

Assessment of the Status and Severity of Multidimensional Poverty in Cash-Crop Based Rural Settings: The case Khat producing Haramaya District in Ethiopia

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Abstract

Shifting rural areas from subsistence to cash-crop production has got emphasis from different state and non-state development actors as a plausible step to generate better income. However, there is lack of empirical researches showing the facet of multidimensional poverty in the cash-crop producing areas. The objective of the study is to assess multidimensional poverty in the khat and vegetable producing rural settings of Haramaya district in Eastern Ethiopia. The research used cross-sectional household survey data gathered from 381 rural households and applied Alkire-Fosters of Multidimensional Poverty Index (MPI) to measure household poverty. The research finding shows that the proportion and intensity of multidimensional poverty in the study area is much more profound compared to the national and regional average as well as in most parts of the country. Deprivation in the living standard indicators such as lack of sanitation facilities, lack of energy sources, lack of safe drinking water and lack of electricity are the major contributors for the severe poverty in the study area. The deprivations in those important indicators are dominantly caused by economic, attitudinal and locational factors. Therefore, the government and other development actors are highly recommended to wedge joint efforts on

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projects such as rural electrification, developing drinking-water and road infrastructures as well as well-being education which can hit multiple targets in curbing poverty.

Keywords: Rural, multidimensional poverty, poverty headcount, poverty intensity,

Introduction

Poverty is one of the major challenges of rural areas and developing regions. In both the developed and developing regions, rural areas have much more types and degree of deprivation than the urban areas (Naminse & Zhuang, 2018). Developing regions host large and increasing numbers of people living under the poverty line (Si *et al.*, 2015). Sub-Saharan Africa is a typical example in this regard (Fiseha *et al.*, 2019).

In addition to being identified as the agenda of developing regions, poverty is more of a rural agenda. Rural poverty in the multidimensional aspect is much higher (85%) in rural areas as compared to the urban counterpart and it is one of the worst in rural areas of Sub-Saharan Africa (Alkire *et al.*, 2014). To alleviate similar problems in different developing countries several state and non-state actors have embarked towards participatory and community based development projects with much emphasis on rural poor and other vulnerable communities . The United Nations has set “Ending poverty in all its forms everywhere” as the first of its 17 agenda of sustainable development goals (SDG 2030) (Flentø 2021).

Ethiopia is one of the worlds’ poorest countries found on the bottom list of well-being in the list of countries used by Alkire *et al.* (2018). Haramaya district is one of the most populous rural districts in Ethiopia. It is located in the Eastern part of the country 500 KM away from the capital city (Addis Ababa). Crop and vegetable production are the source of income of the households in the district. The higher share (36.5%) of the household income came from production of *Khat* (a cash crop) which is followed by sorghum, maize and haricot beans (Abebe *et al.*, 2014). The larger share of the khat and vegetables are produced to be sold in domestic markets and in the neighboring countries (Djibouti, Somaliland, and Somalia). The area is vulnerable to poverty and food insecurity due to high population pressures, land degradation and deterioration of other natural resources (Sileshi *et al.*, 2019). The study conducted by Beyene *et al.*, (2020) on the nutritional status of under-5 children in Haramaya district shows that 36.6 percent of children are stunts and around 20 percent of them are underweight. The district has been among Productive safety net program (PSNP) targets since the early 2000s (Sileshi *et al.*, 2019).

Some studies revealed that khat producing areas and households earn relatively better income (Hussein *et al.*, 2022; Njiru *et al.*, 2013). But their status in terms of multidimensional well-being is less studied. Hence, this paper attempts to contribute a brick to bridge the knowledge gap on the subject by assessing the status and intensity of poverty in a khat and vegetable producing Haramaya district .

Theoretical Background

Even though the issue of poverty has long been one of the central agenda for practitioners, academics and institutions working on development matters, yet

[I]ts definition varies among development practitioners, researchers, governments, multi-national corporations and non-governmental organizations due to the nature, magnitude and causes of poverty which differ across regions and nations of the world (Fiseha et al. 2019: P-205).

The variations in defining the concept have also impacted in variations of the ways poverty is measured. Naminse & Zhuang (2018) and Hailu (2016) summarized those wide ranged conceptualizations of poverty as dichotomies of narrow-broad, absolute-relative, quantitative-qualitative, unidimensional- multidimensional, Chronic-transient, urban-rural, etc. Todias et al (2013) also give personal wealth Vs quality of life dichotomy.

