Analyzing Demographic Context of Rural Households by Food Poverty level: A Case of Humbo District, Southern Ethiopia

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Authors' contributions

This work was carried out in collaboration between both authors. Author FYM designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author TTZ managed the analyses of the study and the literature searches. Both authors read and approved the final manuscript.

Original Research Article

ABSTRACT

The major objective of this study was analyzing the demographic context of rural households by food poverty level: A case of Humbo district, Southern Ethiopia. To achieve this objective, relevant data were collected through a structured interview. The generated data were computed through descriptive (frequencies, percentages, ratios, mean values, standard deviation, standard error) and t-test inferential statistics to analyze desired household characteristics to poor and non-poor categories in Humbo district. Hence, comparing with non-poor rural households, poor rural households have less average of family size in Humbo district than non-poor households showing significant difference at 1 per cent significance level. There was an insignificant mean difference between poor and non-poor concerning dependency ratio, average age household heads and the

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female-male ratio of rural households at 5 per cent significance level in Humbo district. Our final conclusion was that effort should be made to improve those identified the demographic factors to alleviate rural food poverty of Humbo district.

1. INTRODUCTION

Food poverty is the cost of basic needs approach relayed on aggregate consumption food [1]. From the perspective of basic needs, World Bank [2,3] and Ferreira, et al. [4,5,6] define poverty as deprivation in well-being and define the poverty line as minimum income/consumption expenditure need to buy food basic needs of 'shopping basket'. According to FAO [7] estimates, about 815 million people of the 7.6 billion people in the world, or 10.7%, were suffering from chronic malnutrition. Almost all the hungry people live in lower-middle-income countries. Many developing countries in Latin America, Africa and Asia remain behind developed countries mainly due to lack of infrastructure, education, health services and higher incidence of poverty [8]. Hence, poverty is continued to be a highly threatening social problem that has claimed the lives of millions directly or indirectly in most of these developing world. The problem is more intense in Sub-Saharan Africa including Ethiopia where poverty is chronic in rural areas [9,10,11].

Thus, extreme food poverty remains inadmissibly high in Ethiopia [12]. For instance, It's Gross National Income per capita amounted to USD 619.2, which is less than 1258 USD average for sub-Saharan African countries [13]. The growth elasticity of poverty reduction is -1.53 when using household consumption growth, considerably lower than the world average of -2.02 [14]. Ethiopia is among the list of identified 10 countries in the world receiving international humanitarian aid in 2014 (DI, 2016). In 2011, food inflation was 39 per cent, three times the sub-Saharan Africa average of 13 per cent. Hence, poverty is the colour of Ethiopia [15,16,17,18].

Comparing with Urban, the poverty issue of Ethiopia is increasing more in rural areas [19] where almost 83% of the population is living [20,21,22]. This means poverty is more widespread and severe in rural areas than in urban area. According to [23,12,24] Survey result, the proportion of the population below the poverty line (poverty headcount index) Mounted at 25.6% in rural areas with the noticeable difference of 14.8% in urban areas. Hence, in this paper, the researchers focused on relative distribution or snap shoot of poor and non-poor households by demographic characteristics of rural households in Humbo district.

2. OBJECTIVE OF THE STUDY

The objective was to identify demographic characteristics of rural households by poverty level in Humbo district.

3. RESEARCH METHODOLOGY

3.1 Location of Humbo District

Humbo is one of the districts in the Southern Nations, Nationalities and Peoples' Region of Ethiopia. Part of the Wolayita Zone located in the Great Rift Valley, Humbo is bordered on the southeast by Lake Abaya which separates it from the Oromia Region, on the south by the Gamo Gofa Zone, on the west by Offa, on the northwest by Sodo Zuria, on the northeast by Damot Weyde, and on the east by the Bilate River which separates it from the Sidama Zone. The administrative centre of Humbo is Tebela [25].

3.2 The population of Humbo District

Based on the figure published by the central statistical agency estimation in 2007, Humbo district has total rural households of 24370 and 1,513 Urban households 25,883 households. The majority of the inhabitants were Protestants, with 87.15% of the population reporting that belief, 7.87% practised Ethiopian Orthodox Christianity, and 4.07% were Catholic. The three largest ethnic groups reported in Humbo were the Wolaita (96.33%), the Amhara (1.28%), and the Sidama (0.86%); all other ethnic groups made up 1.53% of the population. Wolaitagna is spoken as a first language by 96.8%, 1.5% Amharic, and 0.88% speak Sidama; the remaining 0.82% spoke all other primary languages.

