

Full Length Research

Gender difference in poverty: An empirical analysis in Bench Maji, Kaffa and Sheka zones, south west Ethiopia

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This paper investigated whether female headed households are poorer than male headed households in south west Ethiopia. The study employed 395 sample household questionnaires based on consumption expenditure data. The poverty measurement indices show that female headed households are more exposed for poverty than male-headed households. This result is also supported by the logistic regression output which indicates that gender of the household head has significant influence on poverty status of the households which implies female headed households are necessarily poorer than male headed households. In addition, variables such as sex, household size, dependency ratio, land size, credit access, occupation and residence are key determinants of household poverty. Whereas, age and education level of sampled household heads were not statistically significant. Finally, based on the result that female headed households are relatively poorer than male headed households, it is argued that policy options targeting female headed households would be a useful approach to reducing poverty in the study area.

Key words: Poverty, gender, households, south west Ethiopia.

INTRODUCTION

Up to the early millennium, poverty remains to be the biggest problem of the world. One-sixth of the global population or about one billion people live in an extreme poverty, struggle daily for survival and suffered from lack of nutrition, health, water and sanitation, shelter and other basic needs for survival (Suharko, 2007). Poverty is the failure to achieve basic capabilities such as being adequately nourished, living a healthy life, possession of skills to participate in economic and social life, permission to take part in community activities to mention a few. This conceptualization forms the basis for the belief that

‘poverty is multi-dimensional’. Although the capabilities framework offers many advantages over the income/ consumption conceptualization, yet it is argued that it requires a greater variety (Sen, 1999).

Since poverty remains a development issue, it has continued to capture the attention of both national governments and international development agencies for several decades. Indeed, subsequently the mid-1980s, reducing poverty has become a major policy concern for governments and donor agencies in all poverty-stricken countries, Ethiopia inclusive. Since the last two decades,

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as part of global and national initiative, the government of Ethiopia has put place a poverty reduction strategy with the intention of achieved sustained economic growth. The multidimensional and dynamic phenomenon nature of poverty has multiple causes that display economic, social and political characteristics and it requires multi-dimensional poverty reduction approaches and strategies (MoFED, 2013).

Gender analysis is relevant to all aspects of economic and the social development and more specifically it was the core MDG of halving world poverty by 2015. While gender inequality is not the only, or even the most marked form of inequality in a society, it is the most pervasive. It is a feature of social relations in all societies, although it manifests itself variously in different places. Understanding the causes and consequences of gender inequality, therefore, and the power relations that generates and is generated in the process, should be of concern to all societies in the world, rich as well as poor (Kabeer, 1994).

As any other regions of Ethiopia, the greater proportion of women suffering from various forms of poverty is linked to their unequal access to education, to productive resources and to control of assets, and in some cases to unequal rights in the family and in society the South West Ethiopia. This in fact impacts negatively on the entire household, particularly on children, and as a consequence on the entire community (MoFED, 2013). Thus, the aim of this study is to analyze gender differences in poverty by taking economic factors as indicator of poverty in Bench Maji, Sheka, and Kaffa zones.

Research problem

In developing countries, it is widely known that the economic, social, and political conditions of females are lower to that of males (Meier and Rauch, 2000). This is also the case in Ethiopia. Ethiopian females bear a heavier burden than males, due not only to economic factors, but also to the predominant position that males occupy in cultural and social structures (World Bank, 1998).

Added to that is unequal access to services that can promote their productive and income generating capacities, unequal access to social services, lack of decision-making power and their invisibility which have excluded them from the social, economic and political processes that affect their lives (MoFED, 2008).

Despite improvements in the Ethiopian economy, Ethiopia still has relatively low rates of educational enrollment, access to sanitation, and attended births, and challenges remain around investment in the health, safety and education of women and girls. Although women's contribution to economic development and the welfare of the society is both significant and multi-

faceted the economic, political and cultural bias against them has hindered women from enjoying the fruits of their contribution, unlike their male peers (TGE, 1993). The greater proportion of women suffering from various forms of poverty is linked to their unequal access to education, to productive resources and to control of assets, and in some cases to unequal rights in the family and in society.

According to the Ethiopian Mini Demographic Health Survey findings (EMDHS) which is conducted by CSA (2014), about half of women aging 15 to 49 (48%) have no formal education. About six rural women in every 10 (56%) have no education, compared with about two urban women in every 10 (22%). As stated by Regional Education Office (2012), education disparity between males and females was quite large for Bench Maji and Debub Omo zones and Basketo and Konta Special Woredas. In these administrations, female remain far behind the male counter group as can be seen from their GPI of 0.66, 0.79, 0.80 and 0.82, respectively.

