

Determinants of Female-headed Households' Livelihood Diversification Strategies Choice in Ambo District, Ethiopia

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ABSTRACT

The study has concluded that diverse livelihood options are available and thus, FHHs pursue diverse range of activities that draw on their labor and time. However, the participation levels vary within Female - Headed Households(FIHS). The variation is mainly in terms of the activity they diversify into and conditions under which diversification are made. Generally, FHH participate in low-return and high risk and last resort activities. The study concludes that livelihood diversification strategies choice of FHH is determined by a number of factors. Hence, it is recommended that the livelihood of FHHs needs to be recognized and policy intervention should concentrate on improving access to assets within the aim of expanding livelihood options rather than assuming households are spatial homogenous and individual engage in one type of activity only.

Ethiopia, as compared to the rest of the world, is a region most grounded in poverty due to periodic drought and extreme variable environment making agriculture a risky economic activity. Like other Sub-Saharan African countries, the country is characterized by a complex, diverse and risk-prone production environment (Chant, 2010 and Degefa, 2005). As a consequence, agricultural production has been deteriorating over time, and forces rural people in the region to look for alternative employment option other than agriculture. Ethiopian rural female-headed households (FHH) are not exceptional to this scenario. Various empirical studies show that different livelihood diversification strategies exist in Ethiopia, even though the forms and people's participation level may vary which is not an exception for FHHs. It is also noticed that female headship has been linked to

unfavorable circumstances, such as family dissolutions, single parenthood, or facing socio-cultural constraints (Metasebia, 2009). As a consequence, FHHs have been largely considered a vulnerable and at risk of poverty group, both among the academic and policy making spheres.

The existing literature has pointed out that FHHs in developing countries tend to be poorer than the male, and are in situations where general insecurity and vulnerability prevail, and a similar conclusion was made in the case of Ethiopia (Tizita, 2013 and Metasebia, 2009). It has also generally been observed that female-headed households are more food-insecure than male-headed households. This may be due to "triple burden". A research has highlighted particular constraints affecting FHH in pursuing remunerative livelihoods, especially in the

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rural areas. On the other hand 'feminisation of poverty' has been much in discussion, in both the academic and development policy circles of the phenomena. However, there is little clarity about what the feminisation of poverty means, or about whether such a trend can be empirically verified. Nevertheless, as several scholars have pointed out, we need to go beyond the simple equation FHH pursue last resort livelihood options.

In addition, a substantial body of literature now exists to show that men and women in Ethiopia experience diversification of livelihood differently (Tizita, 2013). But what is less clear is a disparity within FHHs using different parameters. It is well-documented that women almost everywhere are disadvantaged in relation to men in their access to the different livelihood assets (Chant, 2010 and Metasebia, 2009). However, research work on FHH livelihood diversification strategies and nature of activities under condition of resource scarcity in study area is limited. The study, therefore, aims at identifying the existing livelihood diversification strategies and assesses factors that determine the FHH choice of livelihood diversification strategies in the given district.

METHODOLOGY

The study region is located in West Shewa Zone, Oromia Regional State, Ethiopia. Ambo District is located in central part of Ethiopia and lies within altitude of 1380m to 3300 masl. Agro-climatically, the district is divided in to, highland, mid-highland and low land

which account 35 per cent, 50 per cent and 5 per cent respectively. The mean annual rainfall of the area ranges from 1300mm to 1700mm. The mean annual range of temperature ranges from 23-28°C having an average temperature of 22° C. The major economic activities are agriculture. Crop production is mostly dependent on rain-fed and major crops produced in the area are wheat, maize, teff, barely, sorghum and enset. Livestock is also kept in most of the district. Multi-stage sampling techniques were used to select some respondents. First, the area is stratified into relatively higher-potential and relatively low-potential using agro-ecology and nearness to market as criteria to capture the different farming systems. Major source of livelihood in the district are applied and then three *kebeles* from relatively high potential and two *kebeles* from low potential were selected using simple random sampling technique. Then stratified into male- and female-headed households and finally 104 FHH were selected by using random sampling method. Standard tools of structured household survey interview schedule and checklist were designed. Descriptive statistics such as mean, percentage, frequency and along with multinomial logit model were used and results were transcribed, interpreted and analyzed accordingly.

