Full Length Research

Female households and poverty: A case study of Faisalabad District

Zahoor Hussain Javed* and Ayesha Asif

GC University, Faisalabad, Pakistan.

This study shows the relationship between female-headed households, male household and poverty in the two Tehisils of District Faisalabad. Eighty response clients were interviewed. Compare means; regressions and the binary Logit regressions analysis are used to detect the relationship between female household, male household and the factors that affect the possibility towards poverty. Linear results indicate that education, secondary earners, number of children and occupations are the significant factors that affect monthly income of the family. Nevertheless, results indicate that income, consumption, family size and households headship status, play vital role to determine the level of poverty. There is negative relationship between head of households and poverty. Female household's heads have fewer assets, lower earning capacity than male-headed. Results suggest that the need for special interventions, skilled knowledge and specific infrastructures are required for the improvement women community.

Key words: Female household's head, poverty, Faisalabad.

INTRODUCTION

This research explores the relationship between female-headed households and poverty alleviation. Buvinic and Gupta (1997) suggest that household head defined to be one with authority and income earning responsibility. This research has classified females and males households who have authority and income earns liability. Female-headed households are those "households where no adult male are there due to divorce, break up, separation, migration, non migration or widow or where man although present but do not contribute to the household". Woman-headed households may be classified into five different categories such as, (1) households with no male spouse or partner present at any time, (2) households where the male partner is a temporary resident, (3) households from which the male spouse or (4) partner is temporarily not present, (5) households in which the male spouse or partner is present, but his contribution to the economic maintenance of the household is marginal or households from which the male spouse or partner is absent, but one or more adult present (Youssef and Hetler ,1983).

The followings possible determinant of female supervision are commonly detectable in Pakistan: Widows living on their own with or without dependants, Women whose husbands are unemployed, or underemployed, or old age or disability; bachelor/single females who are the individual/main monetary supporters of dependent/unemployed family members; Women alienated from labor immigrant husbands who receive regular or irregular payments and women whose husbands are imprisoned for unlawful offences, as well as those who related to war and clash. The standard UN definition give the unacceptable result that there are no female heads of households among married women at all. More expressly, there are four types of economic responsibilities, satisfying any of which qualifies women as head of the households. In Type 1 only female is the earner in the family, Type 2 included only female earners, and there is no male income. Type 3 consist of female major earner the respondent, that is, this means that her earnings are more than that of any other person, male or female, in the family and Type 4 comprised of female group major earner this type of households is different from the other two in that the combined earnings of all

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*Corresponding author. E-mail: zahoorhj64@yahoo.com. Tel: 0092-41-9201478, 0092-300-6501785.

females in the family exceed the combined earnings of all males in the family (Mohiuddin, 1989). Lipton (1988) and Townsend (2006) describe in such way that there is no ideal definition of the poverty.

The absolute poor are defined as "those with per capita income too low to afford 2,250 calories per day. This study speak to the following questions: What are the factors which motivate female to work? Is there any relationship between household headship and poverty? Are female-headed households more susceptible to poverty then male headed households?

Justification of study

In Pakistan, the research would seek the association between poverty and head of household. Various socio economic variables are used to compare the different types of female-headed households in the residential districts like place (urban or rural), marital status, average family size, number of dependent, number of earner, highest level of education, employment, occupation, house ownership and type of building.

Organization of the study

Firstly, we have the introduction followed by a review of the literature on female-headed households and poverty. Next is a presentation of data and methodology and finally conclusions, suggestions and references are given.

REVIEW OF LITERATURE

The literature has enlarged vision for the study about the relationship between poverty and sex of household head. It also provided further direction to the problems and reduce the possibilities of unnecessary and duplication of efforts. Guinhall (1973) and Ennis (1975) explain that income of women is lower than men in every chief professional group except laborer. This discourages the females to work and increase the obstacles for them resulting in lower poverty level. Merrick and Schimink (1983) describe that due to the dual role of female headship, female heads are helpless, both by time constraints and through gender discrimination in the labor market. A large number of female heads, both de facto and de jure, are employed in jobs in the casual zone in which human capital variables do not influence income. Kazi and Raza (1998) reveals that the subset of the female-headed households consist of three distinct groups; wives of migrants; Divorced and Widowed and wives of non earning husbands.

