

Determination of small farmers' poverty: geographical prospective of selected areas in Faisalabad division

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ABSTRACT: *The study has presented the empirical findings on the poverty status and its causes among small farmers in the Faisalabad division, Punjab, Pakistan. The data used in this paper was based on the survey conducted for the year 2011-12. A sample of 432 small farmers from the three districts of Faisalabad division was selected. Poverty has many faces, such as hunger, lack of shelter, being sick and not being able to see a doctor, not being able to go to school and in short technically a denial of choices and opportunities. In case of Pakistan poverty line is calorie based. The National poverty line is Rs. 1274 per person per month was used as the yardstick. Probability Model i.e. binary logistic model was used to estimate the parameters of poverty causing which revealed that among many land ownership and low income were the major determinants of poverty. Mostly the reasons behind poverty are wrong policies of government, ever rising input prices, inflation and unavailability of funds. The data of farmers' perception regarding causes of poverty revealed that 75% farmers said that high input prices was one of the major causes of poverty, about 8% to 17% farmers revealed that lack of funds for investment and low savings due to high family consumption were also causes of low income and poverty.*

Keywords: Small farmers, Poverty, Land Ownership, Low Income, Faisalabad Division

A Worldwide problem with which a large number of countries afflicted is poverty since a major portion of their population spending below the poverty line. The World Bank's report indicates that 21.1% population of the World is poor whose earning per day is less than 1 U.S dollar. 53 per cent population per person per day earns less than 2 U.S dollars in 2001 and in South Asia 77 per cent people spending the same (World Bank, 2005). The poor people in Pakistan have lack of access to primary needs i.e health, clean water, education & proper sanitation because of low income. Therefore, the level of poverty increased from 26.1 per cent to 32.1 percent in Pakistan in 1990-91 to 2000-01 respectively (GOP, 2003).

Nearly 62% population of Pakistan resides in rural areas and more than 45% people generate their income from agriculture sector. Nobody can refuse the importance of agriculture and its allied fields. The economy of Pakistan majorly based on its agriculture because being 2nd largest industry; it contributes 21% of the GDP and provides employment to 45% of workforce in the country. The growth rate of agriculture is 3.2 per cent in 2010. It meets the food needs of the nation. Pakistan has world's largest irrigation system and filled with almost all natural resources; the lands are fertile enough to grow anything but still 28.10% rural population struggles for US\$1.00 or less daily and small farmers are becoming smaller. Food prices and agricultural input prices are souring high day by day, making it difficult for marginal farmers to compete with growing world competition and to overcome the yield gap (GOP, 2010). Poverty and hunger are completely in considered and no attention is given by the government of Pakistan. The future of agriculture sector depends upon Government policies in Pakistan. If the policies favor the farmers the production of all crops will boost-up at large scale.

Poverty has many faces and technically it is deprivation from opportunities, basic needs and choices to be efficient part of the society. In case of Pakistan poverty line is calorie based which is currently 1274 Rs. (GOP, 2010-11). In Pakistan, 45.1 per cent people generate their income from agriculture (Economic survey of Pakistan, 2009-10). 86 per cent farmers of Pakistan are small farmers (GOP, 2000). In Pakistan not only small farmers are becoming smaller but the land is becoming more concentrated in large farmers. The land distribution is much more skewed in Pakistan. In every next generation each member of a family gets smaller proportion of land due to law of inheritance in land distribution which over all shows that small farmers are increasing with the time. Mostly the reasons behind poverty are wrong policies of government, ever rising input prices, inflation, lack of education and extension services, large family size, and unavailability of funds.

Objectives of Study

1. To Study the current poverty profile of the rural masses of Faisalabad Division,
2. To identify the factors responsible for small farmer's poverty,
3. To study the factors which can reduce poverty of small farmers of Faisalabad Division?
4. Determination of the various indigenous knowledge based options available to small farmers,
5. Recommendations and suggestions for the reduction of small farmers' poverty.

