

Extent and Determinants of Rural Poverty in Ethiopia: A Review

Berhanu Soboka^{1*} and Guta Regassa²

1. Oromia Agricultural Research Institute, Bako Agricultural Research Center; POBOX 03; Bako, Ethiopia
2. Jimma University, College of Agriculture and Veterinary Medicine, Department of Agricultural Extension and Rural Development, Jimma, Ethiopia
Corresponding Author*: bfiraol8@gmail.com

Abstract

This review work was conducted with the objectives of reviewing recent findings on status and determinants of rural poverty in Ethiopia. Accordingly, recent research articles dealing with both extent and determinants of poverty in many rural areas of the country were reviewed. The descriptive part of the review reveals that poverty head count (p_0) ranged from 27.71% to 68.5%, poverty gap index (p_1) ranged from 7.77% to 27.9% and poverty gap index squared that indicates severity of poverty ranged from 0.042 % to 32.8%. The econometric models based analyses of the reviewed articles reveal that large family size, female headship, high dependency ratio, method of planting (broadcasting), incidences of shocks and increase in input prices had significant positive correlation with the probability of falling in to poverty. On the contrary, literacy of the household head, access to extension services, asset ownership, participation in irrigation, participation in non-farm activities, use of improved seeds, farmer training, livestock ownership (TLU), assets owned, access to credit, access to off-farm/non-farm income, vicinity to the nearest market, employment in formal sector, access to modern inputs, membership in social institutions, engagement of households in petty trading, number of oxen owned and remittance showed significant negative correlation with poverty. Improving literacy status and asset ownership of household, addressing productivity related bottle necks through the use of improved agricultural technologies as well as promoting rural non-farm businesses are the important policy instruments to opt for.

Keywords: Descriptive Analysis, Determinants; Econometric Analysis, Extent, Rural poverty

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INTRODUCTION

Poverty has existed for a very long time, and to different extent, it remains to be a worldwide social evil still now in the 21st century (FAO, 2012). More than two thirds of the 1.4 billion people who live in extreme poverty reside in rural areas of the developing countries (IFAD, 2011). Poverty is a multidimensional and dynamic phenomenon having multiple causes that exhibit economic, social and political characteristics; and hence poverty reduction policies require multi-dimensional approaches and strategies. Poverty reduction policies have become one of the priority policy targets of governments in developing countries and the pillar of external financial assistance from donor countries. The challenges to reduce poverty are formidable in developing countries where poverty is deep and widespread, income is extremely low, growth rate is weak, and income distribution is uneven. These features of the production and distribution of output create systemic tendency for the poverty elasticity of income to be weak, making the growth induced poverty reduction less effective (Besley and Burgess, 2003; Burginon, 2003).

In most of developing countries larger population are living in rural than urban: some 3.1 billion people, or 55 per cent of the total population live in rural areas; out of this about 1.4 billion people live on less than US\$1.25 a day, and close to 1 billion people suffer from hunger. In most of the developing countries, the numbers of people who are poor and hungry are increasing. About 70 per cent of the world's very poor people (around one billion) are rural, and a large proportion of the poor and hungry amongst them are children and youth. Despite massive progress in reducing poverty in developing countries the rural people are suffering from poverty resulted from lack of assets, limited economic opportunities, poor education and capabilities (IFAD, 2011).

Poverty in Ethiopia is a longstanding problem affecting a significant proportion of its rural and urban population. Survey results of HICES indicated that the proportion of population below poverty line in Ethiopia stood at 30.4% in rural areas and 25.7% in urban areas in the 2010 fiscal year (MoFED, 2012). It is highly correlated with the size and composition of households, the educational level of household head, the degree/extent of dependency within the household, asset ownership (particularly ownership of oxen in rural areas), occupation of household heads, rapid population growth, major health problems, lack of infrastructure and extreme environmental degradation (MoFED, 2002:17). Thus identifying what characteristics are correlated with rural poverty can yield critical insights for policy makers.

Recent surveys, however, document Ethiopia's considerable progress in a number of dimensions. For example, from 2005 to 2013 the number of health posts increased by 159 percent from 6,191 to 16,048.