According to CSA (2012), women in Ethiopia, especially in rural areas, bear the burden of collecting drinking water. In six of every ten households (62%), adult women are responsible for water collection. As marked by Bench Maji, Sheka, and Kaffa zones, Women and Children Affairs Office different years' report (2013-2015), there is unequal gender relation between men and women in the zones. Lack of assets makes women vulnerable to various forms of violence and affects her decision-making power in the family. Although Ethiopian laws give equal property rights to women, in fact tradition and women's low execution, social and economic status limits their ownership of assets. Overall, poverty touches all classes of the society including men, women, boys, girls, and age group, but it is experienced by within and outside these classes differently. Women's face hurtful situations because of their social and cultural gender roles and culturally constructed norms.

There are several studies that have been conducted on poverty in Ethiopia. However, these research works whether closely revealed the general aspect of poverty or analyzed poverty by urban or rural classification. Even other studies which have been made on poverty within the frame work of gender is failed to analyze the poverty status in terms of econometrics models. Moreover, most past studies have concentrated on urban and unsurpassed areas like Addis. The present study has been in fact, a modest effort made to fill in the research gap observed in the analysis of poverty in the South West Ethiopia with respect to gender differences in economic status. Consequently, the aim of this study is to analyze gender differences on poverty in terms of economic factors.

Objectives of the study

The major objective of this study is to analyze gender

differences in poverty on the basis of economic factors in Bench Maji, Kaffa and Shaka zones. The specific objectives are:

1. To measure the extent of economic poverty in FHHs and MHHs.
2. To identify the effects of household characteristics and economic factors on poverty status of the household.
3. To recommend the kinds of poverty reduction approach that would be feasible for the poor.

Significance of the study

Believing that gender issues concern not only women but society at large and that woman's problems cannot be solved by women alone, but by the coordinated efforts of the society, the government and women, is no longer disputable. Hence, it is important to see the significance of this study from different responsible bodies' aspect.

The study result helps local administrators to have a better understanding about how poverty affects women. This understanding in turn helps to develop a better participatory plan towards poor households. The study result benefits for those NGO's and donor countries engaged in development activities by providing gender based information. This information may affect their development intervention approach. It also helps financial institutions to know the participants need to develop different service ranges based on their needs. Some social norms can impose even more restrictions on women's mobility, decision-making power and control over family income, limiting their ability to develop small businesses. Overcoming these kinds of gender inequalities can have powerful social and economic impacts. In this regard this study contributes in filling the information gap by assessing the economic status of FHHs and MHHs in the study area at a household level.

RESEARCH METHODOLOGY

Data sources and method of collection

The data for this study are obtained from both primary and secondary sources. Secondary information on poverty is collected from different federal, regional, zonal and district offices and reports. The primary data on different economic factors and household characteristics that affects the poverty status of the household are collected from a sample of respondents from both rural and urban households in the study area through questionnaire.

The household questionnaire provides both quantitative and qualitative information on different economic factors and household characteristics that affects poverty status. So, the questionnaire includes information on demographic characteristics of the households, respondents' income, expenditure and other factors regarding their economic status.

Sampling design

The study area has 23 rural woredas and four town administrations

(ten woredas and one administration in Bench Maji zone, ten woredas and one administrative town in Kefa zone and three woredas and two administrative towns in Sheka zone). The total number of population in the three zones according to 2015 population projection based on the 2007 Census is 2,256,074 people and there are 451,215 households. For this study, the sampling frame (population) is the list of all households in the three zones and the sampling unit in the household survey is the household, while the unit of observation is the household head. Households in this study are defined as a group of people (normally family members) living under the same roof and sharing resources and a household head refers to the presence of a husband in the household or not.

To draw a representative sample from the target population, first, 9 rural woredas and 3 town administration are chosen proportionally considering each zones and rural-urban composition based on the number of households purposively. In the second stage, the Kebeles in each woredas are listed based on number of households and 24 sample Kebeles are selected purposively taking into account the number of households in each Kebele still considering rural and urban areas.

In the third stage, all household in each Kebele are stratified into male headed and female headed households to take representative samples from each group. Then a simple random sampling technique is applied to draw sample households from each stratum proportionally. The sample size for this study is determined based on Slovin sample determination formula.

