Gender Inequality in Education and Household Poverty in Pakistan: A Case of Multan District

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ARTICLEDETAILS	ABSTRACT
History *Revised format: May 2018* *Available Online: June 2018*	Present study is intended to explore the impact of gender inequality in education on poverty by employing logistic regression on primary source of data collected through a field survey of Multan district. The study concluded that gender inequality in education has adverse impact on household poverty. The probability of household poverty falls with the increase in female-male primary, secondary and tertiary enrolment. The improvement in female-male literacy ratio also rejects probability of a household being poor. Household size and number of children less than five years age have positive association with probability of poverty while the variables, qualification of household head, age of household, professional or technical skills of household head and ownership of house are negatively associated with household poverty. The study suggested that eliminating gender inequality in education in all level may be helpful in empowering women, creating productive employment opportunities in both formal and informal sectors and alleviating poverty.
Keywords *Gender Inequality, Education, Poverty, Logistic Regression, Multan.*	
JEL Classification: C25, D60, J10, I10, I30	

1. Introduction

Gender refers to difference in roles and responsibilities of women and men in a society. This difference is determined by society, culture, prevailing religious thoughts, moral and legal norms (Anderson, 1988; Alam, 2011).Gender inequality represents dissimilarity in women and men's status in recognizing their full human rights. It is the difference in Social class, achieved ethnic and racial status by women and men and discriminative relative power of men and women in our society. Men and women both are essential constituents of every society. The society cannot flourish adequately until and unless both contribute actively and efficiently in its development process. According to Klien and Nestvogel (1992), there is adequate evidence that when women and men achieved equal opportunities, their well-being got enhanced, the poor escaped quickly from poverty and ultimately economies grew faster. But when the burden of any one was shifted to the other, the growth and efficiency of both was hampered. In underdeveloped areas

women had been leading disadvantageous and dependent life and their very minute economic contribution have been resulted in gender inequalities. (Oakley,1972; Alam, 2011).

Gender inequality is primarily the consequence of human behaviour that denies individual their human rights(North, 1990). The deprivation of women from basic freedoms infers extraordinary costs for society in terms of lower human capital, lower growth and bad governance (Sen, 1999; World Bank, 2001; Klasen, 2002). Gender inequality also inflicts costs on households, communities and countries. In an increasingly globalized world, gender inequality is a major predicament for development which makes countries less competitive due to rising cost of not reducing gender inequality. Inequality in access to opportunities and resources, women's minor representation in business and politics and violence and power imbalances create discrimination between men and women which impede the progress of women as well as society. It is obvious that hostage of the talents, energies and aspiration of half of the society hampers human development.

Gender disparity in education is present nearly in entire poor countries as well as among the poor within these countries. The low income countries of the world has exhibited substantial rise in gender inequality in education over the last three decades (World Bank, 2001). Gender inequality has now become an important concept for the empirical analysis and is essential for poverty alleviation as it has adverse influences on several valuable development goals. Poverty influences the girl's access to education in many ways.In accordance with the recent evidence from West Africa, poverty contributes a lot in gender inequality in access to education (Okoijie, 1998; Okoijie, 2002; Appleton, 1996; Atolagbe, 1999).

Education is worldwide accepted basic need for every human in everyday life and the perfect imperative tool for human resource development (King and Lillard, 1983)**.** It has been considered a vital constituent of women's empowerment and opportunities. It has become a universally accepted human right. Female's education plays an important role in poverty alleviation in developing countries by increasing their productive activities due to improvement in their health by reducing fertility and various other human development outcomes like child survival, health and schooling (King and Hill, 1993; Strauss and Thomas, 1995;World Bank, 2000; PIHS, 2001-02; Schultz, 2002; World Bank, 2007).