3.3 Research Methods

In this study, the researchers used a quantitative research design to come up with the best research analysis of this paper.

3.4 Types and Sources of Data

Primary data was collected from sample rural households employing a structured interview with the help of enumerators. Before the actual survey, the interview schedule was written in English and then translated to its corresponding *Wolaitagna* version for ease of data collection. Field trips were made before the start of the actual survey to pretest the questionnaire on selected rural kebeles. For pretesting purpose, some household heads outside the sample households were interviewed. After incorporation of modifications, the final version of the questionnaire used to gather the data from rural households relevant for the study was prepared. Continuous supervision of the process was made to correct possible errors on the spot. Secondary data was also obtained and utilized from various sources such as reports of district agricultural bureau, zone report and regional reports on issues associated with rural households and rural poverty.

3.5 Methods of Data Collection

Schedule interview was the principal source of the data gathering tools in this research more than the other. It was designed to both close and open-ended question by the English language and translated to Wolaitagna for the sample respondents aiming for the clarity. Then the scheduled interview was accessed to the sampled household by the enumerator to gather both qualitative and quantitative data, which is assumed to relevant to the problem under study.

3.6 Method of Data Analysis

To describe the situation of rural food poverty, descriptive statistics like frequencies, percentages, ratios, mean values, standard deviation, standard error and others were used to assess the status of rural poverty based on demographic indicators in the study area. To make inferences from samples to populations, t-test inferential statistics were used to analyze desired household characteristics to poor and non-poor categories in Humbo district. Inferential statistics linked with the chance of an event occurring so that the mean difference of poor and non-poor categories have been compared and contrasted concerning the desired characteristics by independent sample t-test analysis for continuous variables was used.

4. RESULTS AND DISCUSSION

4.1 Food Poverty Level of the Surveyed Households

Before the demographic characteristics of rural households by food poverty level, it was better to compute food poverty level of the surveyed households as displayed in Fig. 1 to create a baseline of our analysis. Using the cost of basic need approach, aggregate consumption food poverty indices corresponding to selected Food for 2015/16 was computed to 3772.00 Ethiopian Birr per adult equivalent per year CSA/NPC, 2017). Hence, those households falling below the minimum requirement of 3772.00 Birr were considered to be poor, while those above 3772.00 Birr were classified as non-poor households.

Information presented in Fig. 1 showed that 59.43% of the respondents come under the category of poor, while 40.57% were non- poor in the study area. This implied that the majority of rural households were endowed with food poverty in Humbo district.

4.2 Demographic Characteristics of Rural Households by Food Poverty Level

The demographic variables of rural households were critically important in the analysis of the food poverty level as indicated below.

4.2.1 Average household size by food poverty level

Average household size for the poor and non-poor households concerning food poverty level was indicated in Table1. Accordingly, Figure computed from the survey indicated that the average household size of the poor rural household was found to be 7.13 ± (2.58*0.146) persons per household and 5.92± (2.58*0.134) non-poor in Humbo district (Table 1). This means the average household size of the rural inhabitant of poor was more than the average household size of non-poor in Humbo district.

4.2.2 The female-male ratio by food poverty level

The food poverty level of the female-male ratio of the rural household members is presented in

Table 2. The table showed that the relative number of female members in poor households (86.95%) was greater than female members in non-poor households (79.96%) in the study area. Hence, we can conclude that the female-male ratio was higher among poor households than non-poor. However, the average female-male ratio for poor sample households was 0.97 with a standard deviation of 0.648 while the average female-male ratio for poor sample households was 0.99 with a standard deviation of 0.674 in Humbo district. Hence,the average female-male ratio of the poor group was less than non-poor in Humbo district. However, there is an insignificant mean difference (t=-0.229) between poor and non-poor concerning the female-male ratio of rural households in the study area.

4.2.3 Age of the household head in years by food poverty level

Table 3 describes the poverty level of average age household heads. The average age of poor household heads was 45.86 year with a standard deviation of 10.084 while the average age of non-poor household heads was 49.65 years with a standard deviation of 11.560 in the study area. This mean, the highest proportion of poor households related to those household heads that have the lowest average of age. The relative higher average age of household heads was related with non-poor household heads in Humbo district. However, there was insignificant mean difference (t=-1.470) between poor and non-poor in terms of average age household heads at 5 per cent significance level.