FINDINGS AND DISCUSSION

Age of household head affects labor availability, fertility behaviors and dependency ratio of household members which in turn

affect the nature and degree of households' participation in different livelihood activities. It is statistically significant at 5 per cent level of probability among different groups of diversification options. The total family size (TFS) of the study shows that the average family size is 3 and it is slightly lower than the national average family size of 5 people per household and is consistent with previous research on Ethiopia. In a similarly manner, labor availability which is mainly explained by TFS is one of the potential factors that affect FHHs participation in different income generation activities. Generally, FHHs on an average have fewer economically-active household members and were in a disadvantaged position in deploying family labour for own farm production. Hence, they face labour constraints which subject them to hire labour. In the same token, lacking an adult male 'breadwinner' lone mother units not only have to do without men's earnings, but also be disadvantaged by higher dependency ratio than households which comprise two working parents (Chant, 2010 and Metasebia, 2009).

The study reveals that land has been and is still transferred from generation to generation through male and the daughter would start a life with her husband after marriage while the son follows the footsteps of his father and can manage the whole family in case. Inheritance rules of patrilineal society in principle exclude women from having access to land right. However, the result indicates that if the marriage is legitimate a widowed wife may remain in the late

husband's village with her children and continuous cultivating the husband's land. Mohammed (2014) confirmed that rural women of Ethiopia mainly access to land through marriage. As to farm size the result of the study indicates that the mean land holding size is 2.28 ha and it is higher than the national land holding size (1.24 ha) per household and lower than the study found by Mohammed (2014), i.e. 3.6 ha. The current study focuses on *de facto* and *de jure* FHH not on women gendered aspects. Land markets in Ethiopia are fairly inflexible as compared to other parts of the world. The usufruct right continues as long as at least one member of the family is farming the land. The study confirms that mostly poor farmers in general and FHHs in particular which rent out land while the better-off rent in land. Studies conducted by Start *et. al.* (2005); Mossa (2013) and Degefa (2005) state that the most popular who rent-in land are the male-headed in the category of relatively rich and / or of better off-farmers. The result indicates that despite low holding size of FHH share-out and rent-out their land the fact that they face labor shortage, gender division of labor and lack of oxen.

Livestock production is the central role to the households' economy and is important in farming system. They are considered as the main source of cash income and food as well as the foundation of prestige and power. The mean number of livestock in TLU is found to be 2.99 and is 3.569 for farm based livelihood diversification which also varies across different livelihood options. Oxen are key

Table 1.
Descriptive Statistics for Continuous Explanatory Variables

| Livelihood Diversification Strategy of FHHs | | | | | | |
|---|---------|----------------|----------------|---------------------------|---------|----------|
| Variables | Farm | Farm +non-farm | Farm +off-farm | Farm + non-farm +off-farm | Total | F-value |
| | Mean | Mean | Mean | Mean | Mean | |
| Age | 42.5000 | 40.8000 | 37.2222 | 41.7778 | 41.1635 | 4.188** |
| DR | 1.1264 | 1.5840 | 2.3278 | 1.2889 | 1.4644 | 3.187*** |
| TFS | 3.3889 | 4.0800 | 4.7778 | 3.5556 | 3.8558 | 2.564 |
| LS | 2.7896 | 1.9763 | 1.9333 | 2.2878 | 2.2811 | 7.504** |
| TLU | 3.5693 | 2.9846 | 1.3778 | 2.4244 | 2.9995 | .014** |
| NOX | 1.6111 | 1.2800 | 1.6667 | .4444 | 1.3558 | .101*** |

*** and ** 1 and 5% level significant respectively.

assets in the study areas in which farming system is characterized by drought power. The mean number of oxen owned is 1.35 and it varies across different livelihood options. This indicates that FHH face oxen shortage and hence they depend on pairing oxen with others, borrowing oxen from relatives, hiring oxen and share-cropping are among options being used by the respondents. In addition, exchanges of labour force with oxen are usual practices and are similar with the findings of Mossa (2013) and Degefa (2005).