In spite of such differences all of the poverty studies appear convergent in their basic philosophy and purposes. Philosophically can be taken as undesirable and ‘unacceptable’ side and level of inequality (Asselin 2009). Wu & Si (2018) describe that poverty was initially associated with groups’ lack of food and resources for maintaining minimum living conditions. But recently, the scope of poverty has got much wider to include vulnerability, political rights and general opportunity and capability (Bruton et al. 2013). For Tobias et al (2013) the central elements to be seen with regards to poverty are subjective well-being (happiness) and quality of life of an individual rather than aggregating the national level GDP.

These days, the most widely used approach describes poverty as a multidimensional phenomenon which is an aggregate deprivation of human well-being that entails lack of basic necessities, access to basic education, primary health care and protection against discrimination (Naminse & Zhuang 2018). Multidimensional approach of poverty emanates from the Capability Approach of Amartya Sen (1999). Sen, (1999) describes poverty as lack of basic capabilities explained in terms of adequate nourishment, health, capacity to operate one’s economic and social life, permission to take part in community activities.

With regards to measuring multidimensional poverty, different inter-governmental organizations have set a list of poverty indicators. Four categories of assets, namely human capital, social/institutional assets, natural resources and man-made assets identified by Rogerson in 1999 for measuring poverty. Recently, Alkire et al., (2010) have developed a multidimensional poverty index (MPI) with three dimensions, i.e. health, education and living standard. There are a total of ten (10) indicators under the three dimensions. This was revised in 2011 as Standard MPI (MPI-0) and in 2014 as Multidimensional Destitution Index (MPI-I) (Alkire & Santos 2011; Alkire & Santo 2014).

However, the Multidimensional approach to poverty is not perfect and unanimously welcomed. Rather critics point-out its shortcomings in relation to continuity, monotonicity, and sensitivity to multiple deprivation (Duclos & Tiberti 2016). Rippin (2011). Alkire et al. (2018) also discusses the failure of MPI to capture the correlation between the indicators, intra-poor and intra household inequality.

Empirical Review

Researches on multidimensional poverty conducted so far are diverse in nature. Their focuses include elaborating the concept (Alkire & Foster 2011; Wagle 2009; Asselin 2009); setting models and indices for its measurement (Thorbecke 2013; Alkire & Foster 2011; Alkire & Santos 2010) and application of the theory and the models in different social and geographical settings (Kaibarta et al 2022; Coromaldi & Zoli 2012). In recent times, the Alkire-Foster method MPI is widely used to determine the status of poverty in different levels of analysis and diverse types of data.

The method is highly emphasized by researchers to assess poverty in the developing regions and rural areas (Padda & Hameed 2018; Joshua et al. 2017; Adeoti, 2014). Ethiopia is one of the countries whose data were used to develop the MPI model (Alkire & Santos 2014, Alkire & Santos 2011). Besides, several other researchers have analyzed the in some parts of Ethiopia employing the same model (Eshetu et al. 2022; Ambaye et al.,2021; Gebrekidan et al., 2021; Abeje et al., 2020; Tigre, 2018; Ambel et al., 2015).

Methodology

This research was conducted based on a cross-sectional survey undertaken in Haramaya district which is located in East Hararghe Zone of Oromiya Region of Ethiopia. The latest unpublished official report from the district's administration office shows that there are a total of 44,644 households in the district (HDAO 2019).

The data were gathered from five sub-districts (two from lowland and three from midland agoclimatic zones) based on multistage sampling. 381 households were selected for semi-structured survey based on the formulae of Krejcie and Morgan (1970). The formulae is mathematically presented as

$$S = \frac{x^2 NP(1 - P)}{d^2(N - 1) + x^2 P(1 - P)}$$

Where: S = the sample size; X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level which is the square of 1.96 (3.841) N = the total target population (44,644²). P = the population proportion assumed to be 0.50 (since this, according to Krejcie and Morgan (1970) would provide the maximum sample size). d = the degree of accuracy expressed as a proportion (0.05).

$$S = \frac{1.96^2 \times 44644 \times 0.5(1 - 0.5)}{0.05^2(44644 - 1) + 1.96^2 \times 0.5(1 - 0.5)} = 380.83$$

Accordingly, the sample size becomes 381 households

² Official report found from district administration office (unpublished) shows that the district has a total of 44,644 households in 35 sub-districts (kebeles) out of which 33 sub-districts are classified as rural.

