INSTITUTIONAL CHALLENGES OF POVERTY REDUCTION AND HOUSEHOLD COPING MECHANISMS IN EASTERN HARARGHE, EASTERN ETHIOPIA

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A B S T R A C T

This study examines the institutional challenges of poverty and its coping mechanism in eastern Ethiopia. A sample of 800 households was randomly selected and interviewed from three local administratives namely: Dirree-Xiyyaara, Biiftuu-Gadaa and Hawwi-Gelan. The descriptive statistics indicate that majority of the households reported that they: do not feel secured on the current land ownership status; perceive that their family members, relatives, and communities do not help to them to fight poverty; do not trust in the local or woreda authorities; perceive that their local authorities are not accountable; think that their local authorities are not transparent; perceive that their local authorities are not participatory; and know that their local authorities demand bribe to provide services to the community. Similarly, the econometric result of the probit regression illustrates that distance to the nearest market center, saving culture and saving amount, land ownership status and active participation in social networks significantly determine poverty status of the households in the study areas.

Introduction

Poverty is conceivably the most serious challenge facing the people, governments and development practitioners in developing countries, especially in sub-Saharan Africa (SSA). Three fourths of the poor in the developing world live in rural areas, and rural poverty remains high and persistent-51% in SSA-while the absolute number of poor people increased since 1993 (World Bank (WB), 2008). Poverty is defined from an array of human deprivations in terms of health, education and income (UNDP, 1996).

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Ethiopia, being a sub-Saharan country, is one of the poorest countries in the world by any standard. The Ethiopian Ministry of Finance and Economic Development (MoFED) examines that poverty is a serious challenge confronting Ethiopia, the most prevalent and pervasive social problems of the country (MoFED, 2011; 2012). Cognizant of this reality, Ethiopian is investing heavily to reduce poverty and promote social development. As a result, the proportion of public spending on pro-poor sectors has increased from 57% in 2004/05 to two-third in 2016/17 (UNDP Ethiopia, 2018).

However, Ethiopia still has relatively low rates of educational enrollment, access to sanitation, and attended births. In 2011, for example, 87% of the population was measured as Multidimensional Poverty Index (MPI) poor, which means they were deprived in at least one third of the weighted MPI indicators. This put Ethiopia as the second poorest country in the world when using the MPI approach (OPHDI 2014). Likewise, WHO (2010) pointed out that while 38% of the population has access to safe water, only 12% of the population has adequate sanitation in 2010. In the same year, 48.5 % of the rural population and 23.9% the urban population suffered from chronic malnutrition. These all indicate that Ethiopia as a country has a long way to strive and a challenging assignment to reduce poverty thereby eradicate it for once and for ever.

Here, one might pose a question in this regard if the government is the only concerned body to fight poverty in the country as the determinants of poverty especially at household level are multifaceted and multi-dimensional. The study of determinants of poverty at household level deserves thorough investigation. Admittedly, there are a number of empirical literatures on the determinants (predominantly socio-economic) of poverty among smallholder farmers in Ethiopia.

Eastern Hararghe *zone*[3] located in eastern Ethiopia, the focus of this study, is one of the chronically poor and famine prone parts of the country for a long period. According to the CSA (2007), the zone was populated by a total of 2.724 million habitants. A significant proportion of the population in almost all woredas in the zone live in a situation of chronic food insecurity -unable to meet basic needs, lack productive resources and highly depend on relief programmes (Degefa and Tesfaye, 2008; WB, 2014). Ayalneh (2011) asserted that eastern Hararghe highlands are characterized by more intensive, but small scale farmland holdings producing largely for the market with cash crops, for example, khat, constituting an important part in the landscape; and that poverty in the zone is location-specific, depends on access to irrigated land (not land per se) and access to non-farm income. A study by Ayalneh et al. (2008) also found that while household wellbeing is negatively affected by household size, age of household head, involvement in governance, social and production related networks is also found to be strongly associated with the probability of a household be poor.