Similarly, from 2006 to 2013 the number of health centers increased by over 386 percent from 668 to 3,245 (FMOH, 2013). Other reports also show that immunization coverage increased from 14 percent in 2000 to 24 percent in 2011; modern contraceptive use increased from 6 percent to 27 percent, and the percentage of women aged 15-49 years who received antenatal services increased from 27 percent to 34 percent (FMOH, 2011). Infant mortality declined from 97 deaths per 1,000 in 2000 to 59 deaths per 1,000 in 2010, and under-five mortality decreased from 166 deaths to 88 deaths per 1,000. There have also been encouraging results from the education side. For example, in 2005 the primary net attendance rate for 7-12 year old children was 42.3 percent. In 2011, this increased by about 20 percentage points to 62.2 percent (EDHS, 2005 & 2011; Carranza and Gallegos, 2013).

Despite the apparent progress on many aspects of wellbeing, progress has not been observed to the same degree in the multi-dimensional poverty index (MPI). The recent Oxford Poverty and Human Development Initiative, global MPI report shows that in 2011, 87 percent of the population was MPI poor, i.e. deprived of at least one-third of the weighted MPI indicators (OPHI, 2014). This sets Ethiopia as the second poorest country in the world. Other studies that explored the multidimensional aspect of poverty in the country find that the reduction in poverty measured by the MPI declined by only about 10 percent compared to the 33 percent decrease in monetary poverty during the same period (Carranza and Gallegos, 2013). Overall, with over 85 percent of the population deprived, the index suggests the country's poverty is deep-rooted and complex. In spite of the availability of copious number of literatures on the determinants of rural poverty in the Ethiopia, there is dearth of reviewed and consolidated work in the country. This review work, thus, was undertaken with the objective of reviewing scientific articles published on extent and determinants of rural poverty in Ethiopia.

The Concept and Definition of Poverty

The word "poverty" and / or "poor" originated from the Latin word *pauper* meaning poor, which has its roots in the words *pau-* and *pario* that is "giving birth to nothing"; referring to unproductive livestock and farmland (Westover, 2008). Historically, the idea that some people are trapped in poverty while others have spells in poverty was a central element of most analysis (Hulme and Mckay, 2005). For example, officials and social commentators in eighteenth century France distinguished between the *pauvre* and the *indigent*. The former experienced seasonal poverty when crops failed or demand for casual agricultural labour was low. The latter were permanently poor because of ill health (physical and mental), accident, age or alcoholism. The central aim of policy was to support the *pauvre* ways that would stop them from becoming *indigent* (Hulme and Mckay, 2005). There are many definitions of poverty, according to how it is viewed. Encyclopedia Encarta defines poverty as the condition of having insufficient resources or income. In its most extreme form, poverty is a lack of basic human needs to sustain as useful and working efficiency such as adequate and nutritious food, clothing, housing, clean water and health services. According to the United Nations Human Development Report, (1998), poverty is defined as a complex phenomenon that generally refers to inadequacy of resources and deprivation of choices that would enable people to enjoy decent living conditions. Yunus (1994) on the other hand defines it as the denial of human rights relating to the fulfillment of basic human needs.

Poverty is hunger. Poverty is lack of shelter. Poverty is being sick and not being able to see a doctor (World Bank, 2005). Poverty is losing a child to illness brought about by unclean water. Poverty is powerlessness, lack of representation and freedom (World Bank, 2005). According to the Ghana Poverty Reduction Strategy (GPRS, 2004), poverty is now recognized as multi-dimensional with complex interactive and causal relationship between the dimensions.