The results of this research show that while the first

group was relatively well off and employed in white collar jobs the other two categories did indeed belong to poorest strata of society. This gave an idea that there was difference even amongst the female-headed households. McLeod (1988), Pasacharopoulos et al. (1992) in his study talked about the fact that the income patterns of female workers are a bit zlower than those of male workers which discouraged females to enter the labor force. Moradha et al. (2001) and Bibars (2001) provided information to support or cancel out some issues particularly, the perceived notion that these households are less well off in the socio economic sense than the male headed households and that the female-headed households at the greater risk of the poverty pointed out that age seem to play a foremost role in intervene disadvantage, identifying that its particular influenced on women at different stages of the life course varied from one context to another. In Egypt, for example, that many female heads were poor because they are old, illiterate and unable to work.

Gangopadhyay and Wadhwa (2003), Chant (2003), Baden and Milward (1997), Lipton and Ravallion (1995) stated that there is no systematic evidence about the poverty of women around the world. Jung (2004) highlighted the problems in specific to Pakistan and reported that gender discrimination is deep rooted in Pakistani society and sexual harassment in work place is often regarded as one of its elements manifestations. Women are usually intimidated through one way or the other at workplace by co-workers and employers which raised the problems face by women and results in more poverty than male headed households. Feridun (2005) concluded a fuller understanding of the range of female-headed households disproved the assumption that female-headed households are the poorest of the poor. That is, female-headed households do not translate into poverty, not does the adversity that many of them experience translate into fortune.

Takanne (2007) examined various significant characteristics of female-headed households in rural Malawi. His main findings of the study are threefold. First, female-headed households are in a damaging position relative to their male counterparts in terms of labor endowment, farm size, and agricultural production. The low productivity in own-farm cultivation among the female-headed households stemmed mainly from the low application of fertilizer, an input that was beyond the reach of the poorer households due to the price. The high cost of inputs, especially of fertilizer, has prevented resource from poor female-headed households from improving maize self-sufficiency through increased productivity and from engaging in high-return agriculture such as tobacco production. Secondly, although female-headed households, on average, appeared to have less income than their male counterparts, there are marked disparities within the category of female-headed households.

Table 1. Family income of household head.

Variables	Description
Dependent variable	
Y_1	Log of monthly income of the family
Independent variables	
X_1	Age of the head (in years)
X_2	education of head (in years)
X_3	Number of children (<15 years)
X_4	Number of secondary earner
X_5	Place (rural or urban)
X_6	Occupation of husband (dummy)
X_7	Headship Status (Dummy)

$Y = (X_1, X_2, X_3, X_4, X_5, X_6, X_7)$, Where: Y_1 = natural log of monthly income of the family, Log-lin model, $Ln (Yt) = b_1 + b_2 ln (X_t) + e_t$.

Factors that enabled some female-headed households to achieve a high income include availability of high-return non farm income opportunities, use of social networks to obtain labor and income opportunities, land attainment through supple application of inheritance rules, and the existence of informal tobacco marketing. Thirdly, employment diversification was adopted by both male-headed and female-headed households, but the female-headed households rely more on off-farm income than their male counterparts.

DATA AND METHODOLOGY

Research method is an endless effort for truth, definitely, it brings to light new knowledge or correct previous errors.

Primary data source

Keeping in view the importance of this research and limited resources like time and money, it was limited to District Faisalabad and includes of five tehsils: 1) Teh. Faisalabad, 2) Teh. Sumandri, 3) Teh.Jaranwala, 4) Teh. Tandlianwala and 5) Teh. Chak Jhumra.

Sample selection

Random sampling technique was used for the selection of the sample. District Faisalabad consists of 5 tehsils, out of 5 tehsils of District Faisalabad, 2 tehsils are randomly selected namely Tehsil Faisalabad and Tehsil Jaranwala. Due to low literacy level among people it was decided to utilize the interviewing schedule as a technique of data collection. An interviewing schedule is a set of question which are asked and filled in by the interviewing in face to face situation with respondents.