Slovin Formula:

$$n = \frac{N}{1 + NE^2}$$

where n = sample size, N = the size of the population, and e = the margin of error (5%).

$$n = \frac{451,215}{1 + (451,215)(0.05)^2} = 399 \text{ sample households}$$

The survey data is collected using a face to face questionnaire from the sample household heads.

Methods of data analysis

The household data is analyzed based on empirical data analysis and simple statistical techniques using STATA 13 software package from 395 sample households (four questionnaires are rejected). To check whether there is a significant difference between female headed and male headed households in terms of different economic factors and demographic characteristics, mean difference on some basic variables are used.

In addition, to measure the incidence, depth and severity of poverty in the study area, the most widely used poverty indices such as head count index, poverty gap index and squared poverty gap indices are calculated. The headcount index which is the share of the population whose income or consumption is below the poverty line measures the incidence of poverty. The poverty gap index provides information regarding how far households are from the poverty line which measures depth of poverty in both male and female headed households. The squared poverty gap which takes into account not only the distance separating the poor from the poverty line (the poverty gap), but also the inequality among the poor measures how poverty severity is severe in the study area. In order to show gender difference in poverty empirically and to determine the demographic characteristics of the respondents on poverty, binary logistic regression model is developed as follows.

Binary logistic regression model

To show whether female headed households or male headed households are more exposed for poverty and to measure the effect of different characteristics of the household on being poor, a logistic regression model is developed. In this study, the dependent variable is poverty status which is represented by per adult equivalent consumption expenditure of the household that takes two values: 1 if the household is poor and 0 for non-poor. When the dependent variable is qualitative in nature and takes two values, the appropriate econometric model would be binary response econometric models. In this regard, the linear probability model, probit model and logit models are the possible alternatives.

For this study, researchers are more interested on the logistic distribution function (binary logit model) since it represents a close approximation to the cumulative normal distribution and relatively simple from mathematical point of view and lends itself to a meaningful interpretation.

The stimulus index, Z_i is also referred to as the log of the odds ratio in favor of poor household. Taking log of both sides of Equation 3, we get the log odds ratio as:

$$\ln\left(\frac{pi}{1-pi}\right) = \ln(e^{\beta_0 + \sum_{i=1}^n \beta_i X_i}) = Z_i$$

If the disturbance term ε_i is taken into account, the model becomes:

$$Z_i = \beta_0 + \sum_{i=1}^n \beta_i X_i + \varepsilon_i$$

where Z_i stands for poverty status (the log odd ratio of the probability of a household is being poor) and X_i stands for the explanatory variables assumed to influence the household's probability of being poor or not. The choice of these independent variables is largely guided by the empirical literatures on the determinants of poverty which includes the different economic variables and demographic characteristics of the household. Therefore, Equation 5 can be rewritten as:

$$Z_i = \beta_0 + \beta_1 \text{Sex} + \beta_2 \text{Age} + \beta_3 \text{Family} + \beta_4 \text{Residence} + \beta_5 \text{Dependency ratio} + \beta_6 \text{Femalerratio} + \beta_7 \text{Credit} + \beta_8 \text{Education} + \beta_9 \text{Occupation} + \beta_{10} \text{land size} + \varepsilon_i$$

After data is checked with heteroscedasticity, autocorrelation and multicollinearity tests, the parameters are estimated using maximum likelihood estimation procedure.

Definition of variables

Dependent variable

Poverty status: Poverty can be measured in different ways. On one hand, there are objective indicators such as income level, possession of assets, or total consumption expenditure. On the other hand, there are indicators that are harder to measure such as social status, self-esteem or freedom. Many researchers used consumption as a good indicator of poverty. Dreze and Srinivasan (1997), Meenakshi and Ray (2002), and Gangopadhyay and Wadhwa (2003) used the Indian official poverty measure, which is based on people's consumption expenditure, to verify whether female-headed households are poorer than male-headed counterparts.

So, in the aforementioned logistic regression model, poverty status of the household is used as a dependent variable. Thus, sample households are classified as poor and non-poor based on per adult equivalent consumption expenditure. To derive per adult equivalent consumption for a household, the total consumption expenditure is divided by the number of individuals in the household

considering age difference. The poor are those households whose yearly per adult equivalent consumption expenditure is below the total poverty line in Ethiopia which is 7184 birr per year per adult person (National Planning Commission, 2017).

Independent variables

Sex: it is a dummy variable which refers sex of the household head that takes the value 1 if the household is female, 0 otherwise.