Pakistan reveals substantial gender inequality in education in both rural and urban areas. The progress regarding gender parity index (GPI) for primary and secondary education is slow. The MDG target of attaining gender equality in primary and secondary education in 2005 has already been missed. The target seems to be unachievable with the current pace of progress. GPI for primary education in 1990, 2001, 2005, 2008, 2010 and 2011 was 0.73, 0.82, 0.85, 0.88, 0.88, and 0.90 respectively. The GPI in primary education for the year 2012-13 is 0.89 with a one percent decline as compared to year 2011-12 and it was further declined by one percent from 0.89 to 0.88 in 2013-14. GPI for secondary education is consistently stagnant at 0.8 since 2006-07. According to global gender gap report 2012-13, gender parity index for literacy was 0.59, GPI for primary education was 0.82, GPI for secondary education was 0.76 and gender gap index for tertiary education was 83 in 2012-13. Rigorous efforts are required to achieve the GPI targets for primary and secondary education by 2015. GPI for youth literacy has increased from 51 in 1990-91 to 0.65 during the year 2001-02 and to 0.78 in 2005-06. It was further improved from 0.78 percent in 2005 -06 to 89 percent in 2012-13 and again declined from 89 percent to 84 percent in 2013-14. The progress of this indicator is also slow and the MDG target of 2015 is not likely to be achieved for this indicator also. The reasons of girls' low enrolment and high dropout rates are cost of attending school, availability and quality of school facilities such as safe drinking water, separate toilets and boundary wall, distance to school and parents attitude and ignorance (PIHS, 1990-91, 2001-02; PSLM; 1990-91-2008-08; Pakistan MDGs Report, 2010;Global Gender Gap Report, 2013; Pakistan Economic Survey, 2014-15).

Poverty has emerged as a core issue and a central challenge for development to the government of Pakistan since it has been placed among the millennium development goals. Poverty is a complex, dynamic, gender and location specific multidimensional phenomena. Persistence of poverty may vary by

social group and region. It is not easy to describe and quantify the poverty because it is qualitative in nature (Chaudhry et al., 2009). Poverty is the helplessness in achieving minimum living standard (World Bank, 1990).) Poverty is the absence of access to achieve various commodities (World Bank, 2000). The definition of World Banks indicates the broader concept of poverty which includes not only food and non-food items but also some essentials of human development such as key assets and social determinants.

According to World Development Indicators (2012), 60.2 percent population is living below $ 2 a day and 21 percent population is living below $1.25 a day at international poverty line in local currency in Pakistan. Poverty rates have never been found stable in Pakistan. Inconsistent and unsuitable poverty alleviation policies have been resulted in ever changing poverty trends in Pakistan.The poverty incidence is greater among women than the poverty incidence among men in Pakistan (Ministry of labour and manpower Pakistan, 2009).

The above observations about gender inequality in education and poverty provide an uneven agenda for the present study. As distinct from national poverty, the present study on poverty in Multan District views the problems with the emphasis on different roles, rights and resources that men and women have in society and are important in determining the nature and scope of their educational inequality and poverty. Present study is an attempt to investigate the impact of various indicators of gender inequality in education on poverty.

2. Literature Review

The relationship among gender inequality in education and poverty is much debated at national and international level. There are many evidences from all over the world regarding the link between gender and poverty. Feminization of poverty has become a worldwide phenomenon. Poverty may affect girls' access to achieve education in various ways. Gender inequalities in enrolment are greater among poor than among the non-poor countries. The causes of gender inequality in education are created by household's decisions.The main reasons for low investment in girls' education are societal favorites like customs and culture, no future benefit of girls' education to parents, early marriages, low or no returns from education of girls (Gertler and Alderman, 1989; Dollar and Gatti, 1999).Pakistan has a male dominated society having gender as an organizing principle of the society.Gender discrimination is a universal phenomenon and we cannot fully quantify the extent of gender discrimination. There are evidences from literature that females are more poor and vulnerable than males and are suffering from poverty of opportunity in terms of less access to health, education and earning in developing countries like Pakistan. There are several studies examining the issue of gender inequality in education and its consequences on household welfare. The following studies have explored therelationship between gender inequality in education and poverty.

A micro study was conducted by Malik (1996). He explored the various rural and household specific determinants of rural poverty in Pakistan using primary data obtained from a village of Punjab in 1990 and calculated FGT index for various determinants of poverty. It is concluded that the households with higher level of education, a smaller number of dependents, smaller family size, a larger area to cultivate, greater participation in non-farm work and access to resources have low probability of being poor. The study highlighted that various non-farm activities enables the landless rural household to generate income and thus to escape poverty.

