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STATUS OF RURAL HOUSEHOLD POVERTY IN WEST HARARGE ZONE: IN CASE OF SOME SELECTED WOREDAS, OROMIA, ETHIOPIA

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Statement and Declaration

We, the undersigned members, declare that this manuscript is our own original work and has not been sanded and published on another website, and also this sent paper is disclosed by all authors member in the context of financial and non-financial interests that are directly or indirectly related to this paperwork submitted for publication. Hence, this paper was conducted by the fund of Oda Bultum University, office of research and community engagement to provide a solution to communities in the context of the stated titles above. Therefore, the authors are thankful for the sponsor of Oda Bultum University, office of research and community engagement vice president Assist. Prof. Alemayo Beyena, and research and extension director directorate to Assist.Prof. Mufeidie Mohammed for their offering financial granted, commitment to understanding us benefit of cooperative work across the department, and non-financial support which enabled us to completion of this paper.

Abstract

This study was conducted in a rural area of West Hararghe zone to evaluate the status of household rural poverty. To undertake this study, both primary and secondary data were used. The data was collected from 375 sample households for the study purpose. In doing so, the maximum likelihood estimation method of the logit model was applied to estimate the logit regression model. The study used consumption expenditure as an indicator of welfare in general and the cost of basic needs approach in particular to classify households as poor and non-poor. The result of this study shows in the study area the proportion of people who are stated under the poverty line is 52.8 percent from the surveyed households. The incidence of poverty among the sampled households is 23.8% and 13.54% for the poverty gap, and poverty severity index respectively. In line with, poverty alleviation policies that are based on this identified status should be key ingredients of poverty reduction strategy and targeted groups should involve in development efforts that could address the identified problem to minimize the rate of increased poverty severity from rural areas of West Hararge zone.

Keywords: Logistic, Consumption, Status, rural poverty

1. Introduction

Poverty is encompassing income and non-income deprivation, lack of economic empowerment, and extreme vulnerability to external shocks. Poverty is a pronounced deprivation in wellbeing; extreme poverty is living on less than 1.9 USA dollars per day, and moderate poverty is defined as less than 3.10 a day (World Bank, 2018). Rural poverty and urban poverty differ on many levels, with distinctive environment-based issues that characterize the quality of life. The issue of poverty remains on the agenda of developing countries is important to policymakers, academics, and development practitioners.

Ethiopia is one of the world's poorest countries, where about 30 percent of the population lives under the poverty line. Growth in agricultural demand is an important complement to agricultural output to attain poverty reduction. In addition to an ongoing, successful combination of agricultural growth and investments in the provision of basic services and direct transfer to rural

households, additional drivers of poverty reduction will be needed, particularly that encourage the structural transformation for the Ethiopian economy. This indicates addressing poverty in large rural should be an important focus of development policy. However, in Ethiopia, as a country population become increased does not cause poverty, rather the increased number of dependent causes for poverty in rural. This indicates in Ethiopia poverty rate increased and inequality increases as the rural size of dependence ratio increases (World Bank, 2017).

Unlike other areas in Ethiopia, Hararghe mid and highlands enjoy a terrain which addition to food crops, favors extensive cultivation of cash crops such coffee and *chat*, a mildly narcotic leaf appreciated as a stimulant in parts of the horn of Africa as well as in Arab countries. While coffee is not perished ably traded at any time, *chat* is a highly perishable commodity requiring speedy delivery to consumers to maintain quality and to achieve an optimal price. Therefore, only chat plantations are located near main roads, or at least reliable rural roads need adequate market access to benefit from trading opportunities. This does not general information about the economy rather implications for local food security (Leke, 2011).

At a time when food crops were mostly, but not yet entirely harvested, the zonal office of agriculture carried out the preliminary post-harvest assessment. Pending consultations with the regional authorities were assessed, however, not yet finalized by the time of the mission. Without being in the position to give precise figures, the zonal authorities indicated that, compared to the two previous years, rather a significant yield reduction is to be expected. According to information provided by the zonal food crop production of Meher season, 1995 amounted to 185,094 tons while in the 1996 year an amount of 199,466 tons was actually harvested. For this season, 1997/98, only pre-harvest estimates of 97,903 tons were released. While the total area of cultivated land remained relatively stable over three seasons at about 200,000 hectares, the decline of production this year results in pending and taking over-pessimistic pre-harvest estimates into account. Representatives from the office of agriculture describe the 97/98 Meher season as the worst in the last five years in West Hararghe. This indicates that poverty is prevalent in this zone severing to households.

2. Statement of the Problem

Poverty is a global phenomenon that affects continents, nations, and people differently. Poverty has multiple causes that exhibit economic, socio-political characteristics and its reduction requires multi-dimensional strategies. Poverty reduction policies have become one of the priority policies of governments in developing countries. The challenges to reducing poverty are formidable in developing countries where poverty is deep and widespread, income is extremely low, the growth rate is weak and income distribution is uneven (Mogus, 2013).

Poverty in the Ethiopian context needs to consider its multidimensional characteristics beyond mere income and food provision. A sustainable livelihood is one that can cope with and recover from stresses and shocks and maintain its capabilities and assets both now and in the future, without undermining the natural resource base (Asmamaw, 2004).

Much of the studies on the correlates of rural poverty in Ethiopia had been confined to quantitative rather than qualitative methods using households as units of analysis. The views and perceptions of households and communities at large on the manifestations and determinants of rural poverty have been overlooked. But there is mounting evidence that using quantitative and qualitative approaches together yield synergy. Furthermore, what have so far been studied in

Ethiopia, much if not all, concentrate on and reflect the national picture? But studies and analysis at the aggregate level do not reflect the situation at the grass root level.

The proper understanding of factors associated with rural poverty is a key to policies and practical steps that government can take measurement to curb poverty. Given this existing fact, there is a need to examine rural poverty in Ethiopia. In economies where the initial pattern of income distribution is highly unequal mobility is restricted by economic, social, and institutional hurdles, economic growth if it happens at all have a limited impact on reducing poverty (Besley et al., 2003). Whereas income redistribution policies, cautiously implemented, could be used to address crisis situations, have limited effectiveness in reducing poverty on a sustainable basis.