Age: age of the head of the household in year.

Family: refers to family size in the household.

Residence: a dummy variable which refers the area in which the HH lives (1 if the HH is living in Rural, 0 if Urban area).

Dependency ratio: refers to the ratio of the number of dependents (age below 15 and above 65) to the active labour force age (between 15 and 65 including).

Female ratio: refers to the ratio of the number of female to the total family size.

Credit: is a dummy variable that takes 1 if the household has access to credit, 0 otherwise.

Education: a dummy variable which takes an artificial value of 1 if the household head is educated, 0 otherwise.

Occupation: refers to the main income source (dominant livelihood strategy) of the household (1 if salary, 2 trade, 3 if agriculture).

Land size: size of agricultural land in hectare.

β_0 : the intercept.

β_1 to β_{10} : are the partial slope coefficients.

ε_i : the error term.

RESULTS AND DISCUSSION

Demographic and Economic characteristics of sampled households

Sex and marital status of respondents

Sample respondents were composed of both male and female household heads. It was found that among the total sample respondents, 140 (35.44) was FHHs and the remaining 255 (64.56) was MHHs. With regard to marital status, 3.32, 64.56, 16.45 and 15.65% were never married, married, divorced and widowed, respectively (Table 1).

Family size and dependency ratio

The average family size of FHHs and MHHs are 5.13 and 5.83 with standard deviations of 2.75 and 2.66, respectively and mean difference of 0.1928 which is significant at 5% level. This depicts that MHHs have large family size relative to FHHs. On the other hand, there is significant variation in the dependency ratio (number of household members older than 65 and younger than 15 divided by the number of members between the age of 15 and 65) of female and male-headed households. The mean dependency ration of FHHs and MHHs are 0.348 and 0.305, respectively which is significant at 5% level of significance. This indicates that FHHs has large dependency ratio on average relative to the male counterparts which may have its own impact on the poverty

Table 1. Sex and marital Status of sample households

Sex of household	Number	Percent
Female Headed	140	35.44
Male Headed	255	64.56
Marital status		
Never married	13	3.32
Married	255	64.56
Divorced	65	16.45
Widowed	62	15.65
Total	395	100

Source: Own Survey (2018).

Table 2. Family size and dependency ratio

Parameter	FHHs	MHHs	Combined	Mean difference	t-test at 5%
Mean family size	5.13	5.83	5.3316	0.1928	0.0306**
Mean dependency ratio	0.348	0.305	0.3329	0.3329	0.0466**

FHHs: Female headed households; MHHs: male headed households.

Source: Own Survey (2018).

Table 3. Education level of sample households (Two-sample t test with equal variances).

Sex of household	Obs.	Mean	Std.Err	Std. Dev.	[95% Conf. Interval]
Male headed	255	2.666667	0.1087969	1.737346	2.452408, 2.880925
Female headed	140	2.028571	0.129408	1.531177	1.772709, 2.284434
Combined	395	2.440506	0.085186	1.693037	2.27303, 2.607982
Diff.	-	0.6380952	0.1753837	-	.2932876, 0.9829029

Source: Own Survey (2018).

status (Table 2).

Educational level of respondents

Education is main determinant of poverty status of households in poverty literatures. The study shows that FHHs have less years of education on average relative to MHHs. The two-sample t test shows that the mean years of schooling for FHHs is 2.02 and the male counterpart is 2.66 with mean difference of 0.63 which is significant at 5% level of significance. Thus, it is possible to conclude that there is a significant difference between female headed and male headed households educational status (Table 3).

Owned cultivated land and credit access

The owned cultivated land size of sample respondents varied from 0 to 8.5 ha with an average holding of 1.3567

ha. The average land size for FHH is 1.2651 and that of MHH is 1.4069. The two sample t-test result shows that there is statistically significant difference between FHH and MHH in land holdings. On average FHHs have small land holdings relative to MHHs. In addition, FHHs have lower access to credit relative to MHH even though the mean difference is statistically insignificant at 5% level (Table 4).

Consumption expenditure of household head by sex

The most widely applied measure of consumption expenditure is per capita consumption which assumes that the total annual consumption expenditure is divided by the total family size in that household. The basic assumption in this calculation is that the amount of consumption expenditure is equal for each member of a household irrespective of age and sex which implies an increase in the number of members is associated with a proportionate increase in consumption expenditure.

Table 4. Average land size and credit access.