Literature Review

The author defined poverty in a household by a shortfall in income with reference to the level typically required for an adequate calorie intake, where poverty lines were taken to be the consumption expenditure incurred in satisfying calorie needs by a household that followed a typical consumption pattern. Different sets of poverty lines were then constructed, and the results confirmed those of others, that a large proportion of the rural poor moved out of poverty in the 1980s since rural poverty showed a clear decline. Numerous macroeconomic factors such as economic growth, growth in GNP, and remittances from the Gulf, and an increase in wages were all cited as possible explanations for the reduction in poverty in the early and mid-1980s (Zaidi, 1992).

Poverty was caused by lack of access to basic needs and was more a rural problem than an urban. A Coastal rural Guyana survey showed more than 68.8 per cent people have not sufficient income to purchase a necessary "Food basket" and to pay for other necessary household expenditures, and consequently fell below the poverty line. National Survey conducted by the World Bank and the Bureau of Statistics in 1993 on the basis of "Living Standards Measurement Survey" showed, 43.2 per cent people from the population consumed basic needs and other necessary household below established by the poverty line from the standpoint of consumption. It also showed that 66 per cent of nationwide households were unable to meet one or more necessary needs fulfilled (Technical Coordinating Committee Guyana, 1996).

Through poverty analysis in Pakistan, it was found that manufacturing wages in real, food grain availability per capita, real GNP per capita, subsidies and remittances were the major poverty correlates. Author suggested that remittance flow and per capita growth in income were the major factors explaining poverty status; in addition productivity in Agriculture sector and real wages had also strong impact on poverty in Pakistan (Amjid and Kemal, 1997)

The author traced the history of agricultural growth and concluded that agriculture has better performance because it had annually 3.0 % average growth in 1959-60 and about 4.0 % in last decade. In 1995-96 this growth rate rose to 11.7 % but eventually dropped to 0.12 % in 1996-97 then again changed to 3.8 % and 3.5 % in 1997-98 and 1998-99 respectively. This inconsistent growth rate had not only badly affected the Agriculture but also a huge portion of population in the country. Agriculture growth can play vital role to cope poverty in rural areas of Pakistan like many countries in South Asia (Saqib, 1998).

In modern era corporate Agriculture was the best and efficient way to feed population worldwide. In general large farms had higher productivity because of mechanization. But small farms made more efficient use of all factors of production. According to Author small farms were leading over large farms in productivity in 1960 to early 80s in Columbia, Mexico, Sub-Saharan Africa and Asia (Rosset, 1999). In under developing countries Agricultural biotechnology based adaptive research can participate in food security. Biotechnology was considered very important for yield improvement and risk reduction for small farmers which can provide nutritious, affordable and plentiful food available for the poor (Andersen and Cohen, 1999).

The farmers of developing countries got high yielding new cultivars resulted from Green revolution. Technical improvement based on research has enhanced food production and new chronic that was predicted by the observers (Kerr and Shashi, 1999) The author suggested the way out to reduce poverty in rural areas easily and quickly by toggling into horticulture crops rather than field crops i-e nuts, vegetables and fruits. The agricultural improvement provides the solution for poverty reduction through yield increment which results an increase in income (Panhwar, 2000).

The author asserted that the correlates and determinants of poverty in Mexico showed that the variables were positively correlated with the probability of being poor were living in rural area, size of household, being a domestic worker and working in rural occupation. Variables correlated negatively with the probability of being poor were age of the household head, education level and whether she or he has having professional work or average level of occupation. The multi-variety analysis showed, "increase in educational achievement significantly reduced poor status of household" (Rodriguez et al, 2000).

Caloric-based poverty increased from 17.3 per cent to 32.61 per cent in 1987-88, 1998-99 respectively. According to author the factors responsible for poverty

outcome were firstly, the fall in the economic growth rate from 6% to 4% and population growth rate 2.51% and per capita increment in income remained immaterial (Hussein, 2001).