Data collection

Randomly household survey of 70 female-headed and male-headed households were conducted in August 2009 from Faisalabad District. The researcher interviewed all the respondents personally. Although questions were developed in English, the actual questionnaire was conducted in Urdu or Punjabi according to situation, in order to enable the respondent to respond with great celerity and accuracy.

Analysis of data

Information thus obtained was tabulated, analyzed by using following techniques: 1) Compare mean analysis, 2) Multiple regression analysis and 3) Binary logistic regression analysis.

Comparison of mean analysis

Two groups were defined according to Female-headed households and Male headed households. Following parameters were included in mean comparison analysis. (1) Total monthly income of the family, (2) Total monthly consumption of the family, (3) Total value of property own by family, (4)Total value of gold own by family, (5)Total value of vehicle own by family, (6) Total value of appliances own by family.

Multiple regression analysis

Multiple regression analysis was carried out to find determinants of family income. Age, education, number of small children, number of secondary earners, place occupation and headship status were used as predictors. Family income of household head was applied on different variables as in Table 1.

Binary logistic regression analysis

Characteristics of the household head such as age, gender of the household head, education and household characteristics like, place, occupation, family size, dependent and earners were used as explanatory variables. Age of the household head was measured in years. Gender of the household head was calculated by a qualitative variable named gender (male = 1, female = 0). Education variable was determined by educational years of household head. Occupation variable was measured by a qualitative variable named occupation (1=employed, 0 otherwise). Variables dependent and earners were measured by the number of dependents and earners in a household.

In logistic regression analysis, dependent variable assumed the value of 1 for poor households and zero for non poor households.

Here dichotomous dependent variable was used. Traditionally qualitative models can be estimated by three methods: a) linear probability model, b) logit model, c) probit model. Chief criticism on linear probability model is that it gives rise to heteroscedasticity problem and there is no guarantee that probability will lie between 0 and 1 but most important thing is that in this model probability is linearly related with explanatory variables. To avoid this problem, we take log of the explanatory variables. Probit model is sensitive of normality assumption whereas logit model assumes a logistic distribution. So logit model is used in the present study. The specification of the logit model is as follows:

$$p_i = E(Y=1/X_i)$$

Here $Y = 1$ means that a particular household head is poor and X denotes the set of explanatory variables used. Here P_i is the conditional probability that a particular household head is poor. In context of logit model it is:

$$P_i = E(Y=1/X_i) = \frac{1}{1+e^{-(\beta_0 + \beta X_i)}}$$

Let $Z_i = -(\beta_0 + \beta X_i)$

$$P_i = \frac{1}{1+e^{-Z_i}}$$

$$P_i = \frac{e^{Z_i}}{1+e^{Z_i}}$$

Where,

If P_i gives the probability of being poor then $(1 - P_i)$ will give the probability of not being poor; $1 - P_i = \frac{1}{1+e^{Z_i}}$

The ratio of the poor to non poor is written as:

$$\frac{P_i}{1-P_i} = \frac{1+e^{Z_i}}{1+e^{-Z_i}} = e^{Z_i}$$

$P_i / (1 - P_i)$ is called the odd ratio in favor of being poor. Taking the natural log of the odd ratio we obtain:

$$L_i = \ln(\frac{P_i}{1-p_i}) = Z_i$$

And we know that: $Z_i = \beta_0 + \beta X_i$

So we can say that L_i is linear in parameters and in explanatory variables denoted by X_i. The point of advantage of this model is that here only Li the logit is linearly related with but not the probabilities (Gujarati, 2004).

RESULTS AND DISCUSSION

This deals with the characteristics of female-headed households and male headed households in different shape like:

Socio-economic profile

i) Location
ii) Wedded status
iii) Family income
iv) Education of household-head
v) Family size
vi) House ownership

The occurrence of Type 1 and 2 shows that the husband/male guardian is dead, sick, old, unemployed or unwilling to work while Type 3 and 4 shows the cases where the husband/male guardian is self-employed, or has a low paying occupation, or is partially employed. Table 2 shows that out of 50 heads of household from sample, 10% women were the only earners in their families, 7.1% were joint earners with other women 2.9% were only female earners and 11.4% were major earners. This also shows that 31.4% women live in rural areas while 40% live in urban areas. 10% male live in rural areas and 18.6% live in urban areas. Since the value of chi square is 0.477 and it is insignificant which shows that two variables are not independent and concluded that there was no association between these two variables. Similarly the value of gamma is -.187 which is insignificant and shows that there was no relationship between both variables.