Parameter	FHHs	MHHs	Combined	Difference	t-test at 5%
Average Land size	1.2651	1.4069	1.3567	0.1417	0.0123**
Credit access	0.1071	0.1764	0.1518	0.0693	0.0666***

FHHs: Female headed households; MHHs: male headed households.
Source: Own Survey (2018).

Table 5. Two-sample t test of consumption expenditure by sex.

Item	FHHs	MHHs	Combined	Mean difference	t-test at 5%
Mean per capita consumption	5779.78	12867.62	10247.81	1497.802	0.0000***
Mean per adult equivalent consumption	6257.05	12995.25	10342.25	1326.555	0.0201**

FHHs: Female headed households; MHHs: male headed households.
Source: Own Survey (2018).

But assigning equal weight to all household members ignores age and sex differences in a household. Thus, commonly adjustments are made by applying an equivalence scale even though there is no agreement on the choice of appropriate equivalence scales and decisions are often made arbitrarily (Aassve et al., 2012). In this study, a scale was used computed by Dercon and Krishnan (1998) in their study on Ethiopia by considering age. They assigned a weight of 0.49 for children of age 0 to 4.99 years, 0.84 for children of age 5 to 14.99 years and 1.0 for children of age 15 years or older.

Thus, per capita consumption expenditure (PCE) is simply total consumption expenditure (E) of the household divided by the number of families (N) in that household. The per adult equivalent consumption expenditure (PACE) can be easily computed as:

$$PACE = \frac{E}{A + \alpha C}$$

where E = total consumption expenditure of the household, A = number of adults with age of 15 and above, C = number of children below age of 15, and α = the weight of the children relative to an adult (0.49 for age of below 5 and 0.84 for age between 5 and 14.99).

As shown in Table 5, the average per capita total consumption expenditure and per adult equivalent consumption expenditure for FHHs are 5779.78 and 6257.05 birr, respectively whereas 12867.62 and 10342.25 birr for MHHs.

This indicates that FHHs expenditure is relatively lower than the male counterpart which is significant at 5% level. Thus, this data reveals that FHHs are relatively poorer than MHHs.

Extent of poverty by sex in the study area

The extent of poverty in the study area is measured using

different poverty indices. The most widely used poverty indices are the percentage of the poor (headcount index), the aggregate poverty gap (poverty gap index) which measures the depth of poverty, and the aggregate squared poverty gap (Squared poverty gap index) which measures the distribution of income (sensitivity of poverty) among the poor.

These poverty measures can be defined in terms of the well-known (Foster et al., 1984; Mentioned in MoFED, 2013) P_α class of poverty measures as:

$$P_\alpha = \frac{1}{N} \sum_{i=1}^q \left(\frac{Z - Y_i}{Z} \right)^\alpha$$

where P_α = the measure of poverty index, Z = poverty line, Y_i = per adult equivalent consumption expenditure, N = population size, q = the number of poor households, and α = poverty aversion parameter.

The commonly used values of α are 0, 1, and 2. Here, the parameter α reflects the policymaker's degree of aversion to inequality among the poor. If $\alpha = 0$, there is no concern about the depth of poverty and the corresponding poverty index is called the headcount index (P_0). Hence, P_0 corresponds to the fraction of individuals falling below the poverty line. If $\alpha = 1$, the poverty index is called the *poverty gap index* (P_1) and it measures the aggregate poverty deficit of the poor relative to the poverty line. Poverty gap index can also be interpreted as an indicator of potentials for eliminating poverty by targeting transfers to the poor. Squared poverty gap index (P_2) measures the squared proportional shortfalls from the poverty line, which is commonly known as an index of the severity of poverty. Based on the household survey data, the three indices are calculated as shown in Table 6.

The result shows that head count poverty index (the share of sample households whose consumption expenditure per adult equivalent is below the poverty line which is 7,184 birr) is higher for female-headed

Table 6. Poverty indices.

Poverty Indices	Poverty indices by Sex		Total poverty indices
	Female headed HH	Male headed HH	
Head count index ($\alpha = 0$)	0.2901266	0.218734	0.268861
Poverty gap index ($\alpha = 1$)	0.0875935	0.012085	0.099688
Squared Poverty gap index ($\alpha = 2$)	0.0481853	0.023860	0.050571

Source: Own Survey (2018).

households than for male-headed households in the study area. The head count index of 0.2901 indicates that on average 29.01% of FHHs in the study area are living below total poverty line which implies that this much percentage of sampled FHHs are unable to meet the required minimum amount of expenditure to satisfy the minimum calorie requirement per adult equivalent per year.