Klasen (1997) explored poverty and inequality in South Africa using a household survey data. The author used income-based definition of poverty and developed a deprivation index having components such as education, employment, access to services, income, health, wealth and perceptions of satisfaction. The results suggest that poverty has strong association with poor education and lack of employment opportunities. The poor are facing low or no access to education, deficiency of better health care facilities and undersupplied basic infrastructure and are reliant on social transfers (remittances and pensions) and disability grants. Poverty rates in rural areas are higher as compared to urban areas and among female

headed households and children.

Klasen (1999) examined the effects of gender inequality in education and employment on growth. This study concluded that gender inequality in education negatively effects growth of the economy by letting down the human capital's quantity and quality. The estimates denote that there are 0.4 to 0.9 percent variations in growth rates due to gender inequality in education between South Asia and Middle East and, East Asia and Sub Saharan Africa. The progress in growth rates is prevented due to increase in fertility and child mortality rates caused by increase in gender inequality.

The higher level of income and earnings are connected with advanced level of education. Nasir (2002) investigated the relationship between the variables of human capital and earnings of regular wage employees. The study used HIES data of 1995-96 containing the information about completed year of schooling and Human capital model was estimated which was earlier adopted by Mincer (1974) and Becker (1964). The results showed that there is eight percent return on an additional year of education of the wage earner. The variable of experience indicated that each additional year of working in labour market resulted in wage increase of both male and female workers. The wages of male workers were found 10 percent greater than female workers for their experience, skills and competencies. Females earn less than males because of lack of education and experience.

Chaudhry et al. (2006) explored the issues of poverty and its related concepts in rural agricultural economy. In this study an attempt has been made to analyze the macro variables earlier used by kemal (2001). The study concluded that unemployment, inflation and economic growth have significant association with poverty alleviation in rural areas of Pakistan. Results indicated that in rural areas incidence of poverty was forty percent and in urban areas it is thirty two percent. In rural areas, poverty incidence is more pervasive as compared to urban areas. The main variables such as inflation, employment and growth rate strongly influence rural poverty. It is suggested that poverty alleviation in rural areas is impossible without creation of investment opportunities, entrepreneurship and sustainable livelihood in the economy.

De Silva (2008) investigated the correlates of poverty in Sri Lanka. The study analyzed that the level of education was an extreme negative correlate of poverty. Poverty was declined with the increase in education years. Household probability of falling into poor was 43 percent for the illiterate household. Tertiary education had strong poverty reducing impact followed by lower levels of education. Household size is also an important correlate of poverty. Household head's gender was also associated with the standard of living or household welfare. The result of the quintile regression indicated that household of rural areas are poor. However, the inequality was found higher in urban areas as compared to rural areas.

A micro study was conducted by Chaudhry and Rahman (2009). They explored the relationship between gender inequality in education and rural poverty. Authors made logistic regression analysis of survey data gathered through a survey of rural areas of Muzaffargarh district. The study found the negative or adverse relationship of gender inequality in education with rural poverty in Pakistan. The indicators of gender inequality in education such as female to male enrolment ratios, female to male literacy ratio, female to male ratio of total years of schooling, female to male ratio of earners and household head's educational level have negative impact on rural poverty. The study suggests that gender equality in education is necessary for increase in level of employment and mainstreaming gender into poverty reduction policies may reject poverty in developing countries like Pakistan.

Chaudhry et al. (2009) explore relationship between household's demographic and socioeconomic characteristics with rural poverty. The empirical analysis of the study consists of a poverty profile and an econometric approach. They used primary data collected from rural area of Muzaffargarh district for poverty analysis. It is concluded that household size, participation rate, dependency rate, landholding, livestock, female head of household, age of the household head and residence in katcha house (house

made of mud) play a significant role with the probability of being poor household and affects the incidence of poverty. It was suggested that landless households should be allotted land. Efforts should be made to alleviate poverty by improving demographic characteristics in rural areas of Pakistan.