The sample from each sub-district were identified based on proportional random sampling formulae $ns = n \frac{Ns}{N}$

Where **ns** refers to sample size of households from sub-district, **N** stands for total Household of the district, **Ns** implies total household of the sub-district and **n** is total sample (at district level).

Finally, the respondent households were selected through a simple random sampling method using the household list from administration offices of each sub-district. Survey questionnaires were developed in English language and translated into the local language (Afan Oromo) for convenience. The data were gathered by extension workers hired and trained as enumerators for the specific purpose. Stata version-14 software and Statistical Package for Social Sciences (SPSS) version 20 were used for data analysis.

Analytical Models

To analyze household poverty, the research employed multidimensional poverty index (MPI), developed on the basis of Alikire-Foster Method and well depicted by following UNDP and OPHI endeavors. Accordingly, multidimensional poverty is measured by three equally weighted poverty dimensions, i.e. health, education and living standard. There are a total of ten (10) indicators under these dimensions. Nutrition and child mortality are the indicators with equal weight under health dimension whereas child enrolment and year of schooling are indicators of education dimension of poverty. Living standard is measured by water, cooking fuel, toilet, electricity, floor material and assets.

Table 1: Multidimensional Poverty indicators and their weight

Dimensions of poverty	Indicator	Deprived if	W
Education	Years of schooling (Ed-1)	No household member completed grade 5	1/6
	Child school attendance (Ed-2)	Any school aged child (7 to 15 years) is not attending school	1/6
Health	Morbidity (H-1)	HH experienced death of under-5 child	1/6
	Nutrition (H-2)	Any household member is informed or treated because he/she is malnourished	1/6
Life Standard	Electricity (LS-1)	Access to electricity	1/18
	Improved Sanitation (LS-2)	HH has no improved sanitation facility or they use together with other households	1/18
	Drinking water (LS-3)	The household can't get a safe drinking water in a distance of 30 minutes' walk, round-trip.	1/18
	Flooring (LS-4)	Household has a dirt, sand/soil or dung floor	1/18
	Cooking Fuel (LS-5)	Household cooks with wood, dung or charcoal	1/18
	Asset ownership	Household owns one of the durable assets	1/18

	(LS-6)	such as TV, radio, mobile phone, bed, bicycle, motorbike/tricycle, water pump/generator
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Source: Alkire & Santos (2014); Alkire & Santos (2011)

Next to the model specification, setting cut-off points and weights are important to come up with visible results. Each poverty dimension weighs 1/3 value and each one of the pair indicators under education and health weigh 1/6 whereas every one of the six indicators under living standard dimension weigh 1/18.

Here the weight **W** for indicator **i** is $\sum_{i=1}^d Wi = 1$ (Alkire & Santos, 2010).

The general poverty/deprivation score of each respondent ranges from **0** (if a person is not deprived in any of the indicators) to **1** (if the respondent is below the cut-off in all of the indicators) out of the sum of weighted indicators.

General deprivation of a person

$$Ci = \frac{W_1}{1} + \frac{W_2}{2} + \dots + \frac{W_d}{d}$$

Where **Ci** is general deprivation score (ranging from **0** to **1**) and

Wi is weight attached indicator **i**.

Finally, the respondents will be classified with dummy responses in-to two. A household is categorized as multidimensional poor if it is deprived in 33.33% or more weighted indicators based on Alkire & Santos, (2014) categorization. A person will be taken as poor if he/she is marked above the composite cut-off line and as non-poor if he is marked below the composite cut-off. The MPI is calculated by multiplying the incidence of poverty by the average intensity across the poor (AxH).

Poor households also differ in the intensity of their poverty which is described by the average proportion of indicators in which they are deprived. In this token households are classified as non-poor if they are deprived in less than 20% of the weighted indicators; as “vulnerable to poor” if they are deprived in 20%-33.32%; as poor if they are deprived in 33.33%- 50%; and severely poor if they are deprived in more than 50% (Alkire & Santos, 2014).

In addition to the multidimensional poverty headcount ratio, intensity and the MPI, the total deprivation score and the contribution of each indicator for the overall multidimensional deprivation were measured. The total deprivation score represents the sum of household deprivation which stands for the proportion of the total number of variables in which the households are deprived to the total number of indicators. This is mathematically expressed as

$$\sum_{i=1}^n \frac{\sum_{i=1}^{10} Di}{10}$$

Where D_i stands for the indicators in which a household is deprived and the total number of indicators used in the study are 10 in number.