A comparison of female and non-female-headed households shows that widowed and single women are over represented in the former and married in the latter. 14.3% widowed in over all sample are household heads, with 4.3% of them being the "only earners" (Type 1). 27.1% of the female-headed households are remaining as single women. The reason for the existence of such households in Pakistan is that these single women were the bread winner for their families due to death of father, or absence of elder brother, or low income of male family members. Since the value of chi -square was 19.08 and it was significant so we reject our hypothesis.

This shows that there is close association between these two variables between marital status and headship status, similarly the value of gamma is - 0.31 which is significant that indicate that there is negative relationship between both variables.

Table 2. Distribution of household's location and type of economic responsibility.

Place	Type of economic responsibility				All Female-headed household	Male headed household	All households
	Type 1 only earner	Type 2 only female earner	Type 3 female major earner	Type 4 female group major earner			
Rural	7 (10.0)	2 (2.9)	8 (11.4)	5 (7.1)	22 (31.4)	7 (10.0)	29 (41.4)
Urban	6 (8.6)	6 (8.6)	8 (11.4)	8 (11.4)	28 (40)	13 (18.6)	41 (58.6)
All household	13 (18.6)	8 (11.4)	16 (22.9)	16 (22.6)	50 (71.42)	20 (28.6)	70 (100.0)

Survey data (2009) Chi square test of independence. Figures in parenthesis refer to percentage Chi sq. value =0.477,; Sig=0.490; Gamma = -0.187; Sig= 0.428.

Occupation

Occupation is a particular and continuous activity, which one chases in order to meet basic necessities of life and uphold a definite social status in the society. Only 18.6% female-headed households earn from overall sample 35.7%. Moreover, 5.8% husband from overall sample in female-headed households have a regular or permanent job, 4.3% self employed and 12.9% were privately employed. The value of chi square is 16.69 and is significant so we reject our hypothesis. Therefore, two variables are independent and there is positive association between these two variables. Similarly, the value of gamma is 0.52 and is significant. This shows that there is positive relationship between both variables.

Family income

Income is the total money value of services which are received by individual from all sources including his own activities. It is found that about 8.6% of women in male headed households have less family income than Rs 10,000 per month, 28.6% for all female-headed households taken together. 25.7 and12.9% female-headed and male

headed households have a family income less than 20,000 respectively; only 8.6% households have family income above 30,000. Since the value of chi square is 28.75 and is significant so we reject our hypothesis, this shows that there is association between family income and headship status, similarly the value of gamma that is 0.32 significant and indicates that there is positive family income and headship status.

Education of household head

In this study, human capital is measured by total amount of education obtained by the household head. Table 3 exposed that 14.6% female and 8.6 % male are only literate. 14.3% female-headed and 1.4 male headed completed their primary classes. 15.7 female-headed and 4.3 male headed completed their secondary education. 12.7 female-headed and 4.3% male headed households completed their graduation, while only 7.1 female-headed and 5.7% male headed hold the degree of masters or other professions. The value of chi square is 4.519 and is insignificant. And this shows that there is no association between these two variables. Similarly, the value of gamma is -0.80.

Family size

Table 4 shows that 31.4% people live in families. While 37.2% female-headed and 15.7 male headed households live in families consisting 5 to 7 family members. 12.8% female-headed households live with families containing members above 7. The value of chi square is 0.72 and is insignificant so we reject our hypothesis; nevertheless, there no relationship between family size and headship status, similarly the value of gamma is 0.16 which is insignificant. This indicates that there is no relationship between these variables.

Ownership of house

Table 5 express that there is 52.9% female-headed households have their own house and 18.6% live on rented houses. The value of chi square is 4.642 and is insignificant so we rejected our hypothesis and this shows that there is association between house ownership and female-headed households. Similarly the value of gamma is -0.232 is insignificant which indicate that there is no relationship between both variables.