The aforementioned studies have tried and contributed to the existing literature on the determinants of poverty in the country at large and the study area in particular. Majority

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3   *Zone is the third-level administrative division in Ethiopia.*

of these studies either focused on the demographic and socio-economic determinants of poverty. Nevertheless, it is believed that poverty is not merely characterized by the traditional demographic and socio-economic determinants but also by the institutional characters of the people. According to North (1999) institutions are composed of i) formal rules (laws and constitutions), ii) informal constraints (conventions, codes of conduct, and norms of behavior), and iii) their enforcement to provide a frame work of incentives that shape economic, political and social organizations. Todaro and Smith (2006) declared that low labor productivity and thereby poverty in developing countries is strongly linked with such institutions as land tenure system, the attitude of people towards work and self-improvement, the discipline of citizens and administrators. Moreover, the prospect of people in developing countries to get out of poverty might be constrained by corruption, inefficiency of the public sector to provide services and in effective legal system (Thirlwall, 2006). Hence, it is imperatives and it is time which needs a paradigm shift in investigating the determinants of poverty from the perspective of the institutional characteristics of households.

The present study, therefore, aims to supplement the literature by examining the institutional determinants of poverty and the coping mechanisms in eastern Hararghe zone, eastern Ethiopia, and thereby provide an important insight to the efforts the government and the people exert in fighting poverty. The study is guided by the hypothesis: "institutional determinants don't affect the households' poverty status in the study areas."

Research Methodology

Study area, sample size and sampling techniques

The study area-Eastern Hararghe is located in Oromia region, eastern Ethiopia. The eastern Hararghe zone, even though, it is found in Oromia region, both the Dire Dawa city administration and the Harari people region within the zone. This implies that there are three different administrations-eastern Hararghe, Dire Dawa city administration and the Harari people region. A two-stage sampling technique was used to select sample respondents. First, one representative *kebele* was randomly picked to obtain a sample of respondents from each of the three administrations. The *kebeles* are *Dirree-Xiyyaara* (from Harari region), *Biiftuu-Gadaa* (from eastern Hararghe) and *Hawwi-Gelan* (from Dire Dawa). Second, given the total number of the study area, 800 sample households were selected. The sample allocation was 260 from eastern Hararghe and Harari each, and 280 from Dire Dawa based on the assumption that farmers in the area are more or less homogenous.

Types and tools of data collection

The study used both primary and secondary data. Primary data were collected from smallholder farm household heads through structured interview schedule. The interview questionnaire was first written in English but was later translated to *Afan-oromo*, a

local language of the communities in the study areas. The procedures of collecting the necessary data were briefed to the data enumerators. Focus group discussion (FGD) and key informant interview were also conducted to supplement the findings drawn from the interview.

Data analysis procedures

Both descriptive and econometric statistics were used to analyze data. Descriptive statistics were used to provide a summary statistics related to the general characteristics of the respondents, using minimum, maximum, mean and standard deviation while frequency and percentage were employed to analyze data related to the institutional challenges of poverty reduction. On the other hand, the data obtained from the focus group discussions, and key informants was qualitatively and narratively described to enrich and illustrate a qualitative conclusion.

To explore the institutional correlates of poverty, the study used probit econometrics model. Probit model models is often used when a dependent variable takes one of a number of discrete values and simulations can conveniently demonstrate how much the likelihood of being poor is reduced if an exogenous variable such land ownership were to change (Ayalneh *et al.*, 2005). Binary response models (e.g. probit, logit) are used where poverty is considered as a "yes" or "no" decision (Greene, 2002).The dependent variable which was used with probit model is the poverty status of the households, taking the values 1 or 0. The value 1 indicates a household is poor while the value 0 indicates a household is non-poor. For the sake of this paper, a household is defined poor when household daily per calorie consumption is below the poverty line (expenditure is insufficient to meet the food and other basic needs of all household members). In this study, the poverty line in terms of daily kilocalorie per adult is estimated to be 2200 kilocalorie per day per adult equivalent (UNU, WHO & FAO, 2004).