However, the condition of poverty in rural areas of the West Hararghe zone is different from the situation of rural poverty in other parts of the Ethiopian regions. Because even if the overall of Ethiopian country large portion of households had been in poverty status there was no internal migration adjusted by the government through the country from zone to zone that pulled by economic status. But, according to the West Hararghe zone administration office report (2017), many rural residents of the zone were migrated to another part of the region in the preceding ten years due to economies of some rural residents are characterized by poor conditions which push residents for migrations to another part of Oromia owing to economic status. Although, this rural migration to another part of Oromia which was caused by economic status was not generalized for rural residents to the West Hararge zone. In addition, there were no Ethiopian other regions, residents, from other rural parts who migrated to the West Hararge zone owing to economic causes. So as a research gap, from last conducted research on determinants of rural poverty analysis by different researchers, were no conducted research on such like of specific characters of west Hararge zone poverty status and there were no identified unique factors which more affect rural residents of West Hararge zone than another part of Ethiopian rural residents. This condition shows in the East Hararge zone there were pull factors that determine to migrate out of this zone to different parts of Oromia zones. Therefore, to fill the last conducted research gap on this thematic area, the researchers were preferred to conduct research on rural residents of the West Hararghe zone, which involved economic activities based on rural areas that were faced with stated problems. This existing fact was straight-forwarded to understand the existence of poverty determinants, severity, and gaps in a rural area of the West Hararge zone. To the best knowledge of the researchers about poverty severity in this area, the researchers were conducting research using selected rural areas; Burqa Dhintu, Habro, and Boke woredas. Thus, the researcher found an existing gap of the study area on the status of rural poverty partially flit the methodological gap in measuring the poverty line and econometric model. Accordingly, this study has been conducted with measuring household's rural poverty status in *the* West Hararghe zone; in some selected rural woredas' examined rural poverty.

3. Research question

- What socio-economic characteristics of the residents in the study area seem to like?
- How does the level of poverty, its depth, and its severity affect rural households in the study area?

4. Objectives of the Study

4.1. General Objective

The general objectives of this study were to analyze the status of rural household poverty in the west Hararge zone: in the case of some selected woreda

4.2. Specific Objective

In order to achieve the general objectives of the study, the researchers used to analyze the following specific objectives.

- To analyses the socio-economic characteristics of the residents in the study area
- To examine the level of poverty, its depth, and severity on rural households in the study area.

4. Types and source of Data

The study used primary and secondary data. Data from primary sources were collected through field surveys and instruments using questionnaires and interviews with households are in rural areas of selected woredas. For data collection, simple random sampling techniques were applied to get a specific sample of populations respondents for structured questionnaires.

5. Sampling Method

To select sample households that represent the population of the study area to meet the objective of the study, a multi-stage sampling technique was used. Hence, in the first stage, the zone was stratified into two strata based on agroecological zone activities as pastoral and non-pastoral having 4 and 11 woredas, respectively. In the second stage, 3-sample woreda was selected randomly taking two from non-pastoral and one from pastoral. Thirdly, 6 kebeles were selected randomly (four from non- pastoral woredas and two from pastoral woredas. Finally, after having a list of the total number of households in each kebeles, sample households were selected randomly proportional to size.

According to the West Hararge zone district administration office (2018) in the study area, the total number of households was 5912. Pertaining to how sampled households were selected from each stratum to follow the method of proportional allocation under which size of the sample from different strata is kept proportional to the size of the stratum.

No	Sampled Woreda	Sampled Kebeles	Total Household		Sampled Household		Percentage
1	Burqa Dhintu	Anuba	600	1300	38	10.13	21.86
		Kurfa	700		44	11.73	
2	Boke	Arba	1463	2700	93	24.80	45.6
		Kayu	1237		78	20.80	
3	Habro	Weni (Oda Muda)	1084	1912	69	18.40	32.53
		Minilo (Busoytu)			53	14.13	

			828		
Total	3	6	5912	375	100.00

Source: WHZ district administration office documented (2018)

Accordingly, depending on Yamane's (1967) sample size determination was used 5% to indicate precision levels where the confidence level is 95%.

6. Method of Data Analysis for Poverty Measures

The methods used to measure the extent of poverty status at aggregate information on individual's welfare were used summary statistics for organizing data. The earliest most commonly used statistics were Headcount Index (P0), Poverty Gap Index (P1), Poverty Severity Index (P2), Foster, Greer, and Thornback (1984).

6.1.Head Count Index (P_0)

This measure gives the proportion of people who are poor and the proportion of the population, whose consumption expenditure falls below the pre-determine poverty line as:

$$P(0) = \frac{Np}{N}$$

Where, ***Np*** is the number of people earning income below the poverty line, and N is the population size. While P_0 has an advantage of simple calculation it suffers from two problems: a reduction in the incomes of the poor doesn't reveal how worse the poor will be poorer and it doesn't, in any case, depict the distribution of income among the poor.

6.2.Poverty Gap/Depth Index (P_1)

This measure provides an indication of the aggregate shortfall of the poor from the poverty line. Since this index is based on the aggregate poverty deficit of the poor relative to the poverty line by far better than P_0(Esubalew, 2014) and depicted as follows:

$P_1 = \frac{1}{N}\sum_{i=1}^{Q} [Z - Yi]/Z$ Where; Y_i is Consumption expenditure or income of the poor and Z is Poverty line. Although this model measures the depth of poverty better than P_0, it is insensitive to the number of individuals below the poverty line and to the transfer of income among the poor.

6.3. Severity Index (P_2)

It is a measure of poverty that takes into account inequality among the poor and it is a weighted sum of poverty gaps. The severity index also called the Foster-Greer-Thornback Index measures severity of poverty by squaring and averaging the gap between the income of the poor and the poverty line. It is given by the formula as

$$P_\alpha = \frac{1}{n}\sum^{q} \left(\frac{Z - Xi}{z}\right), ^{\alpha} \quad \alpha = 0,1,2$$

Where; X_i is the income or consumption expenditure of a household, n size of the population, q is the number of the poor, and Z is the poverty line. $P_{0,}$ $P_{1,}$ and P_2 tell respectively the incidence, depth, and severity of poverty among individuals. P_2 changes in accordance with and P_2 measures the mean of squared proportional poverty gaps. It gives more weight to the poverty of the poorest by squaring and averaging the gap.