On the other hand, the contribution of each indicator for the overall poverty is expressed as the proportion of total number of households deprived in indicator i to the sum of deprivation in all indicators.

$$\text{contribution by indicator } i = \frac{\text{total number of households deprived in indicator } i}{\text{total deprivation count in all indicators}}$$

Finally, data gathered through focus group discussion and interview were used to augment and elaborate the quantitative results and the discussions are made inline to OPHI (2021); Mare et al.(2022) and Hailu (2016).

Result and Discussion

Respondents' Profile

The data were collected from 381 respondents who are residents of five kebeles (sub-districts). 128 (33.6%) of the respondents were residents of Kurro Jalala sub-district followed by Biftu Gada residents that accounted for 108 (28.35%). The remaining 58 (15.22%), 46(12.07%) and 41(10.76%) are residents of Fandisha Lencha, Haqa and Ugaz Lencha sub-districts, respectively. 325 (85.3%) of them are male and the rest 56 (14.7%) are female. Their age ranges between 18 and 75 years and the mean is around 36 years.

Table 2. Respondents Profile

Characteristics	Category	Frequency	Percentage
Gender	Male	325	85.3
	Female	56	14.7
	Total	381	100
Marital status	Single	31	8.14
	Married	300	78.74
	Divorced	30	7.9
	Widowed	20	5.25
	Total	381	100
Level of Education	Have not Attended any school	166	43.57
	Primary school	112	29.40
	Secondary school	66	17.32
	Diploma or Certificate	21	5.51
	Bachelor Degree and above	16	4.19
	Total	381	100.00
Kebele (Sub-district)	Kurro Jalala	128	33.6
	Biftu Gada	108	28.35
	Fandisha Lencha	58	15.22
	Haqa	46	12.07

	Ugaz lencha	41	10.76
	Total	381	100

As far as the literacy rate is concerned, about 166 (43.6%) have not attended formal education whereas attended only to the level of secondary school. 21 (5.5%) have attended certificate/diploma; 16 (4.1%) have reached bachelor degree and above. Great majority of the respondents that accounted for 300(78.74%) are married whereas the other 31(8.14%) are singles and the remaining 30 (7.9%) and 20 (5.25%) are divorced and widowed, respectively. Out of the 381 respondents 380 (99.74%) have provided complete responses for multidimensional poverty items in the questionnaire.

Aggregate Multidimensional Poverty Status

Table-3: Composite Results

	Value	Percentage
Multidimensional poor households	325	85.5
Non-poor households	55	14.5
Poverty headcount ratio	0.8552	85.5
Poverty intensity	0.5884	58.8
MPI	0.5032	
Total deprivation score	185.67	

Source: Own survey (2021)

As it is shown in table 3 above, out of the 380 sample rural households of Haramaya district about 325 (85.5%) are multidimensional poor and 55 (14.5%) are non-poor. The headcount deprivation ratio is 85.5% with a total deprivation score of 185.7 and the poor are deprived in 59% of the weighted multidimensional poverty indicators. Based on this, the multidimensional poverty index, which is expressed as the product of headcount ratio and intensity of deprivation) becomes. 0.503.

Multidimensional poverty in Haramaya district is more than the national average in terms of in the headcount average and the MPI which, according to UNDP (2021) report, are 68.7% and 0.367% respectively. It is also more than the average in the Oromia region (which is 71.5% and 0.385, respectively) (OPHI 2021). It is also worse than the multidimensional poverty in northern Ethiopia, which is 60% (Gebrekidan et al., 2021), southern Ethiopia, where it is 72.3% (Eshetu et al. 2022) and western Ethiopia, where it is 80.1% (Ambaye et al.,2021).

Moreover, the intensity of multidimensional poverty in the district is deeper than the national (i.e.53.3%) and regional (i.e. 53.78%) average intensity (UNDP 2021; OPHI 2021) .