Table 3. Distribution of households by education and type of economic responsibility.

Education	Type of economic responsibility				All female-headed households	Male headed households	All households
	Type 1 only earner	Type 2 only female earner	Type 3 female major earner	Type 4 female group major earner			
Only literate	1 (1.4)	4 (5.7)	2 (2.9)	3 (4.3)	10 (14.6)	6 (8.6)	16 (22.9)
Primary (1 to 5)	2 (2.9)	3 (4.3)	2 (2.9)	3 (4.3)	10 (14.3)	1 (1.4)	11 (15.7)
Secondary (6 to 10)	5 (7.1)	0 (0.0)	2 (2.9)	4 (5.7)	11 (15.7)	3 (4.3)	14 (20.0)
Intermediate (11 to 12)	4 (5.7)	0 (0.0)	1 (1.4)	0 (0.0)	5 (7.1)	3 (4.3)	8 (11.4)
Graduation (13 to 14)	1 (1.4)	1 (1.4)	4 (5.7)	3 (4.3)	9 (12.7)	3 (4.3)	12 (17.1)
Higher education	0 (0.0)	0 (0.0)	5 (7.1)	0 (0.0)	5 (7.1)	4 (5.7)	9 (12.9)
All households	13 (18.6)	8 (11.4)	16 (22.9)	13 (18.6)	50 (71.4)	20 (28.6)	70 (100.0)

Survey data (2009) Chi square test of independence. Figures in parenthesis refer to percentage. Chi sq. value =4.519, Sig. =0.47l; Gamma = -0.80, Sig. = 0.679.

Table 4. Distribution of households by family size and type of economic responsibility.

Family size	Type of economic responsibility				All female-headed households	Male headed households	All households
	Type 1 only earner	Type 2 only female earner	Type 3 female major earner	Type 4 female group major earner			
Up to 4	8 (11.4)	2 (2.9)	4 (5.7)	1 (1.4)	15 (21.4)	7 (10.0)	22 (31.4)
5 to 7	4 (5.7)	6 (8.6)	9 (12.9)	7 (10.0)	26 (37.2)	11 (15.7)	37 (52.9)
Above 7	1 (1.4)	0 (0.0)	3 (4.3)	5 (7.1)	9 (12.8)	2 (2.9)	11 (15.7)
All households	13 (18.6)	8 (11.4)	16 (22.9)	13 (918.6)	50 (71.4)	20 (28.6)	70 (100.00

Survey data (2009) Chi Square test of independence. Figures in parenthesis refer to percentage. Chi sq. value=0.720, Sig. =0.698; Gamma = -0.210, Sig. = 0.468.

Degree of poverty

It is found that 44.3% households which are female-headed fall below the poverty line (7.1% of Type 1, 1.4% of Type 2, 15.5% of Type 3, 2.9% of Type 4) compared to 10% of those who are male-headed. The value of chi square is 4.19 and is significant so we do not reject our hypothesis that there is positive association between poverty and headship status, similarly the value of gamma is 0.52 and is significant which indicate there is positive relationship.

COMPARISON OF MEANS ANALYSIS

Test of hypothesis

The hypotheses were tested through the monthly family income, monthly consumption, and value of property, total value of gold and total value of vehicle own by the heads. It was found that the mean value of monthly income of the family of male headed households was higher and significant at 10%, similarly total value gold and total value own by the heads is significant. This level of significant shows that there is difference between male-headed and female-header's of property and monthly consumption.

MULTIPLE REGRESSION ANALYSIS

Regression results for the family income are shown for female-headed household and male

Table 5. Distribution of households by house ownership and type of economic responsibility.