According to SIDA (2005), the poor often lack access to finance and income-earning opportunities. The subject of poverty has been a major issue on both national and international scale discussions, predominantly among the developing countries (Balogun, 1999). According to Balogun (1999), poverty could be described as a condition where a society barely survives on a level of subsistence, coupled with limited access to the necessities of physiological factors such as clothing, food, and appropriate accommodation, in view of maintaining a basic standard of living. In the view of the World Bank and The World Development Report (WDR), observations made suggest that conditions could be expressed as poor if people live on a per capita income lower than US \$370 at any given time (WDR, 1999) or as being extremely poor by living on less than US\$ 1 per day, and moderately poor by living on less than US\$2 daily (World Bank, 2007). In attempting to summarize the definition of poverty, Englama and Bamidele (1997) asserted that poverty in both relative and absolute terms refers to a circumstance where a person is not able to fend or provide sufficiently for his or her necessities or fundamental human requirements such as clothing and decent accommodation, food, the fulfillment of social and economic responsibilities, non-access to productive employment, lack of skills, resources and confidence; and has restricted admission to economic and social infrastructure. These include access to health, education, potable water, sanitation, and roads. These preclude the person from advancing in welfare which is limited by the scarce availability of economic and social infrastructure. They

concluded by terming this situation as being subject to a “lack of capabilities” (Englama and Bamidele, 1997).

Fallavier (1998) defines poverty as a structure of segregation from society and groups devoid of acceptance within a productive setup. In his view, poverty denies one the access and right to be part of society in a productive manner. He further reinforces this notion by drawing a link between the poor and the profusion of HIV/ AIDS as compared to the rich in society. He stated that, the poor are not only in a position with limited access to good food, but also without the capabilities to grow subsistently their own food, which threatens their security. Deducing from Fallavier’s (1998) notion, the economic and financial implication of poverty is that, it precludes individuals to move from subsistence to commercial productivity, which also affects business development. Another definition of poverty stresses economic opportunity. This concept is the most difficult to measure empirically, but it is typically the most central in theory and public policy debates. One might define the poor as those whose economic opportunities are severely limited by parental wealth, race, religion or other traits (Solon, 1999). Poverty is also defined by ADB Institute (2003) as an income (or more broadly welfare) level below a socially acceptable minimum. The definition also widens to include precariousness, vulnerable and insecurity (especially that of employment) and exclusion from social life. In summarizing these definitions, one thing that is seen to be in common is the ability or inability of individuals to gain decent access to basic amenities and necessities. Poverty is measured in different ways including the following tools.

Poverty Head Count Index (P_0)

The head count index measures the proportion of the population falling below the poverty line. This ratio, according to Kimalu et al. (2002), however, has some shortcomings. First, it does not show how far below the poverty line the poor are; that is, it ignores the inequality among the poor. Second, it forces the overall poverty index to remain constant even when the welfare of the poor has improved or worsened. Third, with this index, an income transfer from an extremely poor person to a person just below the poverty line (enabling them to cross the line) would show a reduction in poverty despite the decline in the income of the extremely poor.

The Poverty Gap Index (P_1)

The Poverty Gap Index is an index that measures the extent to which the incomes of the poor lie below the poverty line. It measures the intensity of poverty by averaging the distance between the expenditure of the poor persons and the poverty line. According to Kimalu et al., (2002), since the index measures the shortfall of the average income of the poor relative to the poverty line, it can be used to estimate the resources that would bring the expenditure of every poor person up to the poverty line thereby eliminating absolute poverty. Although superior to P_0 , P_1 still implies uniform concern about the depth of poverty, in that it weights the various income gaps of the poor equally (Aigbokhan, 2000). The major weakness of the poverty gap index is therefore that it does not differentiate the degree of inequality among the poor when it is used to assess welfare (Kimalu et al., 2002).

Poverty Severity Index (P_2)

Poverty severity index (P_2) is an index that shows the severity of poverty by squaring the gap between the expenditure of the poor individual and the poverty line. Because the index gives more weight to the poverty of the poorest, it measures the degree of inequality among the poor implying that transferring income to the poorest from the better-off poor should lower the poverty index (MEDaC, 1999b). It increases more than proportionately with the poverty gap. The larger the poverty severity index as measured by P_2 , the greater the poverty gap, which indicates that poverty is severest among the very poor (Kimalu et al., 2002).