The poverty incidence is by far higher compared to the MHHs incidence of poverty (21.87%). One would expect that female-headed households would have higher poverty incidence in the study area. This might be because women who tend to have completed less schooling, may have lower levels of physical capital, small land size and low credit access.

The depth of poverty (poverty gap index), a measure that captures the mean aggregate consumption shortfall relative to the poverty line is found to be 0.0875 for FHHs and 0.0120 for MHHs which means that the percentage of total consumption needed to bring the entire population to the poverty line is 8.75 and 1.2%, respectively for FHHs and MHHs.

Moreover, the squared poverty index, a measure that captures the relative deprivation among the poor households (the severity of poverty) shows there is severe inequality in poor FHHs relative to the MHHs. In this regard, 4.81 and 2.38% of relative deprivation is identified in the study areas in terms of FHHs and MHHs, respectively which implies poverty is sever in FHHs than MHHs.

The national data in Ethiopia in terms of head count index, poverty gap index and squared poverty gap index are 0.235, 0.067 and 0.028, respectively in 2015/2016, (National Planning Commission, 2017). Thus, compared to the national data, the absolute poverty situation of FHHs in this study even after two years from the national survey is higher even though the level of poverty for MHHs is lower than the national one.

Determinants of household poverty

To check whether female headed households or male headed households are more exposed for poverty and to measure the effect of different characteristics of the household on being poor, a binary logistic regression

model was estimated using maximum likelihood estimation technique. Before running a logistic regression analysis on both continuous and discrete variables, the data were checked for heteroscedasticity, autocorrelation and multicollinearity problems. The result shows that the data is free from the aforementioned problems.

In this logistic regression analysis, the dependent variable is poverty status of the household which takes a value of 1 if that household is poor and 0 if non-poor. There are different methods of setting a poverty line in literatures that uses caloric requirements. This study uses the total poverty line of Ethiopia which is calculated in 2015/2016 which is based on the cost of basic needs method where consumption is used as the metric to measure poverty line. According to this report, the total poverty line per person per year is 7,184 birr, (National Planning Commission, 2017). So, the dependent variable takes 1 (poor) if per adult equivalent consumption expenditure of the family is below this line and 0 (non-poor) otherwise.

The dependent variable is treated against potential explanatory variables that assumed to affect poverty status of the household like sex, family size, age, education, dependency ratio, female ratio in the family, occupation, credit access and land size. The odd ratio and marginal effects of the model are estimated for 395 sample households (four questionnaires were rejected) using iterative maximum likelihood estimation procedure and the odd ratio result is shown in Table 7.

The likelihood ratio chi-square of the model which is 210.888 with p-value 0.0000 shows that our model as a whole fits significantly. The maximum likelihood estimates of the logistic regression model shows that sex, family size, residence, dependency ratio, occupation, credit access and land size are significant at 1% level of significance, whereas employment occupation is statistically significant at 5% level of significance. Family ratio is statistically significant at 10% level of significance. The remaining two explanatory variables (age and education level) are less powerful in explaining the poverty status of the household head.

The logit result shows that compared to male headed households, female headed families are more exposed for poverty which supports the descriptive analysis. The odds ratio for sex (12.98) which is significant at 1% suggests that the odd ratio of being poor of female

Table 7. Binary logistic regression result.

Poverty status	Odds ratio	Std. Err.	z	P> z	[95% Conf. Interval]	Marginal effects (dy/dx)
Sex	12.91493	4.579637	7.21	0.000***	6.445487, 25.87786	0.0855575
Age	0.9981712	0.0145503	-0.13	0.900	-.9700566, 1.027101	-0.0002043
Family size	1.39913	0.1331259	3.53	0.000***	1.161093, 1.685967	0.0374864
Residence	16.23398	41.68433	5.44	0.000***	13.15322, 240.4171	0.1497605
Dependency r	11.05142	15.68744	4.09	0.000***	4.886178, 90.69716	0.1400915
Famel ratio	0.5454248	0.4596882	-0.72	0.072*	-0.1045528, 2.84534	-0.0676608
Education	0.175206	0.1505501	1.26	0.208	-0.9142615, 1.510627	-0.0180197
d _{emp}	0.045897	2.181546	2.59	0.010**	1.406201, 11.64079	-0.1560066
d _{buss}	0.959778	1.98732	2.74	0.006***	1.480719, 10.58934	-0.1536051
Credit access	0.0821429	0.0525394	-3.91	0.000***	0.0234495, 0.2877444	-0.0789622
Landsize	0.4924016	0.0851886	-4.09	0.000***	0.3507973, 0.6911665	-0.0790758

***, **and * represent level of significant at 1, 5 and 10% respectively.

Source: Computed from Household Survey Data (2018).

headed households is greater than the male counterpart by 12.98. The marginal effect of sex coefficient shows that when a household moves from male headed to female headed, the probability of being poor is increased by about 8.5% keeping other factors constant.