6.4.Foster, Greer, and Thornback (1984) Index

This summary statistics is the general class of poverty indexes formula as:

$$P_\alpha = \frac{1}{n}\sum^{q} \left(\frac{Z - Xi}{z}\right)^{\alpha} \quad \alpha \geq 0$$

Where α is the 'poverty aversion' parameter measure of the sensitivity of the index to poverty. The larger α is, the greater the weight placed on the very poorest people.

7. Econometric model of the study

An econometric model was used to analyze the status of rural household poverty. The data were analyzed converting the monthly consumption expenditure of the household into per day. Following consumption expenditure per day's household were recorded. Then after results obtained was compared with the poverty line which was identified by different nationals relatively and international organization for a cut of point that distinguishes poor and non-poor households in terms of their respective level of consumption needed for a household to run away from poverty (Tafari, 2017).

After data collected on the stated variables associated with rural poverty were organized, edited, and analyzed using STATA software version 13. As the dependent variable has a dichotomous nature; poor or non-poor, binary logistic regression was used where the estimated probabilities lie between logical limit 0 and 1 (Gujarati, 1995). The general description of the selected econometric model and its application is described below The study was an employed logistic regression model. The dependent variable is binary having the value of one if respondents were funded under poor, value of zero otherwise:

$$Pi = E\left(y = \frac{1}{Xi}\right) = \frac{1}{1 + e^{-zi}} = \frac{e^{zi}}{1 + e^{zi}} \quad \text{---------- Equation 1}$$

Where e is an exponential term, Pi is probability of respondent to be poor. Y is the observed status of a respondent regarding to poverty. X_i is the respondent set of explanatory variables, Z_i is a function of n-explanatory variables (Xi) which can be expressed in linear form as:

$$Zi = \beta 0 + \beta 1X1 + \beta 2X2 + \cdots + \beta nXn$$

From Equation 1, the probability of a respondent's being non por is given by (1 – *Pi*) which can be written as:

$$1 - pi = \ 1 - \frac{1}{1 + \mathrm{e}^{-\mathrm{zi}}} = \frac{1 + \mathrm{e}^{-\mathrm{zi}} - 1}{1 + \mathrm{e}^{-\mathrm{zi}}} = \frac{\mathrm{e}^{-zi}}{1 + \mathrm{e}^{-\mathrm{zi}}} - - - - - - - - - - - - \text{Equation 2}$$

Therefore, the odds ratio$\frac{pi}{(1-pi)}$is given by:

$$\frac{pi}{(1-pi)} = \frac{1 + e^{zi}}{1 + e^{-zi}} = e^{zi} - \text{Equation 3}$$

Now, $\frac{pi}{(1-pi)}$is the odds ratio of poor and ratio of the probability that respondent may be poor (Pi) to the probability that a respondent may be non-poor (1-Pi).

8. Data Analysis, and Interpretation

Results of the study show that out of the 375 sampled households, 85.87 % are male-headed and 14.13% are female-headed. The distribution of the households by marital status shows that 81.60 percent of them were with /her spouse, the rest 18.40 percent were single, widowed, or divorced. The ethnic composition of the sampled households includes 0.27 percent Amhara, 99.20 percent Oromo and 0.53 percent belongs to the southern nation and nationality peoples of the part of Ethiopian countries. On the other hand, the distribution of religion sample households shows that 3.47 percent were Orthodox, 92.53 percent Muslim, 2.40 percent Christian Protestant and 1.60 percent were belonging to Wakefata's religious groups.

As mentioned earlier in-depth in the literature review, household socio-economic characteristics are amongst the major determinants of rural poverty. In light of this, household family size, education of household head, gender of household head, marital status, age of household head, dependency ratio, extension contact, livestock holding, safety net earned, farmland size, and pre residence of household's variables associated with rural poverty are described below.

9. Identifying the Poor

The consumption expenditure as indicator of welfare in general and cost of basic needs approach in particular to classify the household as poor and non-poor. This is done based on the predetermined value in terms of minimum attainment of calorie intake per adult equivalents. In the identification of the poor from non-poor, the research used the consumption expenditure approaches and is preferred to the cost of basic needs based on the following premises (EHNRI, 2000). First, during the survey period (May,2020) the prices of all commodities in the study area. This is not consistent with prices of the previous years and hence could not show reality in consumption expenditure status of the residents in same magnitude with previous time. In case researchers used nominal market values of a specified period of study on average.

During the estimation of consumption expenditure of households from the study area, since some of the households, particularly, those who reside endogenous of the area have more probability to have large size of own land and less probable to spent consumption expenditure for their survivals of the family due to they produce needs which stated non-marketable while un endogenous households do not. Taking only marketable goods and services rather own produced for analysis were taken and poor were to be analyzed based on this, the figure would be overblown and result might be farfetched from prevailing reality. For this, the studies have used the cost of basic needs method and values of all consumed marketable and non-marketable in monetary terms values for consumption expenditure revealing results in the figure.

Third, Food Energy Intake is preferred to cost of basic needs for the latter need's enumeration and quantification of basics and non-basics of different items in monetary terms. The problem arises particularly in estimating costs of non-basics. West Hararge Zone rural areas were not an exception to this pitfall. It is not, however, to mean that all residents in the study area were not able to quantify their commodities in monetary terms nor does they are always smart enough in telling commodities such as kilograms.

Economists and development practitioners agree on the perplexities of getting an error-free method of setting poverty lines. The minimum calorie intake requirements for an individual in a specified period, though popular, are still flawed with debates. This is because households are composed of family members of different ages and sex leading to different needs, consumption habits, and preferences. It is also true that the same level of income cannot serve the equal needs of households that different in composition (Mohammed, 2017).