Following Menard (2002), the probit Model for the log odds of whether a household is poor or non-poor is specified as follows:

$$Y_i = \beta'X + \varepsilon_i \dots \dots \dots \tag{1}$$

Where: Y_i is the dependent variable of the model (binary probit analysis), has

dichotomous in nature representing the household's poverty status; and X is vector of

explanatory variables; β' is a vector of parameters to be estimated and ε_i is the error term assumed to be normally distributed. Thus, the binary variable can be defined as:

$$s_i = \begin{cases} 1 \ if \ Y_i \leq Z \\ 0, otherwise \end{cases}$$

Where; s_i is the social economic status and the Z is the poverty line. The binary model then equals:

$$\Pr(s_i = 1) = F(Z - \beta'X) \qquad\qquad (2)$$

F is the cumulative normal probability density function.

Result and Discussions

Descriptive analysis of institutional challenges of poverty reduction

The descriptive statistics indicates that 44.25% of the sample households were found to be poor. To examine institutional challenges of poverty reduction in the study area, we raised some questions that are related to the institutions. And we examined the perception of the sampled household heads (both poor and non-poor, we used the pooled for analysis purpose) toward the institution in the way of the out of poverty.

Dummy variables: Table 1 shows that 68 % of the sampled households reported that they do not feel secured on the current land ownership status; while about half the sampled households reported that they perceive that their family members, relatives, and communities help them in moving out of poverty (during challenges). Again we asked the households if they trust the local or municipal and half of the sampled households reported that they do not trust the local or municipal authorities while about 52 % of them reported they perceive that their local authorities are not accountable. Further, about 55 % of the sampled households said that they perceive that their local authorities are not transparent. Table 1 indicates that about 54 % of the sampled households in the study area perceive that their local authorities are not participatory. Table 1 further shows that around 82 % of the households in the study area reported that they perceive that their local authorities demand bribe, while only about 26 % of the sampled households in the study area have received welfare or public assistance. This finding is in line with what was stated by other authors (Todaro and Smith, 2006; Thirlwall, 2006). Furthermore, Table 1 indicates that the second tier institutions namely Development banks, MFI, NGOs, and ECX are not available to the 66, 80, 96 and 98 % of the sampled households respectively in the study area.

Table 1. Institutional challenges of poverty reduction-dummy variables

		Poverty Status					
		Non-poor		Poor		Pooled (%)	
S.No	Items	Yes	No	Yes	No	Yes	No
1.	Do you feel secured on the current land ownership?	128	318	128	226	32	68
2.	Do you perceive that your family members, relatives, and communities helpful?	214	232	182	172	49.5	50.5
3.	Do you trust in the local or municipal authorities?	218	228	182	172	50	50
4.	Do you perceive that your local authorities are accountable?	208	238	174	180	47.75	52.25

S.No	Items	Poverty Status					
		Non-poor		Poor		Pooled (%)	
		Yes	No	Yes	No	Yes	No
5.	Do you perceive that your local authorities are transparent?	192	254	166	188	44.75	55.25
6.	Do you perceive that your local authorities are participatory?	192	254	170	184	45.25	54.75
7.	In your opinion, do the local governments demand bribe from you?	84	362	60	294	18	82
8.	Have you or has anyone in your family ever received welfare or public assistance?	132	314	74	280	25.75	74.25
9.	Second-tier institutions are available in your locality(deve bank)	122	324	154	200	34.5	65.5
10.	Second-tier institutions are available in your locality(mfi)	92	354	72	282	20.5	79.5
11.	Second-tier institutions are available in your locality (NGOs)	26	420	10	344	4.5	95.5
12.	Second-tier institutions are available in your locality (ECX)	14	432	6	348	2.5	95.3

Source: Authors' calculations

Likert scale variables: Table 2 shows the likert scale type questions we asked the respondents. Table 2, thus, shows that in the struggle to come out of poverty for the households in study areas, 63%, 75%, 64%, and 77 % of the sampled household responded that internal conflict, ethnic tensions, lack of law & order and religious malpractices respectively influence the farmers very little. Further, according to Table 2, in struggle to come out of poverty for the households in study areas 5, 1, 18, 0.25 % of the sampled household responded that internal conflict, ethnic tensions, law and order and religion influence affected them very much, respectively. It can be concluded, therefore, that either there are minimal impacts of internal conflict, ethnic tensions, lack of law & order and religious influence in the study areas.