Chaudhry (2009) analyzed various factors influencing rural poverty in Southern Punjab (Pakistan).The study concluded that it is possible to alleviate poverty by decreasing dependency ratio, controlling the size of households, improving the levels of education and increasing female participation in earnings and other economic activities. Logistic regression analysis of the primary source of data was made. It was found that household's chances of poverty increases with the increase in size of the household and the dependency rate of household. The relationship between education and poverty is negative because it is education which helps in achieving and availing employment opportunities and hence rejects poverty.

Poverty is a big obstacle in the way of economic development of an economy. Chaudhry et al. (2010) and Awan et al. (2011) explored the relationship between different levels of education with poverty incidence in Pakistan. These studies found the opposite or inverse association between education and poverty. With the increase in level of educational attainment, the chances of escaping poverty increases because with the increase in education level earning potential of individual also increases. Regarding the feminization of poverty, the study concluded that risk of poverty is less for male as compared to female. The study suggested that evasive action is needed to be taken to provide affable employment environment for the female, equal educational and training opportunity and resources targeted at education sector especially in higher education will be helpful for poverty eradication and wellbeing of the society.

Alam (2011) examined the effects of gender discrimination on gender development and poverty alleviation. The study is based on information collected from 50 respondents out of which 25 respondents are males and 25 are female. The survey was conducted in Hazar Khuani Peshawar. The results indicate that gender disparity exists in the targeted area which affects poverty alleviation and gender development in many ways. It is concluded that females have unequal status, unequal opportunities in education, no permission to work outside home and no or low share in income or earnings of a family. Male members of the family were decision makers. Females were more vulnerable to poverty because of unjust distribution of resources. Gender inequality is a hindrance in alleviation of poverty and education of females supports poverty alleviation. It is suggested that provision of equal social rights, equal education and skill enhancement opportunities to men and women may be helpful for gender development and poverty alleviation.

3. Data and Methodology

For the present study the researcher has used primary data for empirical analysis. The primary data is a one shot exercise collected by conducting the field survey of rural and urban areas of Multan District. Multan is an ancient city and famous as city of saints for its Sufi heritage. It is rich in agriculture and industry. It is Pakistan's 6th most populous metropolitan city. According to 1998 Census, It has a population of 3116851 persons out of which 1802103(57.82 percent) is rural population and 1314728 (42.18 percent) is urban population. The area of the district is 3721 square kilometers. The survey was conducted in 2015. A sample of 600 household was randomly selected from the entire district of Multan. Out of a sample of 600 households, 240 Households (40 percent of the sample) were selected randomly from urban areas and 360 households (60 percent of the sample) were randomly drawn from rural areas of Multan district.

Poverty theorists have observed that alleviation of absolute poverty is more applicable than the relative poverty to solve the problems of developing countries. In the present study we have used Head Count Ratio which is a well-known method to calculate the incidence of poverty. Here poverty is a dependent and dummy or categorical variable having value 1 if household is poor and 0 if the household is non-poor. Poverty line is 1.25 dollars per person per day which is the World Bank poverty line adopted for

developing economies. The poverty line of $1.25 is the simple average of the national poverty lines of fifteen very poor countries as suggested by World Bank for poverty analysis in developing countries.

Poverty status regressions are mostly applied by using a Probit or Logit Model. In Probit or Logit model a dummy or a categorical variable is used such as whether a household is poor or not. We have carried out empirical analysis of the impact of gender inequality in education on household poverty by employing Logit Model. The probability of being poor depends on a set of variables x so that

$$\text{Prob } (Y = 1) = F (\beta'X)$$
$$\text{Prob } (Y = 0) = 1 - F (\beta'X)$$

Using the logistic distribution we have

$$\text{Prob } (Y = 1) = e^{\beta'X} /1+ e^{\beta'X}$$
$$= \Lambda (\beta'X)$$

Where 'Λ'represents the logistic cumulative distribution function. Then the probability model is the regression:

$$E [Y/X] = 0 [1-F (\beta'X)] + 1 [F (\beta'X)]$$
$$= F (\beta'X)$$

Table 1: The List of the Variable of the Model (Investigating the Impact of Gender Inequality in Education on Household's Poverty)