Descriptive Measures/ Extent of Poverty in Rural Ethiopia

To assess the extent of poverty in their studies, the researchers whose works were reviewed used descriptive measures; while using econometric model based analysis to identify determinants of poverty. The use of econometric analysis for identifying determinants of poverty was due to the fact that it is not possible to capture determinants of poverty using descriptive analysis. The descriptive analysis deals with incidence of poverty, poverty gap index and poverty gap index squared (a measure that captures the proportion of the poorest of the poor). The variables described in the descriptive analysis are used as explanatory variables in logit model using the household poverty as a dependent variable where by a value of 1 is given to households being poor and 0, otherwise. In a study conducted by Sudhakara and Nega (2015) to assess determinants of poverty in rural Tigray based on the calculated poverty line, the finding reveals that out of the total 191 sample households, 49 % were non poor (94 households) and 51% (97) were identified to be poor, implying 51% of the population are unable to get the minimum calorie required (2200 kcal per day per adult) adjusted for the requirement of non food items expenditure.

Similar study conducted by Maru (2013) on 200 households in 15 villages of Zeghe peninsula, Northern Ethiopia to assess magnitude and determinants of rural poverty, the FGT result for the magnitude of poverty in

these villages reveals that the incidence of poverty (poverty head count index) was 68.5% ; poverty gap index was 32.8% and poverty gap index squared was 18.7% . This implies 68.5% of the sampled households were poor, and the average consumption shortfall needed to bring the entire population up to the total poverty line was 32.8%. Severity of poverty (P_2) indicates that of the total of 200 households studied, 18.7% were poorest of the poor.

According to a study conducted by Degye (2013), to identify determinants of poverty in rural areas of the four major regions of Ethiopia (Oromia, Amhara, SNNP and Tigray), using samples 2495 households, the incidence of rural poverty was increased from 37.5% in 2004 to 52.9% in 2009, which is considerably higher than the 30.4% incidence of poverty estimated by the government in 2010/11(FDRE, 2012). However, the author revealed that the poverty gap index was reduced from 88.8% in 2004 to 39.2% in 2009, suggesting the presence of accelerated reduction of depth or intensity of poverty. Severity of poverty was also reduced from 3.6% in 2004 to 0.7% in 2009. The results generally point out that the depth and severity of poverty were reduced; supporting the results of previous studies by (Dercon, 2004; Naschold, 2005; FDRE, 2012).

The study conducted by Adugna and Sileshi (2013) in pastoral and agro- pastoral societies of Southern Ethiopia reveals that the overall poverty incidence, poverty gap index (depth of poverty) and poverty gap index squared(severity of poverty), were 50.8%, 27.9%, and 7.8%, respectively, but with a significant difference between pastoralists and agro- pastoralists. According to the study, the proportion of people with standard of living below poverty line was 58.2% and 44.3% for Hamer (pastoral) and Bena Tsemay (agro pastoral) respectively, indicating the prevalence of poverty in pastoral societies than the agro pastoral ones. Similarly, Poverty gap index and Poverty gap index squared were found to be 43.9% and 14.2 %, respectively for Hamer (pastoral) and Bena Tsemay (agro pastoral) areas. This indicates existence of difference in depth and severity of poverty between pastoral and agro-pastoral societies of the study area. Other study conducted by Zegeye (2017) in rural areas of Wolita using a cross-sectional household survey data collected from 235 samples reveals that 56.17 % of the samples studied were poor; with 15% and 5.9 represent Poverty gap and Poverty gap squared, respectively. Similar study conducted in Eastern Ethiopia by Beyan (2015) from 180 sample respondents revealed that, large proportion of the sampled households (42.78 %) was identified to be poor; whereas 11.87 % and 4.2%, representing poverty gap and poverty gap squared, respectively.