Table 2. Institutional challenges of poverty reduction-likert scale variables

S.No	Items	Poverty Status		
		Non-poor	Poor	Pooled (%)
	Factors that affect you in struggle to come out of poverty (internal conflict)			
1.	Very Little	274	232	63.25
	Little	30	8	4.75
	Not Known	102	66	21
	Much	18	32	6.25
	Very Much	22	16	4.75

S.No	Items		Poverty Status		
			Non-poor	Poor	Pooled (%)
2.	**Factors that affect you in struggle to come out of poverty (ethnic tensions)**				
		Very Little	316	280	74.5
		Little	12	4	2
		Not Known	98	58	19.5
		Much	14	12	3.25
		Very Much	6	0	0.75
3.	**Factors that affect you in struggle to come out of poverty (law and order)**				
		Very Little	266	244	63.75
		Little	26	16	5.25
		Not Known	34	26	7.5
		Much	26	18	5.5
		Very Much	94	50	18
4.	**Factors that affect you in struggle to come out of poverty (religious influence)**				
		Very Little	328	292	77.5
		Little	0	0	0
		Not Known	108	62	21.25
		Much	8	0	1
		Very Much	2	0	0.25

Source: Authors' calculations

Econometric results analysis

Table 3 shows the results of the econometric model we applied that is the probit regression result. For the sake of estimation we included the demographic and socio-economic determinants in addition to the institutional challenges of poverty in the Probit model. Variables those significantly determine the poverty status of the households in the study areas are only discussed as follows.

Demographic, socio-economic determinants of poverty

Education of the household head: Table 3 indicates that education of household headed negatively affects poverty of the household at less than 1% significant level. This implies that households with higher years of schooling of the household heads have lower probability of being poor. The result has the strong policy implications signaling that better education improves the living standard of the households. This can be explained in multiple dimensions as education has multiple roles in the life of the society. By increasing the productivity of the household education can help produce more that go beyond the amount that suffices for basic needs. Education help understand cause of poverty and how to overcome it. Education is easily diffusible that spreads to the members of the family from the household head this in turn help the family act accordingly to improve their well-being.

Family size: the regression result indicates that higher family size positively and significantly determines poverty at less than 1% level of significance. This finding implies that the more the family sizes the higher the probability of the being poor in the study area. This finding may be explained in the way that all resources that are available to the household are shared among the member of the households. Thus, as the number of the household member increases the percapita recourses including food declines. This may put these households in poverty status.

Tropical livestock unit: the result indicates that tropical livestock unit negatively affects poverty of the household significantly at less than 10 percent significant level. This implies that households with higher livestock unit have lower probability of being poor. The policy implications of the result is that empowering household with the livestock will accelerate the rate of poverty reduction the major objective that country is striving for. Those households with higher livestock have an opportunity to use the products of these livestock eight by selling or consuming or both. Either of the action reduces the probability of being poor by contributing to the consumption of the household. By selling these livestock products households purchase others that they are lacking that boasts the living standard of the households.

Institutional determinants of poverty

Distance to the nearest main market place: the Probit regression indicates that distance to the nearest market center positively contributes to the poverty level of the households in the study area. This implies that as the households get far from the nearest market center their probability of being poor increases. This is in line with (Pernilla, 2001) that the well-functioning markets are important in the process of reducing poverty. This may due to the fact that households located to the nearest market have opportunities to easily and frequently take their products and purchase essential resources that contribute to their wellbeing relative to those households located far from the market center.