	Dependent Variables	**Hypothetical relationship**
POVT	Poverty: =1 if household is Poor, 0 if Non-Poor (The household is considered poor if Per Capita income is less than 1.25$ per person per day, International Poverty line)	
	Independent variables	
FSIZ	Family Size (Number of members in a household	Positive
GPIPE	It is the ratio of girls to boys in a household enrolled in primary education also known as ender parity index For Primary Education	Negative
GPISE	It is the ratio ofgirls to boys in a household enrolled in secondary education also known as Gender Parity Index For Secondary Education	Negative
GPITE	It is the ratio ofgirls to boys in a household enrolled in Tertiary education also known as Gender Parity Index For Tertiary Education)	Negative
GPIYL	Female male literacy ratio (adults, age 15 years and above)	Negative
ADTS	Average Distance to School from a household (KM)	Negative
AGEHH	Household Head's age in years	Negative
QUHH	Qualification of Household Head, Completed years of Education	Negative
HOWN	Ownership status of House: 1 if own, 0 if rented	Negative
MTSHH	Marital status of Household Head: 1 if married, 0 if unmarried	Negative
PQSH	Household head's Technical/Professional Qualification or skill: 1 if yes 0 if No	Negative
NOCH	Number of children in a household (less than or equal to 5 years age)	Positive

In the present study I have made an attempt to analyze the impact of gender inequality in education on household poverty in Pakistan using a new household level source of data from Multan district.

4 Results and Discussion
4.1   Summary of the Findings of the Field Survey of Multan district
The field survey indicates that there are 6 percent female headed and 94 percent male headed households. Average household size is found to be 6.1 percent. It has been observed that there are 37 percent poor households (222 out of 600 households) and 63percent non poor households (378 out of 600 households) and out of 37 percent poor households 29 percent urban and 71 percent rural households are poor. The households with literate head are 61 percent (366 households) and illiterate heads are 39 percent. Among the literate 61 percent heads, 18 percent heads possess technical or professional education and others possess general education. Out of 600 households, 88 percent possess their own house or residence and 12

percent household live in rented house. The households where exists the gender inequality in primary enrolment were almost 71.17 percent while, 28.83 percent households represented gender equality in enrolment in primary education. Gender inequality in enrolment in secondary education was found in 74.50 percent households while, the households indicating gender inequality in tertiary education enrolment were almost 81.84 percent. Gender equality in adult's literacy ratio was found to be in only 39.33 percent households. Household data indicates severe gender inequality in adults' literacy as well as in all levels of enrolment.

4.2   Results of Correlation Analysis of the Variables
Correlation analysis has been made in order to find the multicollinearity among the variables. The results of the correlation co-efficient of the independent variables used in gender inequality in education and poverty model are shown below in table 8.2. The results show that the values of correlation co-efficient are less than 0.45 indicating that there is no multicollinearity among the variables. If the value of co-efficient is equal to or less than 0.80 then there will be severe multicollinearity among the variables.

Table 2 Correlation Co-efficient of the Independent Variables

	FISZ	GPIPE	GPISE	GPITE	GPIYL	ADTS	AGEHH
FISZ	1.0000						
GPIPE	0.2575	1.0000					
GPISE	0.3950	0.2333	1.0000				
GPITE	0.2244	0.0919	0.3110	1.0000			
GPIYL	0.1425	0.1836	0.4586	0.4265	1.0000		
ADTS	0.0890	-0.1724	0.0265	0.1697	-0.0241	1.0000	
AGEHH	0.3559	-0.0137	0.0794	0.1291	0.0469	-0.0334	1.0000
QUHH	0.0110	0.0955	0.2468	0.2042	0.4057	-0.0164	-0.0916
HOWN	0.1222	0.0790	0.0552	0.0794	0.1080	-0.0990	0.1562
PQSH	-0.0218	0.0156	-0.0110	0.0932	0.2281	-0.0699	-0.0326
MTSHH	0.0541	0.0285	0.0554	0.0065	0.0668	-0.0255	-0.0364
NOCH	0.2815	0.0437	-0.0649	-0.1736	-0.1462	0.0618	-0.0572