The degree of disparity and poverty which existed among several social groups arose the need to provide relief to millions of people living under poverty and to provide the source for it. Since independence during the five decades, the country has made considerable pace in various areas. The range of human development indicators had a considerable progress. The area of poverty reduction had also significant improvement as well. With the Government intervention and sustainable effort, the population proportion below poverty line was reduced from 54.81% to 35.91% in 1973-74 and 1993-94 respectively which was further reduced to 26% in year 1999-2000. During this period the poverty in rural area was also reduced from 56.4 per cent in 1973-74 to 37.26% in year 1993-94 and further to 27.1% in year 1999-2000 (Government of India, 2001).

Climatic factors, lack of technology and poor resources were the major causes of rural poverty which resulted in low productivity of the farm. Poverty reduction is the challenging issues internationally because of climate and geographical barriers which intensify the poverty (Barbosa, 2001). A well coordination among enterprise and dairy provides efficient utilization of available resources and reasonable increment in farm net income. Farming system approach helps the farmers to generate inward cash flow throughout the year by disposal of meat, milk, egg, silk cocoons and poultry. Well planed strategies should be formulated by extension agencies for farmers to reduce their risk in farming which also augment the farm net income (Nagaraja, 2001).

According to marginal effect analysis on exogenous variable, geographical location, cultivated land, oxen ownership and education effectively played role in poverty reduction. Author also asserted that female-headed household obtains more per capita calories as compared male-headed households from available resources (AyalnehBogale, 2002). Low-income country farmers were lucid and made efficient utilization of their assets. Farmers were poor due to very limited resources and due to unavailability of required knowledge which would help them to have same production output with less resources and or large yield from the same capital. The author also asserted that approximately from mid 1950s the country with low income saddled with conventional agriculture, have increasingly been open to high income economy, as small farmers would migrate to those rural areas which had already high wage level, abroad and cities to earn considerably more income for part-time (Zhou, 2002).

Low educated women, old tenants and children in large number head the extremely poor households. Author also asserted that opportunities of off farm income and cultivated area size strongly connected with poverty status. Female education, better irrigation system and fundamental amenities i-e toilet facility, electricity and facility of drinking water can reduce poverty (Elsheikh and Chamhuri, 2002). In an important debate, i.e. access to land was a tool to cop poverty. Household data was collected through Mexican programs in Nutrition, Health and education sector in 1997. The non-parametric regression analysis of data regarding welfare and Land relationship showed that easy access to land even small portion of land significantly increase the welfare of household. They further asserted that in case of small landholders, the welfare increased 1.30 times than the income of agricultural worker per unit hector increase of land (Finan and Elisabeth, 2002).

The regression analysis was employed on technical efficiency with explanatory variables i-e land tenure type, farm size, access to institutions, input usage, technological indicators and output composition through county level data and data employment analysis in Center-West, Brazil. Non – linear relationship was found between efficiency and farm size with first falling then rising productivity with size. Convenient access to modern input, institutions and credit were the essential determinants of differences in technical efficiency across the farms. Better the access better the efficiency for medium and small farms (Steven, 2003). The direct or indirect dependency of rural population is on agriculture. The agricultural growth rate directly affect economic growth rate. Better agricultural growth rate results better economy particularly in crop sector and vice versa. The income level of small farmers was influenced by the fluctuation in economic growth (Niaz, 2003).

Small farmers were sustainably dominating in agricultural zone in most of developing countries in the world and still significant players in rural life in several rich countries. Rising labor cost were driving many small farms in economic revolution process out of business, and only part-time peasants and a few specialized small producers of valued product were surviving. Historically this transformation process had taken many generations to disclose, but this process may be proved very fast in future. Today the viability of small family farms has threatened in all types of countries. However there are some good reasons for keeping small farms around by the policy makers, and which will demand purposeful policies to offer them viable growth in an increasingly aggressive world (Hazell, 2003).

Availability and rational use of phosphoric fertilizer, enhanced irrigation supplies, reduced input prices especially diesel and increased off farm income through small and medium enterprises helped to reduce poverty (Sabir, 2004). The govt. of Pakistan is doing well against poverty but results are not clear yet now. So, economic growth of Pakistan depends upon the continuity of strong monetary and fiscal policies by the authorities for momentum maintenance. Implementation enforcement by public service to poor is very difficult. The PRSP enables with credible and strong strategy to reduce poverty in coming years (Khan, 2004).