This requires the estimation of household consumption expenditure in monetary value. Researchers argue; in the West Hararge zone, based on some selected rural areas where households consume both marketable and non-marketable goods, it has difficulties to equivalent scales generated from preferences only from marketable goods. Therefore, instead of estimating the costs of consumption expenditure, the study used quantities of items households consumed multiplied by total standard units of measurement with generated standards of intake calories. And, to measure adult equivalent consumption per individual of household members, the respective conversion factor for each three age intervals (<18, 18-64, >64) classifying gender of household members were used. To identify poor households in rural areas of the west Hararge zone, the following steps were used.

Step one: The lists of food items obtained in analysis of surveys are: Meat, Butter, Teff, Barley, Wheat, Sorghum, Maize, Sugar, Beans, Potato, Lentils, Cabbage, Carrot, Milk, Oil, Egg, Rice, Spices, Spaghetti, Pepper, Tomato, Onion, Honey, Salt, Coffee, and Garlic.

Step Two: Each bundle of food items is weighted with a unit of measurements. To get the total amount of food bundle a household consumed in a month each of the weighted bundles of food items are summing up of Meat, Butter, Teff, Barley, Wheat, Sorghum, Maize, Sugar, Beans, Potato, Lentils, Cabbage, Carrot, Milk, Oil, Egg, Rice, Spices, Spaghetti, Dry Pepper, Tomato, Onion, Honey, Salt, Coffee, and Garlic. Mathematically it can be represented as**,** K1+K2+...+Kn up to last food item where K refers to value in kilogram or Litter of each food basket.

Step Three: The aggregate value of baskets of food items consumed by a household in a month is divided to the corresponding sample size of the household to get the number of kilograms each adult individual gets in a month.

$$\frac{\sum_{=1}^{375} \boldsymbol{Xi}}{\sum_{i=1}^{375} \boldsymbol{Yi}} = \boldsymbol{L} =$$ Amount in kilogram or liter that an individual consumed in a month.

Where xi is the total baskets of different food items in kilograms or litters a household consumed in a month and Y is the family size of the surveyed household.

Step Four: The amounts of kilograms each household consumes in a month is again divided for 30 days to get amounts of kilograms each adult individual consumed in a day. This is equivalent to L/30.

Step Five: The number of kilograms an individual consumed in a day is again converted into calorie intake and calibrated to predetermined 2400 calorie per day per adult equivalents. The

conversion factor for mentioned food items is indicated in table below. The quantity of bundle of food is determined in such a way that bundle supplies predetermined level of minimum caloric requirement. It was based on minimum daily requirement of 2,400 calories for an adult in rural areas (World Bank, 2020): Table 1 bellow shows conversion factors used to estimate Kcal of food items

Food Items	Unit of Measurement	KCalories Contained	Market Values at Survey Period per unit of measurements on average (Br)
Barley	Kg	3723	25
Maize	Kg	3751	15
Sorghum	Kg	3850	20
Wheat	Kg	3623	22
Lentils	Kg	3522	60
Onion	Kg	713	50
Pepper	Kg	933	20
Milk	Liter	737	43
Sugar	Kg	3850	36
Edible oil	Liter	8964	70
Coffee	Kg	1103	150
Peas	Kg	3553	60
Tomato	Kg	216	30
Salt	Kg	1700	12
Rice	Kg	3330	30
Meat	Kg	1148	300
Butter	Kg	7364	300
Spaghetti	Kg	3550	30
Bean	Kg	3514	50
Egg	Number	61.0	5
Spices	Kg	2970	30
Garlic	Kg	118	150
Potato	Kg	1360	15
Honey	Kg	3605	300
Teff	*Kg*	3589	44

Source: For KCalories Contained; EHNRI, 1997

Note: For foodstuffs of more than one item the average values were taken.

Step Six: Each item in standard measurement kcal * respective units of consumed items **+... + *w*** ***** Kn, where w refers to the value in standard kcal and Kn is for unit of consumed in kilogram or Litter of each n^{th} food basket.

Step Seven: If X is total calorie intakes of a household in a day and Y is family size of surveyed household in rural study areas, then calibrating the poverty line using the food intake energy international agreed figure 2400 calorie per day for an adult person in rural areas as recommended by nutritionists as

$\frac{\sum_{i=1}^{375} Xi}{\sum_{i=1}^{375} Yi} \geq 2400$ ***Kcal*** = 177, households were live above poverty line

$\frac{\sum_{i=1}^{375} Xi}{\sum_{i=1}^{375} Yi}$ < 2400 ***KCal*** = 198, households were lives below poverty line

In this research, the researchers were used three indices of poverty as follows:

10. Head count ratio: p0 = q/N

Under this measurement the result gives proportion of people who are poor and proportion of population, whose consumption expenditure falls below predetermined poverty line, and it was stated as: P (0) =Np/N, Where, q is number of persons which is under poverty line.

$$P0 = \frac{198}{375} = 0.528$$

11.Poverty gap (Depth Index(P1):

$$= \frac{1}{N}\sum_{i=1}^{Q} [Z - Yi]/Z$$

$$= \frac{89.25}{375} = 0.238$$

Where; Yi is Consumption expenditure or income of the poor and Z is Poverty line. Although this model measures the depth of poverty better than P0, it is insensitive to number of individuals below the poverty line and to the transfer of income among the poor. This measurement result was providing an indication of the aggregate shortfall of poor from the poverty line. Since this index is based on the aggregate poverty deficit of poor relative to poverty line, it resulted far better than P0, and matched with literature (Esubalew, 2014).