Table 4: The proportion of Multidimensional poor by Sex, level of Education and Sub-district

	Multidimensional poor		
	Frequency(N)	Column (%)	Row (%)
Female HHH	49	15.1	87.5
Male HHH	276	84.9	85.2
Total	325	100	85.5
No schooling	145	44.6	87.3
Primary	97	29.8	87.4
Secondary	55	16.9	83.3
Certificate/ diploma	16	4.9	76.2
Bachelor degree and above	12	3.7	75
Total	325	100	85.5
Biftu Geda	95	29.2	88.8
F. Lencha	52	16	89.7
Haqa	41	12.6	89.1
Kurro Jalala	106	32.6	82.2
U. lencha	31	9.5	75.6
Total	325	100	85.5

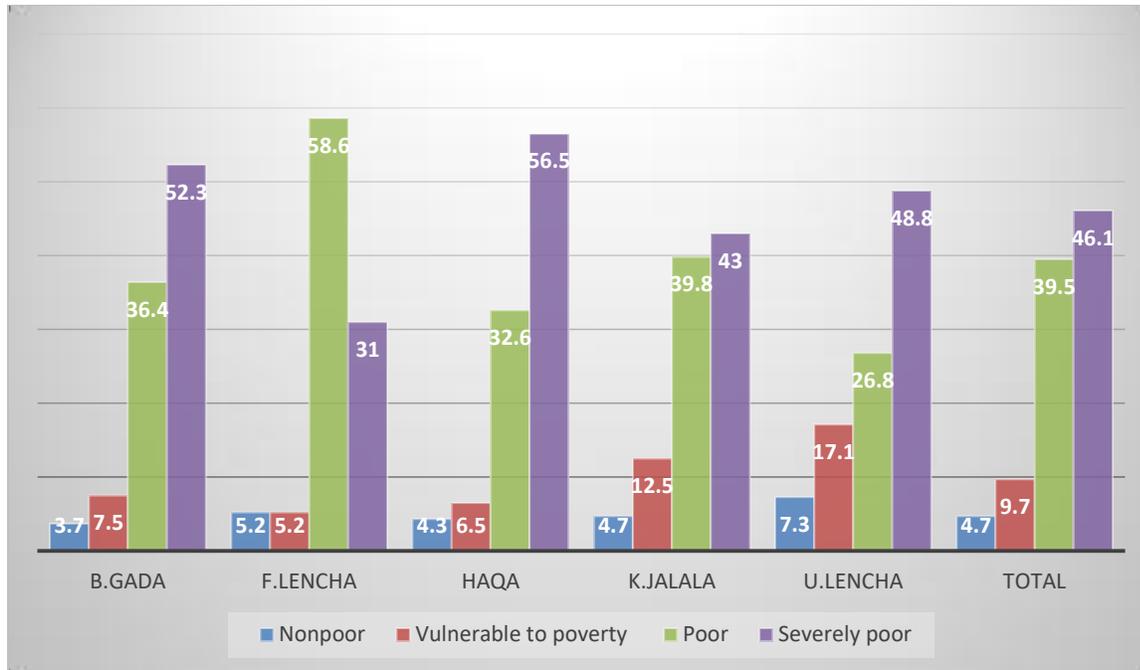
Source: own survey 2021

The district level aggregate result shows female headed households have a slightly larger proportion of multidimensional poor (87.5%) as compared to the male headed ones (85.5%). The proportion of multidimensional poor households shows a decline with the advancement in the level of education from 87.3% (for non-schooled ones) to 75% (for degree holders and above) as indicated in table 4. As far as the sub-districts are concerned, Fandisha Lencha and Ugaz Lencha have the highest (90%) and lowest (76%) of multidimensional poor.

Severity of Multidimensional Poverty

In addition to their discrepancy as poor and non-poor, households differ in their intensity of poverty (I.e., the average proportion of indicators in which they are deprived) (Alkire & Santo, 2014) . In this regard the composite intensity of multidimensional poverty is 50.3% (see table 2).

Figure 1: Poverty intensity categories across sub-districts



Source: Own Survey (2021)

Households are categorized based on the magnitude of their deprivation as non-poor (if they are deprived in 0 to 19.99% weighted indicators), vulnerable to poverty (if deprived in 20 to 33.32%), poor (if deprived in 33.33 to 50%) and severely poor (if deprived in more than 50%). Initially both non-poor and vulnerable to poverty are categorized as non-poor whereas the poor and severely poor are simply categorized as poor taking 33.33% as a threshold. Figure 1 above shows the proportion of the four category households in the sub-districts.