The monthly family income was affected by occupation, education, number of children and secondary earns. According to author, headship status of household, family size, consumption and income were the significant determinants of poverty level. Households head and poverty were negatively related to each other. Female headed households have lesser earning capacity, fewer assets than household headed by males. The author suggested that to uplift the status of women community, specific infrastructure, special interventions and skilled knowledge are needed (Javed and Aysha, 2011).

Study Area

Faisalabad Division was chosen for research study which is situated at northeast Punjab between longitude 72° 59' 40" East, 31° 21' 52" North in Punjab Province of Pakistan which experiences a bimodal rainfall pattern, as it was lying in the center of Punjab Province. River Chenab irrigates all areas of study. Farmers of the zone grow mixed type of crops. The Faisalabad Division is consisted of four districts i.e. Faisalabad, Chiniot, Toba Tek Singh and Jhang. Three major districts, Faisalabad, Toba Tek Singh and Chiniot, of Faisalabad division were further selected for study purpose.

Faisalabad

Faisalabad is famous for its clock tower surrounded by eight main bazaars connected with a common bazaar known as Goal bazaar which is called city area of Faisalabad district. Its population is 2,880,675 and literacy rate is approximately 40 per cent, which has weakened the economic growth rate of the city. It has 8 Autonomous towns and 289 Union councils (GOP, 2000). Faisalabad is a famous industrial market with major products which includes hosiery, silk and cotton textile, dyes, super phosphates, ghee (clarified butter) and agricultural equipment. The main source of income of peasants of Faisalabad is agricultural exports. The high-status University of Agriculture is also situated in Faisalabad which was founded in 1909. Faisalabad

stands in the rolling flat plains of northeast Punjab, Pakistan. The Chenab River flows on the Western and Ravi River on Eastern boundary of Faisalabad district and no any other river flows through it. The lower Chenab Canal, major source of water irrigation, irrigates the 80 per cent cultivated land of the district.

Toba Tek Singh

Toba Tek Singh is well-known due to its good educational institutions. It has highly significant literacy rate among the 25 top cities of Pakistan. It has improved its literacy rate 30.2% to 50.6% in 1981 to 1998 respectively. Urban areas have higher literacy rate than rural areas. However literacy ratio is 39.1 per cent for females against males 61.3 percent. Population of district Toba Tek Singh was 1,621,593 in March 1998 and during this period, the average growth rate per year was 2.1 per cent. Its area is 3252 squares Km and Chenab canal wholly irrigates the level plain of this district. The rich fertile soil starts from East of Toba Tek Sing and found in sandy form in the West.

Toba Tek Singh is also famous in orange production "locally known as Keno". It is one of the best producers of orange which contributes in export quality standard orange in whole Pakistan. Most of the people of this district are related with agricultural profession and produce several kinds of dairy and agricultural products i-e maze, eggs, meat, cotton, several pulses, guava, peach, tomato, water melon, melon, mangos, onion and tobacco.

Chiniot

A beautiful district of Punjab situated on left bank of Chenab River on the Faisalabad to Sargodha road. Its population is approximately 1.5 million. District Chiniot is situated at Longitude: 72.9789 and Latitude 31.7200. Chiniot is famous for furniture industry which is playing the vital role in improving the economy and contributing to the GDP of the country through its export all over the world. Therefore Government of Pakistan has paid little attention for its promotion (Wikipedia, Chiniot District).

Socio-Physical environment: There are three major district of Division Faisalabad, Faisalabad, Toba Tek Singh and Chiniot lay in the centre of Punjab province. The Chenab River irrigates all the three districts, which is second largest river of Pakistan. The farmers of this cropping zone grew mixed crops rather than specialized crops; hence, it was named as mixed cropping zone of Punjab. This zone lies between 31° and 33° latitude.