Land ownership status: Cornwall (2000) states that apart from the traditional citizenship new forms of citizenship have been articulated that go beyond national identities that grant a bundle of state-supported social and economic rights-and legal equality. Accordingly landownership status is a good example of these new forms of citizenship to include issues of agency and an expanded spectrum of rights to farmers. In our study sites, land ownership status negatively affects the poverty level of households at 5 percent level of significance. This implies as the farmer is entitled to his/her land, the probability of being poor decreases significantly.

Amount of saving: the probit regression further indicates that households' saving level negatively determines the poverty status of the household level significantly at 5 percent significance level. This result implies that if households save more and invest their probability of being poor will be lower. In fact, saving earns the households interest rate and if this is spent on the welfare of the households it improves the wellbeing of the households.

Participation in social networks (informal institutions: such as *iddir, iqub*.): For North (1990), informal institutions are such as customs, traditions and conventions. We saw if being a member of social networks has an impact in being poor or otherwise. Accordingly, Table 3 shows that the probability of being poor in the study areas decreases when the farmer is a member of social formal institutions such as *iddir* and *iqub* at 1% level of significance.

Table 3. Probit regression results

Poverty status of the household	Coef/Z
Sex of household head	0.085(0.38)
Age household head in years	0.004(0.56)
Education of household head in years of schooling.	-0.061(3.11)**
Family size	0.104(3.27)**
Tropical livestock unit	-0.092(1.85)***
Land size of the household	0.325(1.26)
Quality of land of the household	-0.061(0.41)
Land ownership status	0.291(2.78)**
Access to credit facilities	0.037(0.20)
improved seed use for the major agricultural products	-0.009(0.06)
Distance to the nearest main market place	0.059(2.61)**
Active participation in any of social network *(iddir, iqub.)*	0.127(0.89)*
Quantity of fertilizer used (DAP and UREA) in KG	-0.000(0.53)
Amount of saving	-0.000(2.43)**
Distance to medical services	-0.029(1.24)
Constant	-1.131(2.33)*
Number of observations	800
Log likelihood	-119.51146
LR chi2(16)	104.81
Prob>chi2	0.0000

* p<0.01; ** p<0.05;***p<0.1

Source: Authors' calculation

Poverty coping mechanisms of the of the households

It is assumed that households use different coping mechanisms to overcome the challenges of poverty. Accordingly, households were provided with an interview schedule to comment on coping mechanisms they employ with to tackle poverty. In this regard, three broad coping mechanisms were identified. These are self-insurance, community-based, and external help were considered. Each of these is again composed of multiple sub-mechanisms as they are presented in Table 4.

Table 4, therefore, displays the results of the type of coping mechanisms the households use to cope up with poverty in the study areas. However, respondents are observed not to respond to some of the questions, so the total number of respondents in Table 4 may vary from the 800 sample respondents. Accordingly, 79 % of the households reported that they use two or more combination of the self-insurance coping mechanisms to

overcome challenges of poverty. 8.5 % of the households in this category use their own fund (saving) to overcome the challenges of poverty. Also, Table 4 indicates out of the total sample households that opt for community based help as a means of coping mechanism, 44 % of them reported that they use two or more of combination of the community-based help coping mechanism to overcome challenges of poverty. Further, about 17 % of the households in this category borrow money from their relatives, friends, and others without interest to overcome the challenges of poverty. Additionally, Table 5 shows of the total sample households that opt for external help, 85 % of the respondents responded that they use two or more of the combination of the external help coping mechanism to overcome challenges of poverty in the study areas.