The study has shown that only 15 per cent of the response has access to irrigation. Diversion of river is a common source of water for irrigation purpose in which access to and distribution is controlled through traditional water user committee. But access to such water source is determined through how far the land from water sources is. FHH tends to avoid labour intensive productions such as vegetable through irrigation scheme because

they face difficulty because of double burden in circumstance where fewer economically-active household members are available. Sara (2007) and Mossa (2013) contested that women bear the burden of household chores that result in time and mobility constraints compared to male-heads. The study showed that 65 per cent of the respondents are accessed to credit services. Of these 25 per cent those whose livelihood is farm+ non-farm, and the rest is lower than this. The study indicates most households did not have access to credit services from formal sources than informal sources. Sara (2007) and Mossa (2013) argue that FHHs are disadvantaged with regard to credit services because of problems like lack of information about credit programmes, low and irregular income, and lack of collaterals. Hence, they are subjected to receive credit from informal sources which charge high interest rates. The study also shows that FHH access to use of chemical fertilizer and different chemicals.

Household Livelihood Diversification strategies

Livelihood strategies are those activities undertaken by smallholder households to provide a means of living, and its aim are to ensure households' economic and social security. The study reveals that the major livelihood diversification strategy practiced by FHH of Ambo District of different location are farming which include crop-based and

livestock based diversification strategies; Non-farm based diversification strategies include petty trading, hand crafts and selling of unskilled labour force. In semi-urban areas of the District they engage in preparation of local food and drinks- Tella, Areke, labour wage and prostitution, which are few of the livelihood option being practiced by them. The finding of this research supports the view of other scholars such as Selamawit (1994) and Metasebia (2009) which have stated that the

Table 2.
Descriptive Statistics Result for Discrete Variables

| Livelihood Diversification Strategy of FHHs | | | | | | | |
|---|--------------|-----------|----------------|----------------|---------------------------|-------|-----------------------|
| Variables | Response | Farm only | Farm +non-farm | Farm +off-farm | Farm + non-farm +off-farm | Total | X ² -value |
| Irrigation use | Yes | 20 | 9 | 1 | 2 | 32 | 49.846*** |
| | No | 27 | 46 | 8 | 7 | 88 | |
| Fertilizer use | Yes | 30 | 35 | 7 | 6 | 68 | 48.231*** |
| | No | 6 | 15 | 2 | 3 | 26 | |
| use chemicals | Yes | 25 | 35 | 6 | 6 | 72 | 48.231*** |
| | No | 11 | 15 | 3 | 3 | 32 | |
| Access to credit | Yes | 23 | 27 | 8 | 7 | 65 | 48.231*** |
| | No | 13 | 23 | 1 | 2 | 39 | |
| Study area | highland | 25 | 26 | 4 | 7 | 62 | |
| | Mid-highland | 8 | 14 | 0 | 0 | 22 | 48.231*** |
| | Low land | 3 | 10 | 5 | 2 | 20 | |
| | De jure | 23 | 33 | 5 | 6 | 67 | |

*** and ** significant at 1 % and 5% respectively.

major urban informal activities in the country tend to be petty trading, domestic services, daily labour and prostitution. In the case of off-farm activities the study has found out that daily labour, selling of fuel wood are among major ones.

Dependency Ratio: This variable is significant at 1 per cent level of probability for FHH to participate in farm + off-farm activities keeping other things constant. The odds ratio of 2.6135 for farm shows, keeping the influence of other things constant, a unit

Table 3.
Multinomial Logit Model Results of Households' Choice
of Livelihood Strategies