Climate: The Faisalabad division mixed cropping zone experiences a bimodal rainfall pattern, one peak of rain

in February-march and other in months of July-august. Land is irrigated by tube well and canal water in the three districts. But most of the farmers were supplementing their irrigation through pumping out the underground water. However, the tube well water was not fit so mostly farmers were irrigating their crops by mixing tube well and canal water.

Socio- Economic characteristics: Socio-Economic characteristics are very crucial in any study of an economic issue. These characteristics are age, education, family size, land holding, farming experience etc. Education is a key factor to check the adoption of new technologies and extension services. These characters were also evaluated in study.

Research Methodology

The major purpose of methodology section was to briefly explain the tools and methods used for data collection, its analysis and interpretation.

Sampling and Data Collection selection

The data was collected from different farmers of District Faisalabad, Toba Tek Singh and Chiniot. A sample of 432 small farmers was taken randomly from Faisalabad division. 234 respondents were taken from district Faisalabad as it is larger in size and population than other two, 108 and 90 respondents were taken from Toba Tek Singh and Chiniot respectively. The samples were completely random.

Mostly data was primary based, which was collected by visiting personally for field report. For collection of primary data, questionnaire is the pillar of study. The design of questionnaire ensures the success of study. A comprehensive questionnaire is prepared for interviewing the farmers (Attached at the end). It has following main parts;

- Farmer particulars
- Farm particulars
- Cropping patterns
- Livestock inventories
- Income of farmer from other sources
- Problems of farmers
- Farmer's suggestions

The language of questionnaire was English yet the questions were administered in Punjabi for the convenience of respondent to get proper information. There were many secondary sources of data from where data was consulted and collected for research work i-e

- Population censuses reports
- Union Councils data
- Statistical year book
- Economic survey

- Various research papers and articles
- From different websites
- Different libraries and others

After collecting Primary data through field investigation and questionnaire, a rough sketch was drawn to the target areas through on screen digitizing with the help of Macromedia freehand. Then this sketch was converted into maps and different software i-e GIS, Macromedia freehand, Eviews, Micro Soft Office (MS excel, MS World, MS Access and MS Power Point) were used for write up, maps drawing and analyses of data.

Poverty Estimation: For poverty estimation the income per person per month was needed, which was calculated by following method;

$$\text{Income per person per month} = \text{Total annual income} / \text{Total family size} / 12$$

This was the total income available to each household for period of one month for consumption of and non-consumption expenditure. In order to estimate poverty status, this was compared with national Official poverty line (GOP, 2011).

Setting the poverty line: There exists a great literature on techniques of assessing poverty. The question arises, how and where to draw the poverty line? The most popular method is the multi nutritional norms. (Greere and Thorbacke 1986, Ahmad 1991, and Ravillian and Biddian 1994.) In case of caloric intake, poverty was also defined as the deficiency of predetermined food energy needs. In the current study, the official poverty line of Rs. 1274/month/person based on 2500 calories per capita per day (GOP, 2010) was adopted and used as yardstick to identify the poor and non-poor in the sample.

Research Model

In order to determine correlates of poverty, a probability Model i.e. binary logistic model is used.

Mathematically model is:

$$Y_i = \beta_i X_i + u_i$$

Where $i = 1, 2, 3, 4, \dots, n$

Y_i : dependent variable that measure of Poverty; X_i : explanatory variables; u_i : stochastic error term, β : parameter to be estimated. In this model, the response variable was binary, taking values as one if the household was poor, zero otherwise. According to Greene (1993), a logistic model was used by considering Logistic cumulative distribution of u_i . In this situation, Logistic probability model was used to calculate outcomes of being poor given as;

“The following formula gives logit of p between 0 and 1;

$$\text{logit}(p) = \log \left(\frac{p}{1-p} \right) = \log(p) - \log(1-p).$$

”

And inverse logit gave the formula for logistic function of any number α as under;

“

$$\text{logit}^{-1}(\alpha) = \frac{1}{1 + \exp(-\alpha)} = \frac{\exp(\alpha)}{1 + \exp(\alpha)}$$

”

If p : probability, then $p/(1-p)$, the drive ratio (R) form was expressed by subtracting and adding as;

“

$$\log(R) = \log \left(\frac{p_1/(1-p_1)}{p_2/(1-p_2)} \right) = \log \left(\frac{p_1}{1-p_1} \right) - \log \left(\frac{p_2}{1-p_2} \right) = \text{logit}(p_1) - \text{logit}(p_2).$$

”

The variables used in this study are defined as follows:

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

Explanatory variable:

OWN= Binary variable taking the value as one if household has his own land otherwise zero.