12. **Severity Index (P2)**

It is a measure of poverty that takes into account inequality among poor and it is weighted sum of poverty gaps. The severity index analysis was used, the Foster-Greer-Thornback Index, to measure severity of poverty by squaring and averaging gap between consumption expenditure of the poor and poverty line. It is given by the formulae,

$$P_{\alpha} = \frac{1}{n}\sum^{q} \left(\frac{Z - Xi}{z}\right)^{\alpha} \quad \alpha = 0,1,2$$

Where; *Xi* is consumption expenditure of household, n was size of population, and q was number of poor, and *Z* is poverty line. P0, P1, and P2 tell respectively incidence, depth and severity of poverty among individuals. P2 changes and measures mean of squared proportional poverty gaps. The result revealed from poverty of the poorest by squaring and averaging the gap as follows.:

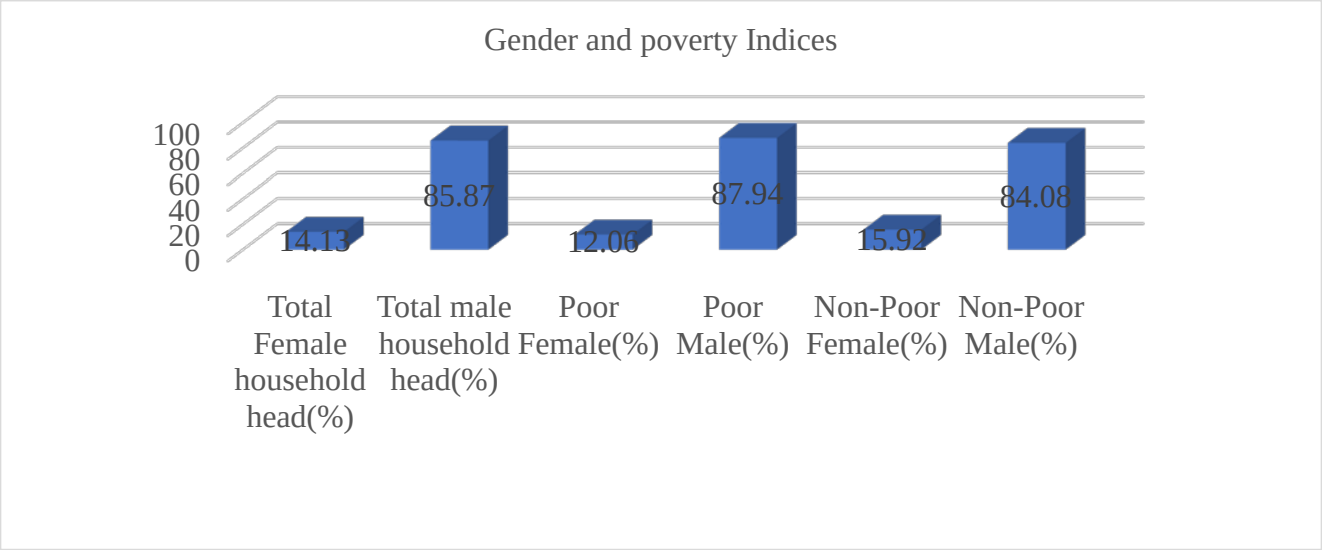
$$\text{P2} = \frac{1}{N}\sum_{i=1}^{Q} [Z - Yi]/Z)\text{^}2, \text{which is called foster greer thorbeck;}$$

$$\frac{50.79146064}{375} = 0.1354$$

Interpretations: As shown indices result above, 52.8% of the sampled households are unable to fulfill the minimum amount calorie intake consumption 2,400 per adult in a day and live under

absolute poverty taking other variables remain constant. Besides, a poverty gap (P_1) of 23.8 % implies the amount of income transfer needed to close up average gap from poverty line to consumption expenditure. Finally, the Foster Greer Thorbecke severity index at P_2 in consumption expenditure reveals 13.54 % fall below the threshold line.

13.Gender and Rural poverty

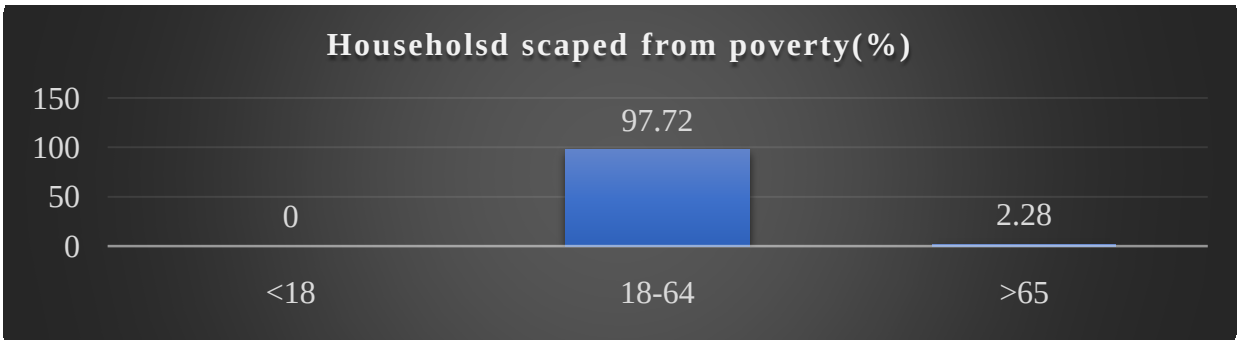


Source: Own observation, March 2020

In this study from total samples of 375 sample respondents, 14.13% are female household heads, and 85.87 % are male household heads. Of the total female headed households, 12.06% of them are found to poor; and 15.92 % are non-poor. Out of the total male headed households, 87.94 % of them are poor, and 84.08% are non-poor. This study results obtained sex of household heads and poverty status supported with theories of Mekonnen *et al.*, (2002) shows, gender-based differentials in vulnerability to violence subjected to discrimination in labor markets, getting credit services, property ownership compared to men.