The results at district and sub-districts levels show that the largest portion of the rural households are the severely poor, followed by the poor, then the vulnerable ones and the absolutely non-poor are the smallest portion in all districts. Fandisha Lencha is an exception where the ‘poor’ households are much larger than the severely poor. One of the major reasons behind this is associated to their proximity to Awaday tow (the influential khat business and export hub) and the focus on urban projects. Majority of the rural residents in general and Haqa and Fandisha-Lencha sub-district in particular emphasize on using the surplus income they earn to invest on building rental or business houses in or on the outskirts of Awaday and Hamaya towns as a means of income diversification or growth. This makes them give lesser attention to develop and improving facilities in their main domicile (FGD).

Deprivation in each Indicators of MPI

First, the correlation between the 10 indicators was calculated so as to identify the degree of their goodness and convenience for undertaking different analysis on them individually and as composite. The calculated Pearson’s correlation value shows that the coefficient of all the indicators fall between -0.12 and 0.39. Such a value shows very less collinearity and the variables highly fulfill the requirements of fit to undertake different measurements.

Table 5 below shows the average proportion of headcount poverty in each indicator shows that around 93% and 92% of rural households are deprived of access to sanitation facilities and the use of low energy sources (such as wood, dung, and charcoal) for cooking, respectively. On the other hand, they are relatively better-off in the level of nourishment with only 19% having household members that are malnourished.

As far as the households in the sub-districts are compared in their deprivation in the indicators Fandisha Lencha has the largest proportion of households deprived in year of schooling (47%) of the households having no member that has schooled to grade five or more. Kuro-Jalala is better off in this regard (29%). Yet Kuro-Jalala is the highest in terms children’s school attendance (73%).

Table 5 Proportion of poverty in each indicator by Sex and sub-district

		Ed-1	Ed-2	H-1	H-2	LS-1	LS-2	LS-3	LS-4	LS-5	LS-6
Sub-districts	Biftu Gada	.429	.439	.337	.234	.832	.888	.925	.832	.944	.477
	F Lencha	.466	.534	.293	.224	.310	.862	.603	.689	.810	.224
	Haqa	.413	.609	.391	.261	.435	.978	.869	.826	.957	.217
	Kurro Ja	.289	.727	.297	.078	.773	.977	.945	.875	.929	.070
	U. Lencha	.415	.439	.341	.171	.488	.927	.732	.829	.927	.341
	Total	.384	.571	.324	.176	.647	.929	.855	.824	.918	.255
Sex	Female	.446	.554	.304	.179	.607	.910	.839	.875	.911	.286
	Male	.373	.574	.327	.176	.654	.932	.858	.815	.919	.25
	Total	.384	.571	.324	.176	.647	.929	.855	.824	.918	.255

Source: Own Survey (2021)

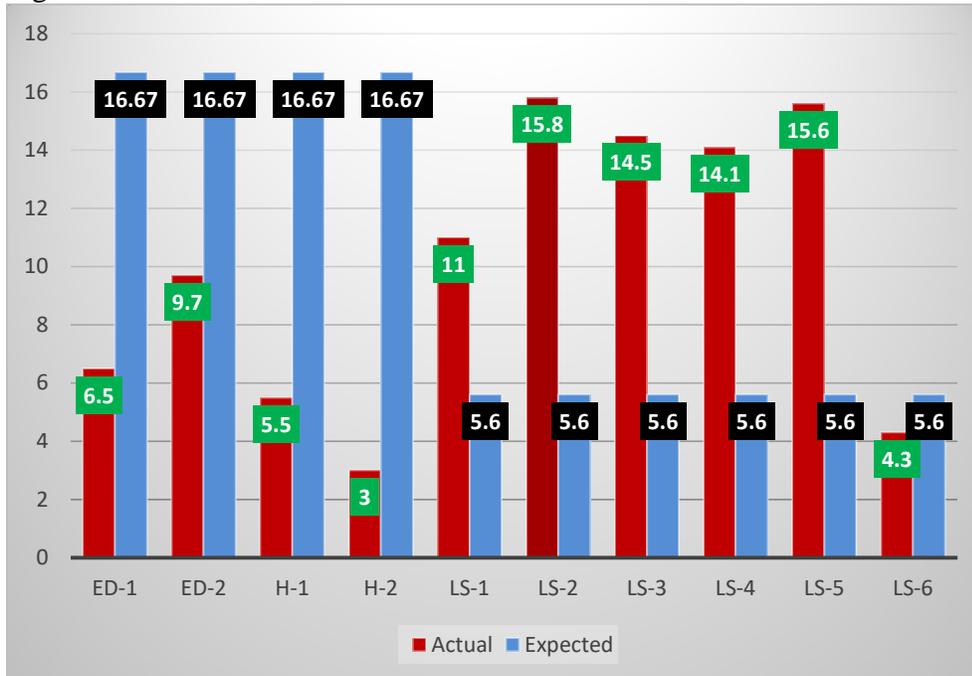
Average proportion of households deprived in the morbidity aspect range between 39% in Haqa and 29% in Kuro-Jalala sub-districts. Haqa and Kuro-Jalal have the worst share (98%) in the access to sanitation facilities whereas Fandisha-Lencha which is said to be better has 86% of its households deprived. Kuro Jalala has the worst degree of deprivation in the access to pure drinking water (95%) and the type of floor (88%) whereas Haqa is the most deprived one in the type of energy used for cooking (96%). Kuro-Jalala has the best result in asset ownership deprivation in which only 7% of its households are deprived whereas Biftu-Gada has the largest share of deprived households (48%).