INC = Income of each family.

Logistic Model Estimates of Poverty Determinants in Toba Tek Sing, Chinot and Faisalabad

Explanatory variables	Value of coefficient	SE	z-static value
C	-9.125866	2.735814	-3.335705
Ownership of land	0.434616	0.656956	0.661560
Income	-0.011334	0.003650	-3.105430

In order to identify the determinants of the poverty following null hypotheses (H_0) and alternative hypothesis were formulated and tested

Proposition: The coefficient of “ownership” was significantly different from zero at .01% level of probability, indicating Null Hypothesis is not accepted and hence non ownership is the cause of poverty While ownership of land reduce poverty. In above regression result ownership of land and poverty has positive relationship, which shows if unit of ownership of land increase then poverty level reduces 0.43 units.

Proposition: The coefficient of “income” was significantly different from zero at .01% level of probability, indicating Null Hypothesis is not accepted and hence low income is the cause of poverty.

Table gives estimates of the preceding model using ML–Binary Probit procedure. So the results of Logit regressions are given in the Table. Let us see what the probit results look like. As a group, all coefficients are significant. This is so because value of LR statistics is 33.28 with p-value of .00019. The value of McFadden R-squared is 0.451679. These values show that model is fit for analysis and also show that all explanatory variables influence the dependent variable. Nevertheless, in model every slope coefficient is partial that measures the unit change value for explanatory variables in estimated profit. The sign of land ownership is not consistent with our specific model but its value is statistically insignificant.

Conclusion

The study has presented the empirical findings on the poverty status and its causes among small farmers in the Faisalabad division, Punjab, Pakistan. The data of this research study was collected during survey for year 2011-12. A sample of 432 small farmers from the three districts of Faisalabad division was selected. In case of Pakistan poverty line is calorie based. The National poverty line Rs. 1274 per person per month was used as the yardstick. Probability Model i.e binary logistic model was used to estimate the parameters of poverty causing which revealed that among many, land ownership and Low Income were the major determinants of poverty.

Mostly the reasons behind poverty were wrong policies of government, ever rising input prices, inflation, lack of education and extension services, large family size, and unavailability of funds. The data of farmers' perception regarding causes of poverty revealed that 75% farmers said that high input prices was one of the major causes of poverty, about 8% to 17% farmers revealed that lack of funds for investment and low savings due to high family consumption were also causes of low income and poverty.

In above regression result, the coefficient of "ownership" at .01% level of probability indicating the positive relationship with Poverty which shows that ownership is the cause of poverty while ownership of land reduces poverty. Hence if unit of ownership of land increase then poverty level reduces 0.43 units. Finally the farmers perceived that availability of sufficient canal water, enhanced irrigation supply, reduction in input prices like fertilizers and diesel, government support and better marketing and infrastructure facilities will help in reduction overheads and increase in Income which ultimately reduced poverty.

This study concluded that farmers of Faisalabad division are poor due to lack of education and technology. The main reasons behind low productivity and income are high input prices, lack of capital, financial stress, lack of knowledge to use the resources efficiently, no access to credit and new technologies, absence of government encouragement and absence of extension services. Lastly and finally there is negative association between income and poverty. The estimation shows that if one unit increases income, which alleviates 0.01 unit poverty and Unit increase in ownership of land reduces 0.43 units in poverty level.

Since they couldn't increase their operation holding area much, the government should provide them with the knowledge to use their existing land and resources economically. The farmers should be supplied with cheap and timely inputs. And they must be able to access all types of credit easily. Also extension services should be strengthening so that farmers can enhance their productivity from scarce resources.