Table 1. Summary of Descriptive Analysis on the Status of Rural Poverty in Ethiopia

Researcher	Location	P.head count	Povert y gap index	Povert y gap ²
Sudhakara and, Nega (2013)	Rural Tigray	51%.	15%	5.9%
Maru (2013)	Zeghe peninsula, Ethiopia	68.5%	32.8%	18.7%
Adugna and Sileshi (2013)	Pastoralists & agro-pastoralists of southern Ethiopia	50.8%	27.9%	7.8%
Zegeye (2017)	Wolita	56.17 %	22.21 %	10.9 %
Beyan (2015)	Eastern Ethiopia	42.78 %	11.87 %	0.042
Nega (2015)	Tigray (Ethiopia)	51%.	15%	5.9%
Feleke & Motuma (2016)	Oromia, Ethiopia	64.8%	22.4%	0.05%
Teshome (2012)	Ethiopia(country wide)	27.71%	7.77%	3.16%

Source: reviewed articles ;
 P.head count= poverty head count

Econometric Analysis of Determinants of Poverty in Rural Ethiopia

The reviewer tried to summarize determinants of poverty under three major factors, demographic (sex, age, family size, education) socio economic (farm size, livestock ownership, annual income, off-farm income), and institutional factors (credit use, extension contact and market distance). This brief summary, however, was not done at the expense of further explanation as there were also other factors rarely cited in this review.

Demographic factors

Sex of the household head: This variable was included only few times in the articles reviewed in the current work. Despite the fact that it was an important socio economic variable influencing the incidence of poverty, many of the researchers did not include the variable in their studies. Of the researchers who used the variable in their study, Teshome (2012), Teshome and Sharma (2014) and Zegeye (2017) reported a positive relationship between sex of the household head (being female) and the probability of falling in to poverty, while Amsalu and Berhanu (2014), reported a negative relationship between sex of the household head and the probability of becoming poor. The reviewer is agrees with the former researchers because women in most of the situations

have less access to productive assets, agricultural information and are engaged in reproductive works that are non-remunerable than their men counterparts, hence remain poor.

There is a mixed report with regard to **age** of the household head. A negative relationship between poverty and age of the household head was reported by Teshome (2012), Amsalu and Berhanu (2014), while Fikadu and Paul (2015), Addisu and Sundara (2014), Feleke & Motuma (2016) reported a positive association between being poor and age of the household head. The reviewer supports the latter argument because as farmers get older they lack motivation and energy to get engaged in productive works that from which can generate attractive income. The relationship between **family size** and falling in to poverty was reported to be positive by many researchers whose work was reviewed. For instance, Teshome (2012); Sudhakara and Nega (2013); Adugna and Sileshi (2013); Degye (2013); Addisu and Sundara (2014); Alemi and Dereje (2014); Amsalu and Berhanu (2014); Teshome and Sharma (2014); Beyan (2015); Fikadu and Paul (2015); Muhdin (2015); Alemi and Dereje (2014); Muhdin (2015); Nega (2015) and Zegeye (2017) reported positive relationship.

Education: The researchers whose work was reviewed reported negative relationship between education of the household head and being poor (Teshome (2012), Sudhakara and Nega (2013), Degye (2013), Tassew and Adiam (2013); Alemi and Dereje (2014), Amsalu and Berhanu (2014), Teshome and Sharma (2014), Addisu and Sundara (2014), Fikadu and Paul (2015), Fikadu and Paul (2015), Nega (2015), Feleke & Motuma (2016)). The effect of **farm size** on poverty was negative (Sudhakara and Nega (2013), Amsalu *et al.* (2013); Muhdin (2015), and Nega (2015). The reviewer is in agreement with findings because having larger farm size is an important factor to grow different crops and rear livestock that generate income to escape poverty.

The relationship between involvement in **off-farm activities** and possibility of falling in to poverty (Amsalu *et al.* (2013); Nega (2015); Sudhakara and Nega (2013) and Zegeye (2017) was negative. It was also negative for **livestock ownership** (Degye (2013), Sudhakara and Nega (2013), Alemi and Dereje (2014); Fikadu and Paul (2015)), Muhdin (2015), Nega (2015). A socio economic factor, **total farm income** (Amsalu *et al.* (2013); Addisu & Sundara (2014); Amsalu and Berhanu (2014); and institutional factor, (Extension contact (Fikadu and Paul (2015), Feleke & Motuma (2016), were reported to have negative relationship with the probability of being poor. An institutional factor, market distance (Adugna and Sileshi (2013); Amsalu and Berhanu (2014) Zegeye (2017)) and a socioeconomic factor, dependency ratio (Teshome and Sharma (2014), Nega (2015), Zegeye (2017)) were reported to have a strong positive relationship with probability of being poor. Separate works of the researchers was reviewed hereunder:

A study conducted by Teshome (2012) to identify correlates of Poverty in Ethiopia using Multilevel Logistic Model, based on the 2011 Household Income, Consumption and Expenditure (HICES) survey for Ethiopia reveals that high dependency ratio, sex of the household head (women headship), and large family size showed significant and positive correlation with the probability of being poor; while age of the household head, land holding (size), education status of the household head (primary school complete, secondary school complete, college and above), employment in formal sector and self employment had showed negative correlation with probability of being poor though with varying level of significance between the variables under consideration. Other investigation conducted by Sudhakara and Nega (2013) in rural Tigray using logit model reveals that large family size and dependency ratio were found to have positive significant association with poverty of the households. On the other hand, large farm size, total livestock owned (TLU), value of asset owned, educational status of the household head, access to credit and access to off- farm income were found out to have strong negative association with the households poverty status and statistically significant up to less than 10 % level of significance.

Degye (2013), in his study of determinants of rural poverty in Ethiopia identified that education level, livestock holding and farming occupation showed negative and significant influence on the probability of being poor; whereas large family size and marital status (being widowed) showed positive and significant relation with the probability of being poor. Other studies conducted by Amsalu *et al.* (2013) to investigate determinants of food security in Shashemene district, Ethiopia, reveals that factors like size of cultivated land, total farm income, off-farm income and livestock ownership of households were found to have positive and significant association household food security status; while large family size had a negative and significant influence on households' food security status. This finding indicates how these factors are important in contributing both to households' food insecurity and poverty status. The work of Tassew and Adiam (2013) on the study of dynamics of Welfare and Poverty in Poor Rural and Urban Communities of Ethiopia revealed that divorce and separation of family, incidences of shocks and increase in input prices have a long-lasting significant effect on household poverty, and hence imply the need to protect people from shocks so as to protect households from falling into poverty. The study, on the other hand, revealed that the change in the wealth index was found to have positive and statistically significant relationship with the probability of moving out of poverty, and a negative and statistically significant relationship with the probability of moving into poverty. This finding shows the importance of asset accumulation and access to services for moving out of poverty. As expected and in line with other findings, the study revealed that the highest grade completed by mothers/caregivers and by fathers had

negative and highly statistically significant relationship to the poverty status of households.

A study conducted by Adugna and Sileshi (2013) to assess determinants of poverty in pastoral and agro-pastoral societies of Southern Ethiopia using binary logit model reveals that large family size was significant and positively related with the state of poverty indicating that this variable was the cause of poverty, implying that the odds ratio in favor of the probability of being poor increases with an increase in family size measured in adult equivalent. This result is in congruent with other studies (Hillina, 2005; Beyan, 2015; Muhdin, 2015; Fikadu and Paul, 2015; Alemi and Dereje, 2014; Amsalu and Berhanu, 2014; Addisu and Sundara, 2014; Teshome and Sharma, 2014; Degye, 2013); but in contrast with the finding of Sudhakara and Nega (2013). According to the finding of Adugna and Sileshi (2013), distance to market also showed positive and significant influence on the probability of becoming poor.

In other research conducted by Alemi and Dereje (2014) to assess determinants of female headed households' Poverty in Rural Ethiopia using logit model, larger household size was found to significantly increase the probability of the FHHs to be poor. On the other hand, literacy of household head, livestock ownership in TLU and land holding had negative effect on poverty, implying households with large family size and illiterate heads, less livestock owned and land holding are more likely to be poor than other household heads. and rural poverty in major coffee growing areas of south western Ethiopia" using logit model identified that sex of the household head (being male head), age of the household head, literacy of households, use of credit, annual farm income negatively and significantly related to the probability of being poor; whereas large family size and distance to the nearest market positively and significantly affect the probability of being poor.