As far as the gender of the household head is concerned, there is no big visible difference between male and female headed households in the proportion of indicators of multidimensional deprivation. The female headed households are better-off, with a very narrow difference, in the 6 out of 10 indicators, namely child school attendance, morbidity, access to electricity, sanitation, energy source and modern energy sources.

Contribution of each Dimension and Indicator

The other aspect this research looked into is the contribution of each dimension and indicators for the overall multidimensional poverty.

Figure-2: The contribution of each indicator for MPI



Source: Own survey (2021)

Generally, all the three dimensions are expected to have a 1/3 (33.33%) share and each indicator in the education and health dimensions are supposed to have 1/6 (16.7%) contribution. The remaining six indicators under the living standard dimension are expected to have a 1/18 (5.6%) contribution. Yet the survey result shows that 75.3% of the poverty is contributed by the living standard dimension whereas education and health dimension have got 16.2% and 8.5% share respectively.

As it is indicated in figure-2, access to improved sanitation facilities and the type of energy used for cooking are the major indicators that contribute 15.8% and 15.6% while they are supposed to have 5.6% contribution. Other indicators under the standard of living dimension also have immense contribution in this regard since access to drinking water, the type of house floor and access to electricity contribute 14.5%, 14.1%, and 11% respectively. Based on the explanation of Alkire & Foster (2011) such a deprivation which surpasses the base weight of the indicator shows extreme levels of deprivation. Children’s school attendance is the next contributor (9.7%) followed by household members’ year of schooling (6.5%). The deprivation in terms of undernourishment is the least contributor among all (3%) followed by ownership of fixed assets (4.3%) and morbidity (5.5%) indicators.

It is not only the lack of money that made these facilities less available in the rural environment. Rather the people think these facilities as part of urban lifestyle and they invest the money they generate from selling khat to build houses with those facilities in Awaday and Haramaya towns. Then they rent out those houses or give it to their children to stay there and pursue their studies or business (FGD).

Conclusion

The rural households in Haramaya district are in profound multidimensional poverty. It is also one of the multidimensional poor areas in Ethiopia despite its location in the hub of cash crop production, tourism and informal cross-border trade. The multidimensional poverty of the households is mainly attributed to the deprivation in the living standard indicators such as improved sanitation facilities, energy sources, safe drinking water and quality house floor and electricity. On the other hand, the households are relatively better in terms of health-related indicators and ownership of durable assets. The multidimensional poverty, in addition to lack of economic capability of the households to purchase and develop improved living standard facilities, is related to their attitude of considering those living standard facilities as parts of urban lifestyle (FGD).

Therefore, government and other non-state actors should work on infrastructural developments that would ensure the rural households access to those living standard facilities. Most importantly, working on projects like rural electrification, drinking-water and road infrastructure development which can hit multiple targets in addressing multidimensional poverty. Well-being training should also be provided to households to facilitate them to use the money they generate from different sources to improve the facilities in their main residence area.

Besides, there is no remarkable difference between the households in different social and geographical settings (i.e. gender of the household heads sub-districts ecological zones) in the aggregate multidimensional poverty. But there appear discrepancies in the deprivation in some indicators. In fact, it requires establishing the relationship between these and other socio-demographic variables and household poverty. Therefore, it is much recommended that future researchers go deeper into the subject and examine the determinants of the status and intensity of rural households' multidimensional poverty in general as well as factors behind the deprivation in different dimensions or indicators in particular.

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