDPS-2*, Pakistan Institute of Development Economics, Islamabad, Pakistan.
- Cheema, A. and M. F. Naseer (2013). Historical Inequality and Intergenerational Educational

- Mobility: The Dynamics of Change in Rural Punjab. *The Lahore J. Economics* 18: 211–231.
- Foster, J., J. Greer and E. Thorbecke. (1984). A class of decomposable poverty measures. *Econometrica*, 52: 761-765.
- Government of Pakistan. (2014). Economic Survey 2013-14. Finance Division. Economic Adviser's Wing, Islamabad.
- IFAD, (2011). Rural poverty report. Available at [www.ifad.org/rural/rpr/2011/background/9.pdf](http://www.ifad.org/rural/rpr/2011/background/9.pdf).
- Khan, A. U., A. Saboor, A. Hussain, S. Sadiq and A. Q. Mohsin (2013). Investigating Multidimensional Poverty across the Regions in the Sindh Province of Pakistan. *Soc Indic Res.* 119;515-532.
- Khan, A. U., A. Saboor, A. Hussain, S. Sadiq and A. Q. Mohsin (2014). Poverty assessment as a multidimensional socio-economic concept: the case of the Rawalpindi region in Pakistan. *Asia Pacific J. Social Work and Develop.*, 238-250.
- Pasha, H., and H. Tariq (1982). Development Ranking of Districts in Pakistan. *J. Appl. Econ.* (1): 157-192.
- Sen, A. K., (1976). Poverty: An ordinal approach to measurement. *J. Econ. Soc.*, 219-231.
- Sen, A. K. (1999). *Multidimensional poverty: Conceptual and measurement issues*. Oxford University Press. Oxford.
- Sikandara, M. U., and Ahmad, (2008). Household determinants of Poverty: A logistic regression analysis of MICS (2003-2004) data set . 8<sup>th</sup> Global Conference of Business and Economics, Florence. Italy.
- SPDC. (1998). Social and economic development ranking of districts of Pakistan. Social Policy and Development Centre Karachi.
- Wall, J. (2006). Poverty reduction – Poverty in Pakistan. Available at <http://go.worldbank.org/XOCGYOM50>.
- World Bank. (2011). Rural Poverty Report 2011. Available at <http://go.worldbank.org/VL7N3V6F20>