	QUHH	HOWN	PQSH	MTSHH	NOCH
QUHH	1.0000				
HOWN	-0.0110	1.0000			
PQSH	0.3682	0.0683	1.0000		
MTSHH	0.0972	0.0568	0.0314	1.0000	
NOCH	-0.1254	0.0405	-0.0153	0.0300	1.0000

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4.3   Results of the Logistic Regression Estimates of the Impact of Gender Inequality in Education on Poverty
The results in table 8.3 indicate that constant has significant positive effect on household poverty. Co-efficient value of Constant indicates the effect of all those variables which may have some impact on poverty but these have not been included in the model. Pseudo R-Square (coefficient of determination) represents the proportion of explained variations in poverty due to the variations in independent variables. The value of Pseudo R-Square (coefficient of determination) is 0.3150 which indicates that 31 percent variations in poverty have been explained by the independent variables. The probabilitychi^2 value is 0.000 provides the evidence that at least one of the coefficients for an explanatory variable is non-zero and proves that overall logistic model is good and significant at 1 percent level of significance.

Household size has significant positive impact on poverty. The co-efficient of household size is significant at one percent level and the odds ratio 1.44 confirms the positive relationship between household size and poverty. It is an important factor that determines poverty. The greater the household size, the lesser will be the per-capita income as it has diluting effect on household income. Household size represents a complex mechanism in poverty status. On one hand participation of all family members in earning activities may pull the household out of poverty and on the other hand surplus labour force in a household brings down the marginal productivity, increases unemployment and ultimately pushes the household into poverty (Rodriguesz. 2003; Sabir et al, 2006). Marginal effect of household size shows that probability of poverty increases by 5.4 percent with the increase of one member in a household.The results are also consistent with Javed and Asif (2011).

Table 3 Logistic RegressionEstimates of the Impact of Gender Inequality in Education on Poverty

Explanatory Variables	Coefficient	Z-stat.	Prob.	Odds ratio	Marginal Effects
Constant	1.10200	1.82	0.069	-	-
Household Size	0.362026*	5.94	0.000	1.44	0.054
Female-male Ratio of Enrolment in Primary Education	-0.684636*-	-3.41	0.001	0.50	-0.099
Female-male Ratio of Enrolment in Secondary Education	0.616803*-	-2.66	0.008	0.54	-0.094
Female-male Ratio of Enrolment in Tertiary Education	2.97075*-	-4.70	0.000	0.05	0.456
Female-male (age 15 years and Above) Literacy Ratio	0.928435*	-3.54	0.000	0.40	0.146
Average distance to School from a Household (Kilo Meter)	0.008046	0.21	0.830	1.01	0.001
Age of Household Head (Years)	-0.039089*	-3.49	0.000	0.96	0.005
Qualification of Household Head (years of Education)	-0.047127*	-2.47	0.013	0.95	0.007
Ownership of House (Own House=1)	-0.691679*-	-2.07	0.039	0.50	0.105
Head's Technical/Professional qualification (Yes=1)	0.835340***	-	0.062	0.43	0.129
Marital Status of Household head (Married=1)	0.111718	1.840	0.733	1.12	0.018
Number of Children (Less than 5 years age)	0.310366*	.312.34	0.020	1.36	0.047