Recommendations

The agricultural income and output are very vulnerable to minor changes in prices and seasonal fluctuations. The farm efficiency did not depend on one or two factors rather it is affected by a network of factors which are inter related that why even income of two farmers with same resources and same conditions can differ only few indicators of efficiency were discussed in this study due to certain constraints. There were some recommendations to cater any deficiencies in farm income and efficiency.

- Pest management, water management and nutrient adoption is very necessary for sustainable farm agriculture through integrated technologies.
- Local administration should link the remote and advanced areas through mutual activities to exchange tradition and culture for better development.
- It is very important to exchange experience, information and knowledge within farmers.
- New varieties should be made viable to farmers easily and they should be trained to take benefit from these new varieties.
- Government must show more commitment toward farmer's participation of all categories whether they are small or large. The government was mostly appreciating only large farmers who were already blessed with everything.
- As the participation performance of credit institutions in Pakistan regarding agriculture sector is poor, so, Government must facilitate agricultural smallholders in credit schemes for economic and

agricultural growth to reduce poverty. Liberalization of credit market in rural areas is very essential for rural economic growth and further to improve the performance in the rural economy by improving efficiency of financial institutions. It is very necessary to stabilize economy through policies helping in supervision and guiding produce regulation by the replacement of price controls.

References

- Amjad, R. and Kemal, R. A. (1997). *Landlessness and Rural Poverty in Pakistan*. Macroeconomic policies and the impact on Poverty Alleviation in Pakistan Multidisciplinary team, Pakistan.
- Andersen, P. P. and Marc, J.C. (1999). *Agricultural Biotechnology, Risk and opportunities for developing countries food security*. International Food Policy Research Institute, Washington, DC USA
- Ayalneh, B. and Hagedom, K. (2002). *Poverty Profile and Livelihood Diversification in Rural Ethiopia*. Implication to Poverty Reduction, presented in international workshop, Fostering Rural Economic Development through Agriculture-based Enterprises and services, 20.-22.-11.2002, GTZ-Haus, Berlin.
- Acharya, S and Sophal, C. (2002). *Farm size productivity and earnings*. Cambodia Development Review, Volume 6, Issue 4, October-December 2002
- Baccini, H. E. M. M. (2003). *Promoting and integrated approach to rural development in developing countries for eradication and sustainable development*. Statement by, Under Secretary of State for Foreign Affairs of Italy. High level segment. Substantive Session of ECOSOC (30 June – 25 July).
- Barbosa, D. L. and Kathleen, K. (2001). *Empowering the poor through Decentralization*. Brazil Rural Poverty Alleviation Program No. 51
- Elsheikh, S. Siwar, N. Mustapha, H. and abd, Ismail, G. (2002). *Poverty and Gender in the Gezira Irrigated area, Sudan*. A household level analysis” Faculty of Economics University, Kebangsaan Malaysia.
- Finan, E. (2002). *Measuring the poverty Reduction Potential of Land in Rural Mexico*. CUDARE. Berkeley working paper 983, University of California.
- Figueroa, E. (2003). *How to address rural poverty*. Statements Delivered by Under-Secretary-General For Economic and Social Affairs, Vice-Chairman of Committee for Development Policy at the UNO Forum, GENEVA, July 1, 2003.
- Government of India (2001). *Poverty alleviation initiatives in rural India*, Planning Commission India, the tenth five year plan (2002-2007). New Delhi India.
- Government of Pakistan (2000). *District Census Report Faisalabad*. Islamabad.
- Government of Pakistan.(2000). *Pakistan agriculture Census, Punjab Province Report*, statistic division. Agri .Census Organization, Islamabad.
- Government of Pakistan.(2003). *Economic Survey of Pakistan*. Economic Adviser’s Wing Ministry of Finance.
- Government of Pakistan.(2010). *Economic Survey of Pakistan*. Economic Adviser’s Wing Ministry of Finance.
- Government of Pakistan (2011). *Economic Survey of Pakistan, Punjab Province Report*, statistic division. Agri. Census Organization, Islamabad.
- Greene, E and Thorbecke, H.(1986). *Econometric Analysis (2nd edition)*. Englewood Cliffs, N. J, Prentice Hall.
- Gujarati, D. (2004). *Basic Econometrics. Fourth Edition*. New York: McGraw-Hill, Inc. Kogakusha Co. Ltd.
- Hazell, P., and A. Roell (1983). *Rural Growth Linkages: household Expenditure Patterns in Malaysia and Nigeria*, Research Report No.41, International Food Policy Research Institute 25th International Conference of Agricultural Economists, Durban, South Africa, August 16-23, 2003.
- Hussain, M. (2001). *The Role of Agriculture in Poverty Alleviation*. Insights from Village Studies in South Asia and Southeast Asia.
- Kateb, A. (1999). *Policy Brief a Poverty Alleviation initiative Consortium Project*. Supported by International Center for Growth, USAID EGYPT.
- Kerr, J and Shashi, K. (1999). *Impact of Agriculture on Poverty Alleviation, Environment and Production Technology Division*, IFPRI, Washington, D.C. U.S.A.
- Khan, M. M. (2004). *Pakistan Clearly in Right Course*. IMF, Washington, U.S.A.
- Nagaraja and Muthappa. (2001). *Optimum dairy based Farming System Models for Stable Income of Small Farms*. University of Agriculture Sciences Bangalore, India.
- Niaz M. S. (2003). *Poverty Reduction Through Price Mechanism*. Published in the Daily DAWN on 7 April 2003.
- Panhwar M.H. (2000). *Alleviation of Rural Poverty in Pakistan*. A file from website: panhwar.com
- Ravallion, M. And Bidani, B. (1994). *How Robust is a Poverty Profile? A World Bank Economics Review*, 8(1): 75-102.