4.2.4 Dependence ratio by food poverty level

The food poverty level of dependence ratio was calculated and given in Table4 and it showed the relative bigger number of children and old person in poor households (76.69%) than non-poor households (62.24%) in the study area. On the other hand, the average dependence ratio for poor sample households were 0.628 with
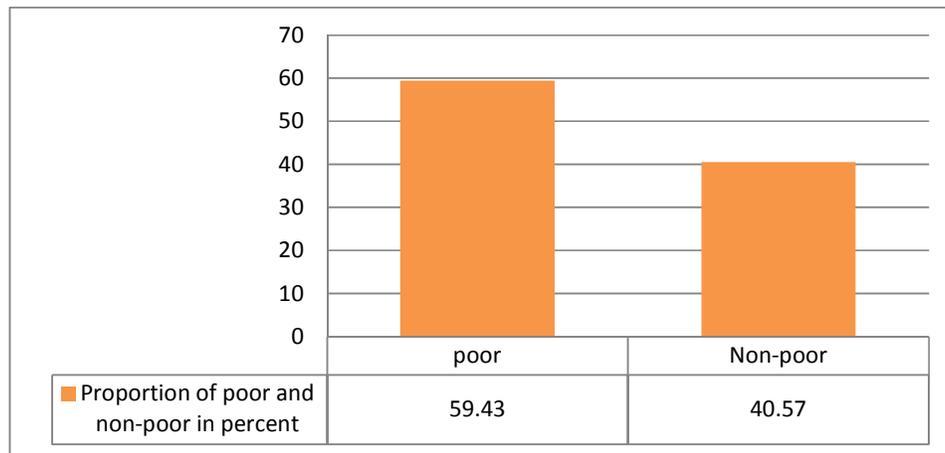

Fig. 1. Food poverty level by national food poverty line (3772.00 Birr per year)
Source: Survey result, 2019

Table 1. Average person per households by food poverty level in Humbo district

Poverty level	Mean	Std. Err.	Std. Dev.	t -value
Poor	7.13	0.146	2.12	
Non-poor	5.92	0.134	1.68	5.9027***

*Notes: *** indicates that the coefficient is significant at 0.01 significant levels*
Source: Survey result, 2019

Table 2. Female-male ratio by food poverty level

Poverty level	Per cent.	Mean	Std. Err.	Std. Dev.	t -test
Poor	86.95	0.97	0.045	0.648	
Non-poor	79.96	0.99	0.054	0.674	-0.229

Note: Female-male ratio is converted to percentage in column two of the above table
Source: Survey result, 2019

Table 3. Shows the average age of the poor and non-poor head of households

Poverty level	Mean	Std. Err.	Std. Dev.	t –test
Poor	45.86	0.665	10.084	
Non-poor	49.65	0.923	11.560	-1.470

Source: Survey result, 2019

Table 4. Dependence ratio by food poverty level

Poverty level	Per cent.	Mean	Std. Err.	Std. Dev.	t –test
Poor	76.69	0.628	0.032	0.458	
Non-poor	62.24	0.570	0.036	0.473	0.797

Notes: Dependence ratio is converted to a percentage in column two of the above table
Source: Survey result, 2019

standard deviation 0.458 and also the average dependence ratio for non-poor sample households were 62.24 with standard deviation 0.473 in the study area. This showed that there was an average dependence ratio difference between poor and non-poor. This means that the average dependency ratio was high in the group of poor household in the study area. However, there was an insignificant mean difference (t=-0.797) between poor and non-poor concerning dependence ratio of rural households in Humbo district.

5. CONCLUSION AND RECOMMENDA-TION

Poor families have more people to feed and they have less money so that would greatly contribute to food poverty. There is no difference between poor and non-poor in the number of dependency ratio and female-male ratio in having money to feed their families. Similarly, there was also an insignificant mean difference between poor and non-poor families in terms of age of household heads in having money to feed their families in Humbo district. Hence, all concerning body including government and non-governmental organization have to give due attention to rural household characteristics by food poverty level against poverty alleviation used for promotion and protection policy in the study area. In addition to above, different media and activists should sensitize, and disclose the area of poor families in contrast to non-poor families to make fertile ground for any intervention to alleviate food poverty.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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