Pseudo R2   =   0.3150   LR chi2(12)   =   254.81

Log likelihood = -275.863 Prob> chi2   =   0.0000

Test that all slopes are zero: G = 257.218,   DF = 12,   P-Value = 0.000

Number of Observations = 599

Source: Author's calculations by using Stata and Minitab

*=1 percent, **=5 percent and ***=10 percent level of Significance

The variables of gender inequality in education such as female-male primary, secondary and tertiary enrolment ratios negatively affect the probability of household's poverty. The variables are significant at one percent level and odds ratios are 0.50, 0.54 and 0.05 respectively. The odds ratios are less than one and confirm the negative relationship between female-male enrolment ratios of primary, secondary and tertiary education and probability of poverty. Greater the values of these enrolment ratios, the lesser will be the gender inequality in enrolment and the probability of poverty of household being poor decreases. Marginal effects of the enrolment ratios indicate that probability of household poverty falls by 9.9 percent, 9.4 percent and 45.6 percent with the one unit increase in female-male enrolment ratios of primary, secondary and tertiary education respectively. The results specify that gender equality in primary enrolment is found to be more effective for poverty alleviation as compared to gender equality in secondary enrolment. However, there is little difference between the marginal effect co-efficient values of primary and secondary enrolment. Similarly, gender equality in tertiary enrolment is more effective than the gender equality in primary as well as secondary enrolment. Tertiary education is most effective for poverty alleviation as the co-efficient value of marginal effects 45.6 percent predicts that probability of household being poor decreases by 45.6 percent with the increase in female-male tertiary enrolment ratio by 100 percent. Hence, elimination of gender inequality in primary, secondary and tertiary enrolment is necessary for poverty alleviation. Gender inequality in education may have adverse impacts on poverty and other development goals. It may prevent the reduction in child mortality, fertility, and under nutrition, as well as reduce the educational gains of the next generation. The results are consistent with chaudhry, 2007; chaudhry and Rahman 2009).

Female-male literacy ratio of adults (age 15 years and above) has also negative relationship with the probability of poverty. The odds ratio 0.40 confirms the negative impact of the ratio of female- male literacy on probability of poverty. Marginal effect of the variable shows that increase in literacy ratio by one unit reduces the probability of poverty by 14.6 percent.

Gender equalities in education are particularly important in the sense that female education has positive association with many development outcomes including reduction in fertility and child mortality (Schultz, 2002). Education level attained by household members reduces ethnocentricity, and thus increases one's

flexibility of accepting new customs and norms and results in increase in female labour force participation especially in urban areas, which may reflect their higher wage premiums and higher opportunity cost of being inactive. However, research reveals low demand for girls' education in many economies results in significant gender gaps in access to education (Hill and King, 1995; Filmer, 1999; Winter and Macina, 1999 and Lincove, 2006). The negative relationship between female-male literacy ratios with the probability of household being poor has been similarly observed by Ogawa and Akter (2007), Chaudhry and Rahman (2009) and World Bank (2010a).

The variable of distance to school has expected positive co-efficient sign but insignificant impact on probability of household being poor and marital status of household head also has positive but insignificant impact on household's poverty. This result is consistent with Chaudhry and Rahman, 2009).

Age of the household head has significant negative impact on household's poverty. The variable is significant at one percent level. The greater the age of household, the lesser will be the probability of household's poverty. Odds ratio of 0.96 represents the negative impact of head's age on poverty. Marginal effect of the variable indicates that probability of poverty falls by 0.5 percent with the one year increase in the age of the household head. Poverty mainly affects people who are under or above productiveages. Generally, young people have low income because theirearly experience in the labor market starts with low income andfewer hours of work. As individuals age, there is gradual gainin education, work experience and labor network (Khatun, Razia, 2015).

Educational qualification of household head negatively affects household's poverty. The variable is significant at one percent level and odds ratio 0.95 confirms the negative impact of that variable on probability of poverty. The value of marginal effect indicates that other variables remain same, the probability of poverty falls by 0.7 percent with the increase in an additional year of education of the head keeping other variables constant. Probability of household being poor also decreases if the household has some technical and professional qualification. Greater the technical skills and competencies lesser will be the chances of household being poor. The variable is significant at 10 percent level of significance and odds ratio of 0.95 confirms the negative association of this variable with probability of poverty. Marginal effect of the variable shows that other variables remaining constant, the probability of that household's poverty falls by 12.9 percent if its household head possess professional qualification or technical skill. Although the educational level of other earning family members also is of great importance but that of head plays more influential role in shaping family members by being exemplary and willing to invest on education. The educational qualification level of household head contributes to competency, working efficiency, diversifying income, becoming visionary in creating conducive environment to educate the dependents with long term target to ensure better living condition of the family members. Thus being educated reduces the chance of becoming poor in the sample households. The results are consistent with Fitsum and Holden (2003), Chaudhry (2009) and Javed and Asif (2011).