The regression result is in line with many empirical research outputs. Raja (2009) found that women were poorer than men in trouble of the global economic crisis. A study by Woolard (2002) found that female headed households had an increased probability of being poor (male headed households had a 28% probability of being poor, female headed households had 48%). Jayamohan and Amenu (2014) in their study on gender and poverty results in some major towns such as Bahir Dar, Jimma, Adama, Hawassa and Addis Ababa, the headcount poverty index is higher for FHHs as compared to MHHs. In addition, the income shortfall below the poverty line and severity of poverty are higher for FHHs as compared to MHHs and the difference is significant.

The effect of age on poverty is insignificant at 5% level which implies that there is no significant age difference in poverty in the study area. Actually, in many empirical studies the impact is ambiguous. A study by Baulch and McCulloch (1998) in Pakistan reported that the age of the head of the household made no significant impact on poverty status. The coefficient of residence shows that there is a significant poverty difference between rural and urban areas. In the study area, rural households are 14.97% more exposed for poverty than urban households. The result is almost in line with 2015/2016 Ethiopian poverty index report which is 25.6% in rural area and 14.8% in urban area (National Planning Commission, 2017).

Family size of the household has a positive correlation with poverty status of that household. The positive relationship between household size and poverty indicates that an average household with small household size is better in terms of poverty than a larger household size. The odd ratio 1.39 which is statistically

significant at 1% indicates that large families have high likelihood of being poor relative to small families. The marginal effect coefficient shows that when family size increases by one, the probability of being poor is increased by 3.7% holding other variables in the model constant.

Dependency ratio has a positive effect on the probability of being poor. Households with higher dependency ratio have a higher probability of being poor. The marginal coefficient shows that when the number of dependent family (family member whose age are below 15 and above 65 divided by age between 15 and 65) increased by one the probability of being poor increased by 14.97%. The regression result also shows that female ratio (ratio of female to the whole family member) in the family has a negative correlation with poverty status even though the coefficient is insignificant at 5% level of significance.

In the study area, households engaged in business and employment activities are less exposed for poverty relative to those who engaged in agriculture activities. The odd ratio of being poor of a HH engaged in employment and business activities are smaller by 0.045 and 0.959, respectively than HHs engaged in agriculture activities. This is a clearly indication that wage income and business activities are key in welfare improvement for households.

Credit access and land size have a negative effect on poverty. The regression result shows that a household with credit access has less probability of being poor by 7.8%. Similarly, a 1 ha increase in land size results in 7.9% decrease in the probability of being poor keeping other factors holding constant.

The coefficient of education is negative even though statistically insignificant even at 10% level of significance. So, the result implies that education does not have a significant impact on poverty status of the household. This might be because of either many livelihood systems in the study area are traditional and does not need education qualification. Another justification could be due

to the fact that in the study area, both the poor and non-poor household heads exhibited high level of illiteracy and households' educational status are almost similar for both groups. The result is against many empirical studies. According to a study by Jayamohan and Amenu (2014) on urban Ethiopia, the level of the headcount index decreases for both MHHs and FHHs as the educational level of the head increases to a higher level.

Conclusion

Poverty is the failure to achieve basic capabilities such as being adequately nourished, living a healthy life, possession of skills to participate in economic and social life, permission to take part in community activities to mention a few. This implies that poverty is a consequence of the interaction of economic, social and political processes and reinforces each other. This conceptualization forms the basis for the belief that poverty is multi-dimensional. Poverty is a general feature in Ethiopia causing many sufferings and apparent to the largest proportion of the population. It is now widely recognized that the diversity of household and family forms and the complexity of intra-household dynamics need to be taken into contemplation in analyzing the poverty situation and designing poverty reduction strategies.