14.Age and Rural Poverty

Figure 1:Age and Prevalence of rural poverty



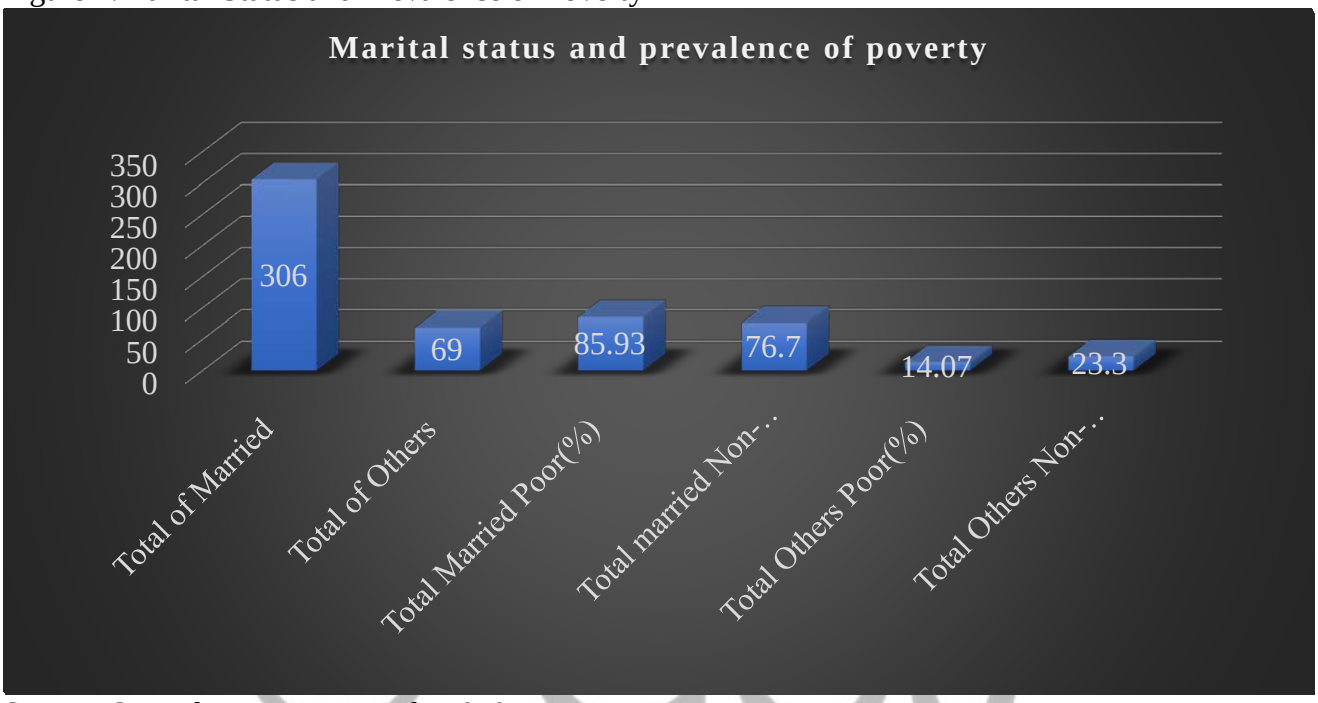
Source: Own observation, March 2020

In this study researcher classified the age of household below 18, 18-64, and above 64. Based on this age intervals finding of the study shows that the relationship between age and poverty is, incomes of household is low relatively to middle age in young and old age but during old its greater than young, and resulted to escaped from poverty in middle age than young and old age

but oldest has more probable to escape from poverty than in young. This is in middle age; labour has will and able to do at any charged wage than both younger and oldest. This may lead to save proportion of their income to accumulate more capital in future and leads them to able for their any consumption expenditures.

15.Marital status and poverty

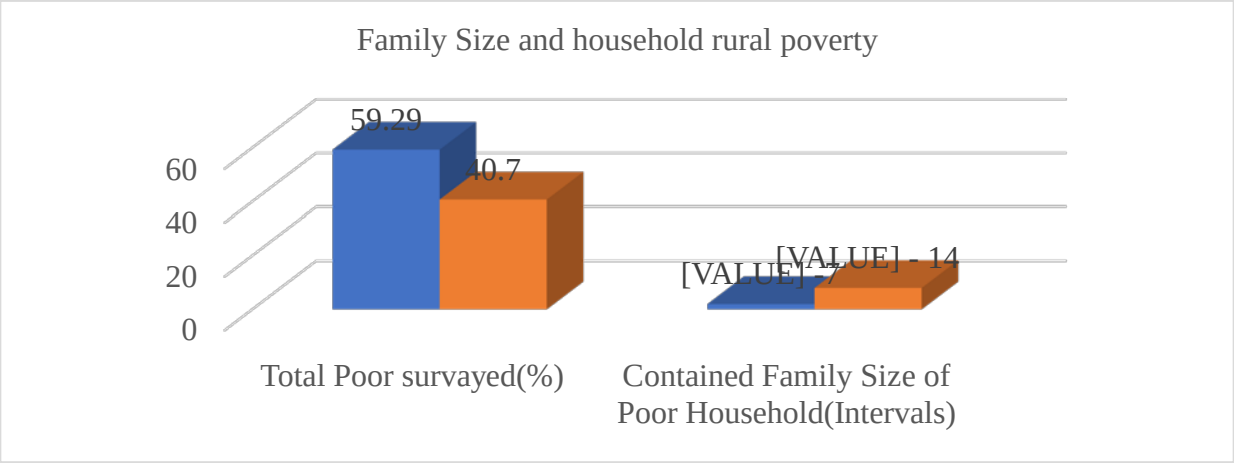
Figure 2:Marital Status and Prevalence of Poverty



Source: Own observation, March, 2020

Hence from total of 375 sampled respondents, household head with his/her spouse accounts 81.60% and 18.40% are household head without his/her spouse. Of the total household head without his/her spouse, 14.07% of them are founded as poorest and 23.30 % are non-poor. Of the total household head with his/her spouse,85.93% of them are poor and 76.70% are non-poor. Therefore, result of analysis shows that in rural area of West Hararge zone those of headed household without spouse are less decanted to poverty than those with their spouse headed household.