Table 4: Coping mechanisms of the of the households

S.No	Coping mechanisms	Poverty Status of the Household		
		Non-poor	Poor	Pooled (%)
1.	**How did your household cope with the poverty (self-insure)?**			
	Own Funds, Saving	50	18	8.5
	Calling In Debts	8	4	1.5
	Re-Sowing	18	0	2.25
	Selling Livestock	6	2	1
	Selling Assets and eating less	22	6	3.50
	Spend Less On Clothing	2	0	0.25
	Spend Less On School	6	0	0.75
	Defer Expenses	2	18	2.5
	Additional Job	2	8	1.25
	Combinations of two or more of the above	330	298	78.5
2.	**How did your household cope with the poverty (community-based)?**			
	Livestock Sharing	4	0	0.02
	Sharecropping	2	4	0.04
	Donations From Relatives, Friends And Private Persons	26	22	0.30
	Borrowing with interest from community organizations	4	0	0.02
	Borrowing without interest from relatives, friends or private persons	14	14	17.28
	Combinations of two or more of the above	32	40	44.44
3.	**How did your household cope with the poverty (external)?**			
	Work For PSNP	6	2	0.01
	Emergency Food Aid	2	2	0.03
	Assistance From Farmers Cooperatives	0	2	0.01
	Assistance From Government	4	0	0.03
	Assistance From NGOs	0	2	0.01
	Combinations of two or more of the above	102	12	85.07

Source: Authors' calculations

Conclusion and Recommendations

This study examines the institutional challenges of poverty and its coping mechanism in eastern Ethiopia. For the achievement of objective of the study, 800 farmers selected from three local administrates namely *Dirree-Xiyyaara* (from Harari administrative), *Biiftuu-Gadaa* (eastern Hararghe) and *Hawwi-Gelan* (from Dire Dawa) were interviewed. To analyze the collected data, both descriptive and econometrics analysis were used. The descriptive statistics result indicates that 44 percent of the households are categorized 'poor'. The descriptive statistics also indicate that majority of the households reported that they: do not feel secured on the current land ownership status; perceive that their family members, relatives, and communities do not help to them to fight poverty; do not trust in the local or woreda authorities; perceive that their local authorities are not accountable; think that their local authorities are not transparent; perceive that their local authorities are not participatory; and know that their local authorities demand bribe to provide services to the community.

The econometric result of the probit regression shows that of the demographic and socio-economic determinants of poverty used in the regression, education of the household head, family size, and tropical livestock unit statistically and significantly determine the poverty status of the households in the study area. The econometric result of the probit regression further shows the institutional (formal and informal) factors of poverty in the study area. Distance to the nearest market center positively contributes to the poverty level of the households in the study area. Saving culture level negatively determines the poverty of the household level significantly. Land ownership status and active participation in social networks (iddir, iqub) are also observed to negatively and significantly correlate to being poor in the study area. The guiding hypothesis was rejected, therefore, at 5% level of significance.

As far as households' poverty coping mechanisms are concerned, 79 % of them use more than one combination of the self-insurance coping mechanisms; out of the total sample households that opt for community based help 44 % of them use more than one combination of the community based help coping mechanisms; and out of the total sample households that opt for external help 85 % of them use more than one combination of the external help coping mechanism to overcome challenges of poverty. In the struggle to come out of poverty for the households in study area internal conflict, ethnic tensions, law and order and religion influence have lower impact. Furthermore, the second tier institutions: Development bank, MFI, NGOS, and ECX are not available to the majority of the sampled households in the study area.

Based on the findings of the study to reduce the poverty of the households in the study area, the following policy options are recommended:

✓ **Expanding the education services:** The challenges of poverty may be reduced by expanding the educational services to the study area. This can be achieved through providing training to the households that increase their literacy and numeracy through either formal or informal mechanisms; and encouraging the households to send their children to school and follow them to for effective school attendance.

- ✓ **Market expansion to the local areas:** Institutions should be introduced to the study area as the fundamental idea is institutions are what make a market function well. By expanding market service to all households' poverty challenges of the study area will be reduced. This can be achieved by establishing market institutions that may deal with agricultural inputs and agricultural outputs) markets; and creating market institutions that deal with the consumer goods to the local areas.

- ✓ **Encouraging social networks:** If people are bold enough to reserve their social values and networks, farm production and productivity might increase so that the struggle to reduce poverty can be accelerated.

- ✓ **Enlarging the coping mechanism:** By expanding and making efficient the available coping mechanism may also reduce the poverty status of the study area.

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Conflict of interests

The authors declare no conflict of interest.

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