27. Rodriguez, Adrian G. Smith, S. M.(2000). *A Comparison of Determinants of Urban, Rural and Farm Poverty in Costa Rica*. World-Development. 22(3), March 1994,pages 381-97.
28. Sabir,H. M.(2004). *Determinants of Small Farmers Poverty in the Central Punjab* (Pakistan). Ayub Agricultural Research Institute, Faisalabad, Pakistan.
29. Saqib, M. (1998). *Significance of Agriculture in Pakistan*. working paper on Agriculture National Library of Pakistan, Islamabad.
30. Steven M. H. (2003). *Farm Size and the Determinants of Productive Efficiency in the Brazilian. Center-West*” presentation at the 25th International Conference of the International Association of Agricultural Economists (IAAE) Durban, South Africa, August 16-22, (2003)
31. Technical Coordinating Committee Guyana.(1996). *Recent Measurements of Poverty*. Based on an IICA/IF AD survey of coastal rural Guyana.
32. World Bank (2005) World Development Indicators Report 2005 World Bank.
33. World Bank (2009).*Poverty Assessment*. Report No. 14397-PAK September 25, Coulitry Operations Division, South Asia Region Document of the World Bank (2003) *Report of the poverty mission for World Bank*.
34. Zaidi, M. A. And Klaas, D. V. (1992). Alleviating Urban poverty. The Pakistan way Appeared in: *Manpower Journal. Special issue on impact of structural reform on employment scenario. 32:4 Part II* (Winter 1993) pp. 1171-1186 Guest editor: Amitabh Kundu. New Dehli: Institute of Applied Manpower research.
35. Javed,Z. H. and Asif, A. (2011). *Female households and poverty: A case study of Faisalabad District*. International Journal of peace and development studies Vol. 2(2), pp, 37-44 Feb 2011.
36. Zhou, J. M. (2002). *Realizing Efficient Use and Conversation of land under Private Ownership*. A Rebutment to Nobel Economics Laureate Theodore W. Schultz paper to 5th conference on Global Economic Analysis. Sustainable development and General Equilibrium Approach, in Taipei 5-7 June 2002 Research Fellow, University of Florence.