The negative relationship between the age of the household and the probability of falling in to poverty is in contrast with the findings of Fikadu and Paul (2015), but in agreement with the findings of Teshome (2012). The relationship between being female headed household and the probability of being poor is indirectly supported by the study conducted by Mulu and J. Paul (2015) on determinants of Female-headed Households' Livelihood diversification studied around Ambo district, Ethiopia. The study reveals that female headed households participate in low-return, high risk and last resort activities that contributes much to the probability of falling in to poverty. Their study reveals that female headed households are constrained by labour availability, as their male partner is absent, and thus incur additional Amsalu and Berhanu (2014) in their research entitled "Smallholder farmers' agricultural commercialization cost for hiring labour, that leads to additional expenditure from the meager resource they have.

An investigation by Teshome and Sharma (2014) to analyze determinants of poverty in Ethiopia using binary Logistic regression model, revealed that number of working household members/productive age, ownership of agricultural land, self employment of the head of the household in formal sector and level of education of the household (having completed elementary education, having completed secondary education, having college education and above); age of household head, being self employed and being household head employed in formal sector all showed odd ratios less than one, which means that these variables are negatively correlated with the probability of being poor. On the contrary, high dependency ratio, large family size, household head being female, marital status and living in the rural area had odd ratios greater than one, which means that these variables are positively correlated with the probability of being poor.

According to the authors, the fact that sex of the household head i.e. being female positively affects the likelihood of remaining poor is related with other discussions- phenomenon of the feminization of poverty, which is said to exist if poverty is more prevalent among female-headed households than among male headed households. This situation might be due to the presence of discrimination against women in the labor market, or it might be due to the fact that women tend to have lower education than men and they are paid lower salaries. The study conducted by Addisu and Sundara (2014) using an econometric model of binary choice probit regression identified that age of household head, adult equivalent and family size have significant positive effects on poverty status of the households, which means their increase worsens households' poverty.

The study, on the other hand, revealed that male headship, age square of household head, mean education of household, food aid, access to modern inputs, agricultural income per adult, social capital in terms of membership in social institutions and number of social institutions and ownership of durable goods have significant negative effects which indicates that they contribute for poverty reduction. The positive relationship of age of the household with probability of being poor, in this study is in agreement with the finding of Teshome (2012), though it is contrasted with the findings of Fikadu and Paul (2015). A research work by Beyan (2015) using Logit model revealed that Level of Education, Extension contact, Irrigation Participation, use of improved seeds, Farmers Training have negative and significant influence on poverty; whereas Family Size and Method of Sawing (broadcasting) had significant positive relation with poverty. Similarly, the work of Muhdin (2015) on determinants of poverty employing Binary logistic model revealed that large family size was found to be positive and significant determinant of poverty; whereas total land holding, livestock ownership measured in TLU (Tropical Livestock Unit), and household's involvement in different activities were found to be negatively correlated with the probability of a household being in poverty.

Result of a study conducted by Fikadu and Paul (2015) to assess determinants of rural household poverty status in woliso district of Ethiopia revealed that large family size and age of the household head showed significant positive correlation with the probability of being poor. According to their finding, an increase in family size by one adult equivalent resulted in 1.602 factor increase in odds ratio indicating the probability of the households to fall into poverty increases by 1.602 units keeping other things constant. With regard to age, this finding is contrary to the finding of (Amsalu and Berhanu, 2014; Teshome & Sharma, 2014a) that suggests an increase in age of the household head (as a proxy for experience in farming) decreases the probability of being poor suggesting negative correlation between age of the household age and the probability of being poor, but in agreement with the findings of (Fikadu and Paul, 2015; Addisu and Sundara, 2014 a; Addisu and Sundara, 2014 b; Feleke & Motuma, 2016; Zegeye, 2017).

The work of Fikadu and Paul (2015) revealed that an increase in the age of the household age by one unit increases the probability of the households to fall in to poverty by 1.076 units. The possible explanation for this scenario, according to these authors, was that as the age of the household head increases, the probability of the household head to adopt new technology decreases, and the ability of the household head to work more to get additional income also declines. On the other hand, educational status of the household head, access to credit, Frequency of extension visit, Livestock size in TLU showed significant and negative correlation with the probability of falling in to poverty. Nega (2015), in his study of determinants of rural poverty in Tigray region, using logistic regression model showed that total family size & dependency ratio were found to have positive and statistically significant association with poverty of the household while farm size, total livestock owned (TLU), value of assets, educational status of the household head, access to credit and access to off- farm income were found to have strong negative association with the households poverty status and statistically significant up to less than 10 percent level of significance.