16. Household Family Size and Rural Poverty

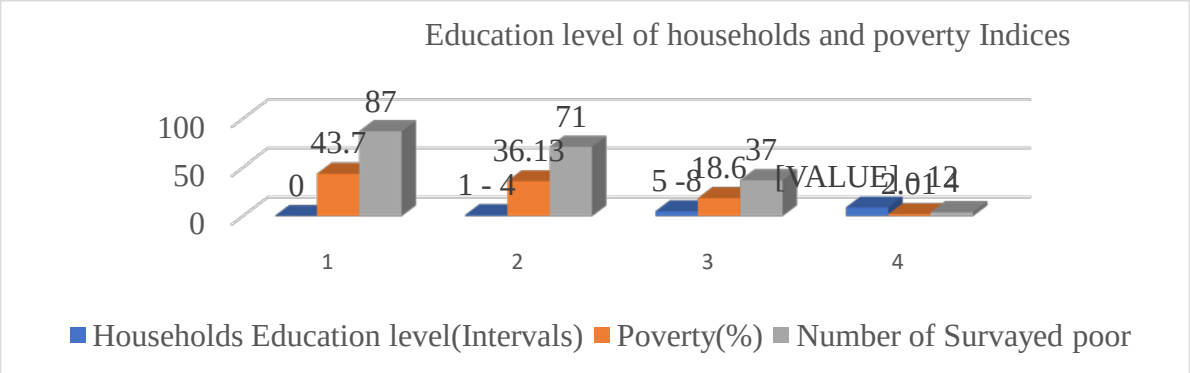


Source: Own observation, March, 2020

The maximum and minimum household size of the study area was 14 and 2, respectively, and average household size was 7people per household. As it was indicated from the study from the total sample size of 375 ranging from 2 -7 and 8 -14 family size shows total surveyed households those with having 2 to 7 members were showed 234 households where as those of have 8 to 14 was surveyed only 141 households. In addition, to analysis respective to those falling to poverty, study was taken consideration to size of poor surveyed households, and result shows from the total poor surveyed 199 households, poor contained 59.29 with having 2 to 7 family size and 40.7 were for 8 to 14 family size. Hence, increase in household size has significantly negative influence on likelihood that household regularly falling to poverty.

17.Education of Household Head and Rural Poverty

Figure 3: Education Level and Rural Poverty

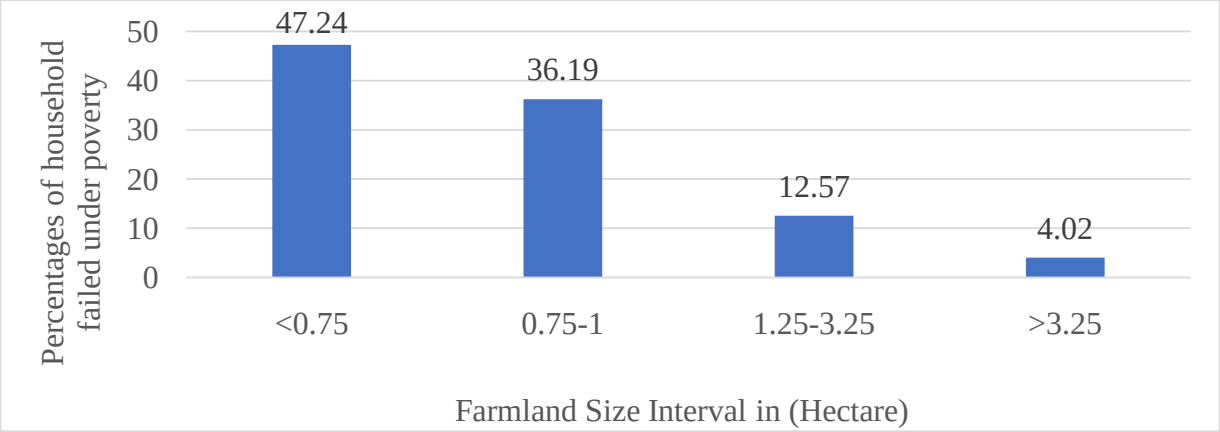


Source: Own Survey Result, March, 2020

The maximum and minimum household education level is 12 and 0, respectively. The average household education level is 2.437 percent people per household. From total sampled poor household for under poverty line result of descriptive analysis shows 43.72percent, 36.13percent, 18.6percent, and 2.01percent from illiterate, grade one to four, five to eight, and nine to twelves grade graduates respectively. The variation in difference respective to each percent was due to covered survey differences rather respective contribution to poverty reduction. The above figure presents poverty indices at different level of education of household. It shows households being fails to poverty trap increased as level of education increases. This is reason is attaining higher levels of educational leads to seek to off rural economy rather improving wealthy means of income generation, having capability to imitate technology of economic activities. Hence, an increase in year of education will have positive effect to increase household's probability of

being poor than counter parts. Hence, taking the maximum and minimum attainments for education levels more educated were more faced than those complete minimum level, others remain constant.

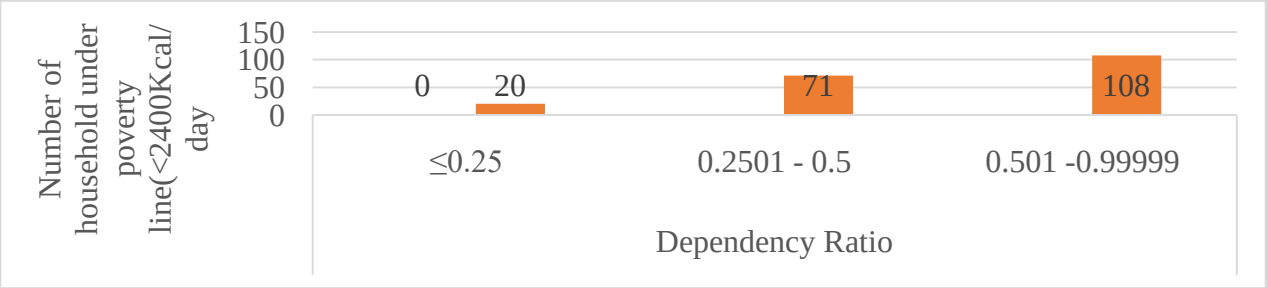
18. Farmland Size Holding of Household and Rural Poverty



Source: Own field observation, March, 2020

The maximum and minimum farm land size of household of the study area is 13 and 0, respectively. The average household farm land size is 1.065percent farmland per household. In this study, the finding shows that large farm land size owners have negative relation poverty, and resulted their livelihood status in study were negatively related with their farm land size owned.