The probability of household's poverty also falls if the household possesses its own house. Ownership of a house rejects the probability of being poor. The variable is significant at one percent level and odds ratio is 0.50 which confirms the negative relationship. The probability of household poverty falls by 10.5 percent if the household has ownership of house. Poverty is more prevalent among non-owners of house: they tend to be income poor, assets poor and consumption poor. It is obvious that the ownership of house relates to income, assets and consumption (Ahmad, 2004).

The number of children less than 5 years of age has significant positive impact on household poverty. Greater the number of children of the mentioned age greater will be the dependency rate and greater will be the chances of household to fall in poverty. The variable is significant at 1 percent level of significance and odds ratio is greater than one (1.36) which confirms the positive impact of the variable on probability of being poor. Marginal effect of the variable shows that probability of household's poverty increases by 4.7 percent with the increase of one more child of the mentioned age in a household. With the increase in

children dependency ratio of a household, poverty level also increases. Our results are consistent with Chaudhry et al. (2009), Chaudhry and Rahman (2009).

5. Conclusions and Policy Suggestions

Gender inequality in education has adverse impact on household's probability of poverty. The households with greater gender inequality in education are more likely to be poor. Female-male literacy ratio has negative association with household's probability of being poor. The increase in adult female-male literacy ratio and the ratios of females and males enrolment in primary, secondary and tertiary education (indicators of gender inequality in education) have negative association with probability of poverty. The gender inequality in enrolment and literacy has been found to be higher in poor families and lower in rich families. Human capital equality in a household (the equality in female-male level of education) is an important determinant of household poverty. International development institutions are also recognizing the importance of female education in achieving number of development goals (Schultz, 1994). Other variables such as age of household head, qualification of household head, head's technical/professional qualification and ownership of house were found to have negative association with poverty. Household size and number of children less than 5 years of age positively affects the probability of poverty. The results specify that gender equality in primary enrolment is found to be more effective for poverty alleviation as compared to gender equality in secondary enrolment. However, there is little difference (0.5 percent) between the marginal effects co-efficient values of primary and secondary enrolment. Similarly, gender equality in tertiary enrolment is more effective than the gender equality in primary and secondary enrolment. Tertiary education is most effective for poverty alleviation as the co-efficient value of marginal effects 45.6 percent predicts that probability of household being poor decreases by 45.6 percent with the increase in female-male tertiary enrolment ratio by one or in other words 100 percent. It is concluded that elimination of gender equality in enrolment and literacy educational is essential for poverty alleviation.

On the Basis of these conclusions, we suggest some recommendations for policy makers. Government may take various steps to eliminate all forms of discrimination against women by incorporating the principle of gender equality in their legal system and by establishing public institutions and tribunals to ensure the effective protection of women against discrimination.

It is impossible to alleviate poverty without the creation of productive employment opportunities. Promotion of productive employment should be amongst the major goals of policy in its own right. It assumes particular significance in the context of the persistence of poverty at a high level and the observed increase in income inequality. Labour is the only income generating asset of the poor. Therefore, productive employment and an increase in the returns to employment can be helpful to achieve a higher rate of poverty reduction and to discontinue the rise in inequality. Female employment is necessary to enhance the level of income and alleviate poverty prevailing in low income households.

Since female literacy is essential for poverty alleviation, Government may provide free primary and secondary education to boys and especially girls. Monthly stipend may also be awarded to the students belonging to poor family. In village areas distant schools are hurdle in the way increase in female and males' enrolment. Government may provide conveyance facility to the students especially female students of village areas. There is a need to increase the public expenditures on female education in order to achieve gender equity at all levels. For the elimination of gender inequality in education at all levels and to achieve the targets of Millennium Development Goals, Pakistan had made commitment to achieve overall gender equality in access to education till 2015. There is an ardent need to develop education and other infrastructural facilities without gender bias.

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