House ownership	Type of economic responsibility				All female-headed households	Male headed households	All households
	Type 1 only earner	Type 2 only female earner	Type 3 female major earner	Type 4 female group major earner			
Owned	10 (14.3)	6 (8.6)	14 (20.0)	7 (10.0)	37 (52.9)	13 (18.6)	50 (71.4)
Rental	3 (4.3)	2 (2.9)	2 (2.9)	6 (8.6)	13 (18.6)	7 (10.0)	20 (28.6)
All households	13 (18.6)	8 (11.4)	16 (22.9)	13 (18.6)	50 (71.4)	20 (28.6)	70 (100.0)

Survey data (2009) Chi Square test of independence. Figures in parenthesis refer to percentage Chi sq. value =4.642, Sig. =0.326; Gamma = -0.232, Sig. = 0.214.

headed households. The independent variables are: X_1= Age of the household head (in years), X_2 = Education of household head (in years), X_3 = Number of children less than I5 years of age X_4 = Number of secondary earners, other than household head, X_5 = Place (=1urban, 0 = otherwise) X_6 = Occupation of husband (= 1 if any occupation, 0 = otherwise); and X_7 = Headship status (= 1 if male headed, 0 = otherwise).

In the regression analysis, total value of family income used as dependent variable and age, education, children, secondary earners, place, occupation and headship have taken as explanatory variables. Table 6 shows that all estimated parameters have the expected signs. In each case, education, secondary earners and male occupation and children have statistically significant and have expected signs except age, place and headship. Thus family income is higher in a household of those head who complete their primary education or above than illiterate head. Similarly, the effect of secondary earners on family income is positive.

BINARY LOGISTIC REGRESSION ANALYSIS

Binary Logistic Regression results for the Poverty are shown for female and male-headed households. The independent variables are: X_1=

Age of the household head (in years), X_2 =Education of household head (in years); X_3 = Log of Family income, X_4=Log of consumption, X_5=Place (=1urban, 0 = otherwise), X_6 = Family Size, X_7= Headship status (= 1 if male headed, 0 = otherwise). Dependent variable assumed the value of 1 for a household living on and below poverty line and 0 otherwise. Age of the household head, gender of the household head, education attainment of the household head, place, family size, log of family income and log of consumption were used as explanatory variables.

Results indicated that family income, consumption, family size and headship status were significant in determining poverty. Place, education, and family income were negatively related with the probability of poverty. There was positive relationship between female-headed households and poverty. There is positive relationship between family size and poverty as the family size and poverty moves in same directions. Results were consistent with the findings of Chaudhry (2003), Owuor et al. (2007) and Awan et al. (2008).

CONCLUSIONS

This study is based on female-headed households, male households and their relation

with poverty conducted in district Faisalabad. This study shows the basic characteristics of female-headed household's. The binary Logistic regression analysis is used to study the factors that affect the probability towards poverty. The main findings are calculated: 31.4% female-headed households live in rural areas while 40% live in urban areas. 10% male headed households live in rural areas and 18.6% live in urban areas. The reason for the existence of such households in Pakistan is that these single women are the bread winners for their families due to death of father, or absence of elder brother, or low income of male family members or divorced. 35.7% female-headed household's husband or guardians are unemployed.

The results of binary logistic model shows that the age and education variable possessed the correct expected sign but is not significant. Education was insignificant and possesses a correct sign as the education households increase the probability of that household being poor decrease. Female-headed households were more susceptible toward poverty than male headed households. Female-headed households are poorer because they support more dependants, that is have a higher ratio of non-workers to work, a greater tendency to have children compare to other types of households.

Female household's heads have fewer assets

Table 6. Regression analysis of determinants of household of family income.

Predictors	Coefficients	Std. error	t-value
Constant	3.903***	0.168	23.258
Age	0.001	0.003	0.276
Education	0.021***	0.005	4.104
No. of children	-0.46***	0.017	-2.807
Secondary earners	0.07***	0.035	2.001
Place(dummy)	-0.032	0.053	-0.607
Occupation (dummy)	0.154***	0.067	2.315
Headship(dummy)	-0.09	0.71	-0.273

Dependent variable: Log of family income. *, **, ***= 10, 5 and 1% level of significance, respectively

and lower earning capacity than male-headed. Results suggests that the need for special interventions for women in households headed by women, given them skilled knowledge.

In a nut shell, women should be encouraged to obtain technical education, and information to improve their skills and improve level of income for their family and power of rule should go into the hands of lower level of the people.

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