19.Dependency Ratio and Rural Poverty

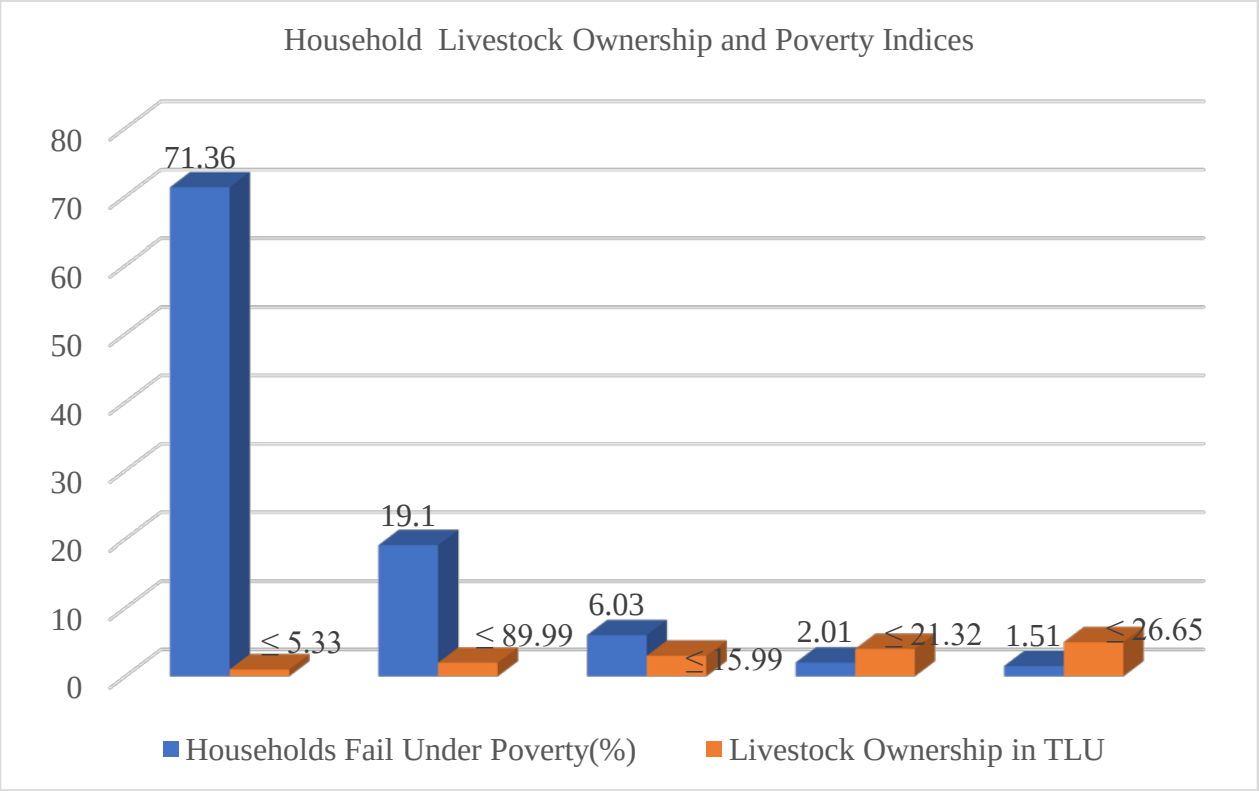


Source: Own field observation, March, 2020

In this study, the minimum to maximum surveyed dependency ratios of household were from zero to approximately to one. The mean of dependency ratio is .52 percent. The result of this shows as dependency ratio was increased, household ability to escaping from poverty decreased in a unit. This result is due to members of households are either they are retired, too young to employed or disabled.

20.Livestock Ownership and Rural Poverty

Figure 4: Poverty Indices and Livestock ownership



Source: Own observation, March, 2020

In this study the minimum and maximum ownership of livestock in TLU to household were from 0 to 26.65, and 4.010291 mean value. In light of this, researcher found ownership of livestock has negative relations with being fail to poverty. Hence, increase in household livestock ownership size by a unit has significantly decreasing probability of household to be poor than counterpart.

21. Finding

The researchers in study area finds, out of 375 total respondents the below poverty line were accounts for 52.8% of sampled households. The incidence of poverty among sampled households is 23.8% and 13.54% for poverty gap, and poverty severity index respectively. The study concludes that poverty is silent killer. It could be alleviated poverty by identifying and attacking determinant factors of poverty. One way of doing this is studying on the status of rural poverty by informing concerned parties as factors are important to fighting poverty. Without identification of status of poverty that accounts for life in rural is ridiculous to solutions.

22. Recommendation

The researcher argued that the targeting is an essential instrument to achieve better poverty alleviation measures. Targeting the poor within communities in view of the poorest of poor need to be identified and supported. The researchers result indicates uplifting livelihoods of the poorest households can contribute significantly to reduce overall poverty. Giving an awareness to those divorced household about difficulties to combine household management with income earning, child rearing, and solve through mediation and rule of constitution should be encouraged. Pre and post marriage orientation is important to reduce rate of divorce since poverty is high in result. Regards to rural area having large family size can play a great role in

poverty alleviation. Therefore, having enough family size increased size with planning should be made recommended to family planning expertise to increase rate of family members effectively.

There is need to awarding household to those use effective to owned farmland size rather holding increased size should be taken to bring underutilized farmland resource into utilized for earnings from activities-based land, also taken by government to minimize the cost of under-utilized farmland and utilized reward differentials between the one who utilize actively and who did not by giving price for ranked actively. The effort of holding livestock ownership should be further intensified with management to conserve more since it will able to reduce poverty and used for consumption expenditure. Supporting female headed households to overcome poverty will most probably yield better results in terms of improving status of households. In addition, affirmative action programs that ensure a greater access of women to assets, education and participation in decision-making should be encouraged.

23. Suggestion for Future Studies

The researcher suggested that further researcher must commit to work cooperatively with partners and have to take immediate action to minimize open development plan in achieving rural economic plan considering for changing living status. Community-engagement organizations, academics, and individuals to alleviate poverty should working collaboratively at all levels will be essential to implementing in long-term prevent poverty and consequences.

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