| Variables | Livelihood Diversification Strategy of Female-Headed Households | | | | | | | | |
|------------------|---|---------|-----------------|----------------|---------|-----------------|-----------------|---------|-----------------|
| | Farm | | | Farm+ non-farm | | | Farm + off-farm | | |
| | Coef. | P-value | Marginal effect | Coef. | P-value | Marginal effect | Coef. | P-value | Marginal effect |
| TOX | 4.917 | .008 | 136.604 | 3.734 | .037 | 41.853 | -4.485 | .014 | 88.668 |
| TLH | .388 | .365 | 1.474 | -.444 | .167 | .641 | -.892 | .050 | .410 |
| TLU | .112 | .632 | 1.118 | -.238 | .215 | .788 | -1.055 | .080 | .348 |
| CBO | 20.620 | .000 | 9.022 | 18.865 | .000 | 1.559 | -1.983 | .145 | .138 |
| IRG | 3.036 | .057 | 20.823 | 1.075 | .399 | 2.930 | -20.174 | .000 | 1.7329 |
| Cred | -17.464 | .997 | 2.604 | .592 | .491 | 1.808 | -3.173 | .037 | 23.884 |
| Fertilizer | .636 | .720 | 1.888 | -.026 | .976 | .976 | -2.414 | .134 | .089 |
| Seed | -.611 | .753 | .543 | 1.952 | .055 | 7.046 | 2.127 | .257 | 8.932 |
| Chemical | .293 | .878 | 1.34 | -.768 | .396 | .464 | -.803 | .560 | .448 |
| Study site | 2.768 | .060 | 15.927 | -.438 | .529 | .645 | -1.193 | .274 | .303 |
| DR | -14.150 | .239 | 7.154 | -.174 | .697 | .840 | 12.474 | .060 | 2.6135 |
| No. of obs. | | | | 120 | | | | | |
| Log likelihood - | | | | 337.123 | | | | | |
| LR chi2(57) | | | | 276 | | | | | |
| Prob > chi2 | | | | .000 | | | | | |
| Pseudo R2 | | | | .812 | | | | | |

increase in dependency ratio, there will increase in the likelihood of FHH to participate in farm + off-farm by about 2.6135 to engage in as livelihood diversification strategies. Studies conducted by Chant (2010) and Metasebia (2009) obtained similar a conclusion.

Number of oxen owned (TOX): This variable is significant ($p < 0.5$) to influence FHH decision to participate in farm, and farm + non-farm and farm + off-farm. It shows FHH which doesn't have the required amount of oxen, is forced to participate in other option as the chance to engage only in agricultural activity is curtailed due to lack of oxen as an asset.

Total Land holding Size (TLH): This variable has negatively and significantly influenced the probability of livelihood

diversified into farm + off-farm than agriculture leaving other things constant. Large farm size helps FHH to cultivate and produce more, which in turn increases farm income and improves livelihood of a household. The declining land sizes encourage FHH to diversify their sources of income. Similarly, studies by Mohammed(2014) and Degefa(2005) reveal that insufficient arable land sizes are positively and significantly associated with participation of rural households in off-farm and non-farm activities.

Total Livestock ownership (TLU): This variable is significant 1% to influence FHH decision to participate in farm + off-farm. The odds ratio of 0.348 in farm + off-farm shows a unit decrease in livestock, will increase the choice decision of FHH by a factor of 0.348 to

engage more in farm + off-farm than other livelihood diversification strategies. Metasebia (2009) concludes in similar manner.

Irrigation Water: This variable is significant at % probability to influence FHH decision to participate in farm as diversification option. The odds ratio of 20.823 for farm indicates that keeping the influence of other things constant, the likelihood of FHH to participate in agriculture as livelihood strategies gets increase by 20.823 for unit increase access to irrigation. It is consistence with the finding obtained by Tizita (2013).

Area of the study (agro-ecology): In this variable statistical result reveals that it is significant at 1% probability level for agricultural activities as livelihood strategies. The odd ratio of 15.927 for farm indicates that as a unit increase in FHH in number of potential areas there will be the likelihood of FHH to take the decision for the participation in farm increases by a factor of 15.927. This implies that FHH which are found in relatively drier and fragile environment will have the likelihood of participating in last resort activity. Thus, agro-ecology not only limits the options available but also pushes to diversify into low-return and high risk activities.

CONCLUSION

Agriculture is the dominant economic activity and the primary source of livelihoods for rural Female-headed households in the study area. A significant number of FHH engage in diverse livelihood strategies away from purely crop and livestock production

towards non-farm and off-farm activities that are undertaken to broaden and generate additional income for survival and livelihood improvement. The result of this study indicates that low resources endowments were the main features that characterize FHH of the poor and this meager resource could not enable them to generate sufficient livelihood outcome. To overcome the situation, majority of them depend on livelihood diversification. Whether as a result of demand-pull or distress-push factors livelihood of FHH needs to be recognized and policy intervention should concentrate on improving access to asset within the aim of expanding livelihood options rather than assuming FHH are spatially homogenous and individually engage in one type of activity only. Livelihood behavior of FHH is diverse due to diversity in livelihood assets and heterogeneous constraints. Thus, future interventions need to support that female-headed households must take into account diversity in endowment of livelihood resources and difference in livelihood strategies.

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