While gender inequality is not the only, or even the most marked form of inequality in a society, it is the most pervasive. It is a feature of social relations in all societies, although it manifests itself variously in different places. As a result, understanding the causes and consequences of gender inequality, and the power relations that it generates should be of the concern to all societies in the world, rich as well as poor. The present study has, therefore tried to consider gender differences in poverty on the basis of economic factors in Bench Maji, Kaffa and Shaka zones. Moreover, this study digs out some of the key instrumental causes of poverty on FHHs in a way making comparisons with their male counterparts. Simple statistical techniques, as well as poverty measurement using poverty indices and binary logit model has been employed for the analysis of the data.

Different demographic characteristics of the sampled households revealed that FHHs have lower average household size but have large dependency ratio on average relative to the male counter parts which may have its own impact the poverty status. Moreover, in terms of education level, compared to MHHs, it is further seen that the majority of FHHs are illiterate and there is a significant difference between female headed and male headed households educational status.

On average FHHs have small land holdings relative to MHHs. Furthermore, FHHs have lower access to credit relative to MHH even though the mean difference is statistically insignificant. In the study area, large portion of FHHs are engaged in business and employment

activities next to agriculture. This accompanied with less average land size holding and less the mean per capita expenditure made the female household heads more vulnerable to income poverty.

On the other hand, poverty indices based on the per adult equivalent consumption expenditure (PACE) revealed that in terms of head count poverty index, FHHs in the study area are below the total poverty line. The measures of the depth of poverty (poverty gap index) also show that there is a wide-ranging between the percentage of total consumption needed to bring the entire population and the poverty line compared to their male counter parts. Further, the relative deprivation among the poor households (the squared poverty index) shows there is severe inequality in poor FHHs relative to the MHHs. Hence, all the poverty indices revealed that FHHs are poorer than MHHs.

Then again, a number of specific conclusions can be drawn from the binary logistic models. The regression results of the model indicate that the variable specifying the gender of the household head has significant influence to affect the poverty status of the households, implying that households headed by females are necessarily poorer than their male counterparts. Family size is also an important determinant of poverty. In other words, households with larger number of children (below the age of 14) and elderly people (age of 65 and above) are more likely to fall into poverty, whereas more number of adults (people in the working age group) would have the reverse effect. One can also infer that households engaged in business and employment activities are less exposed for poverty relative to those who engaged in agriculture activities. Furthermore, credit access and land size have significant and a negative effect on poverty.

RECOMMENDATION

Poverty reduction has been an important element of development objectives and therefore always among the highest priorities of the government of Ethiopia. This study is also conceding with the current priorities of the regional government and non-governmental organizations development effort. Hence, based on the aforementioned empirical findings, the following recommendations are forwarded.

(1) The study result implies that FHHs are poorer than MHHs. Therefore, there is strong evidence to suggest that poverty alleviation programs should use FHHs as proxy variables for targeting the poor. Policies targeted to reduce poverty should give particular attention for FHHs. This would be realized by an integrated effort among concerned bodies including government, NGOs as well as concerned civil societies.

(2) Efforts in areas such as insuring female's property right, specifically land and other assets should be

encouraged and extended so that women would be economically empowered and would subsequently have more saying in family decisions like fixing the desired family size.

(3) The study shows that households with large family size and large dependency ratio were poor. This calls for improving family planning and strengthening of health extension package in the study area. In addition, improving FHHs health, productivity, and labour force participation could also help to reduce dependency ratio and in return poverty.

(4) The other key message of the analysis is that since area of residence of sampled respondents is extremely significant in explaining the likelihood of being poor, government and nongovernment organizations should follow context specific development strategies.

(5) Since microfinance institutions has an inverse and significant effect on the status of poverty, the local government and development partners to be more proactive and make conscious efforts to use microfinance as an effective instrument to reduce vulnerabilities to poverty. This result provides clear insight on importance of rural and urban credit service for poverty reduction. Thus, credit schemes should be diversified to address vulnerable community groups.

(6) The study reveals that occupation type (livelihood means) are powerful determinants of poverty. Households who engaged in employment and business activities are less exposed for poverty relative to agriculture livelihood strategy. Therefore, livelihood diversification such as petty trade, handicrafts and the likes are used to diversify the sources of income and increase household consumption availability.

(7) The educational attainment of FHHs is less than the male counterparts even though it has no significant impact on household poverty status. Since literacy level of household heads is a significant determinant to fall under poverty theoretically, designing appropriate strategies to improve literacy status of households could have multiple effects to improve living standard and reduce poverty status in the study area.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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