A study conducted by Tinsaye (2016) to investigate livelihood resources and determinants in Tigray region of Ethiopia using probit model identified some factors that determined livelihood diversification of the rural households, which directly determine the probability of individuals to fall in to or move out of poverty. This implies those factors which hinder probability of engagement in different livelihood strategies would increase the probability or likelihood of a household falling in to poverty. According to his findings, household size, education level of the household head, use of modern fertilizers, and membership in farmers' association was found to have a positive and significant impact on the probable involvement of households in various livelihood strategies. His work, on the other hand, reveals that large farm size and extension contact negatively and significantly influence the probability of a household to involve in various livelihood strategies, which indirectly contributes to the probability of falling in to poverty. This demands further research for elaboration.

According to Feleke & Motuma (2016) a study conducted on analysis of determinants of poverty in Kuyu Woreda, North Shewa zone of Oromia, using Multivariate logistic regression reveals that number of extension contact, number of hours spent on work and land entitlement showed strong negative correlation with the probability of being poor; whereas illiteracy and age of the household had strong positive correlation with the probability of falling in to poverty. A more recent study conducted by Zegeye (2017) to investigate determinants of rural poverty in Gale district, Wolita zone of Ethiopia, using logistic regression model revealed that large family size, sex of household head (being female), household age, dependency ratio and marital status (divorce and widow) were found to have positive association with poverty of the household and statistically significant. On the other hand, age square, cultivated land size, oxen, access to credit, off farm activity, household health, remittance, and access to market were found to have strong negative association with the households poverty status, and statistically significant up to less than 10% level of significance.

The influence of increased age of the bread winner on poverty was found to swing both ways. Majority of the findings reveal that an increase in age of the household head, expressed as a proxy of farming experience, negatively affects the possibility of falling in to poverty. Few findings, on the other hand, argue that increase in the age of the household head, expressed as proxy of resistance to improved agricultural technologies and the decrease in the ability of the household head to work more is positively correlated with the possibility of falling in to poverty. The reviewer of this paper supports the idea of the latter argument, as piled experience doesn't necessarily connote wealth accumulation, but always related with failure to work hard, rationally thinking, manage resources, and failure to welcome improved technologies. This demands further research and elaboration. Similarly, Many studies reviewed in this paper revealed that large family size and the probability of falling in to poverty are positively and significantly correlated, with possible explanation that the larger the family size, the more will be the resource share among the members that leads to poverty. Worth noting, however, is that large family size could be a good opportunity to move out of poverty when many members in the family are at productive age and actively involved in family works. The opposite might happen when there is high dependency ratio in the large family.

Summary

The current work was conducted to assess extent and determinants of poverty in Rural Ethiopia reviewing the works of different scholars on rural poverty in the country. Despite tremendous efforts to reduce poverty in the country in general, and particular attention to rural areas of the country, the works of these researchers reveals that in almost all of the areas studied, incidence of poverty expressed as percentage of the population under poverty line was more than fifty per cent, and even greater in many of the situations. Similarly, both the depth and severity of poverty expressed as poverty gap index and poverty gap index squared, respectively, are high in rural areas, signifying the importance of added focus to poverty reduction strategies.

Recommendation

Based on the findings from the literatures reviewed, the following points were suggested as options to tackle poverty situation in rural Ethiopia: Improving literacy status and asset ownership, addressing productivity bottle necks via the use of improved agricultural technologies, intervention through productivity safety nets and direct food transfer when the situations are worsened should be among the policy instruments to opt for. It's also important to promote rural non-farm sector to foster income of the poor in rural areas. Variables considered as determinants of poverty in all of the reviewed articles were not exhaustive. All of the authors used almost similar and a few number of variables. Future researches focusing on assessing determinants of poverty, should, thus include as many explanatory variables as possible to be exhaustive and get clearer picture of important factors that influence poverty.

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