

## **THE DYNAMICS OF AGRICULTURAL BASED LIVELIHOODS STRATEGIES IN RESPONSE TO LAND: THE CASE OF QUARA DISTRICT IN NORTH-WESTERN ETHIOPIA**

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### **ABSTRACT**

Land is central livelihood asset with the power to shape the livelihood strategies of rural poor. An understanding of dynamics of livelihood strategies induced by land and associated resources is vital to ensure the sustainability of rural livelihood. The main objective of this study was to investigate the dynamics of livelihoods strategies of farm households in response to land using cross-sectional survey addressing both quantitative and qualitative aspects. Techniques such as household survey, focus group discussion, key informant interview and observations using different tools were used to generate data. The results of the study showed that the land ownership of most farm households in the study area was emanated from traditional land ownership system and there exist very high disparity among households. Formalizing land ownership and use is also found to be unfinished business of the study area. Land and associated problems as pushing factors and market, support from government system, availability infrastructure and existing potentials of area as attracting factors have conditioned and shaped the livelihood activities and strategies of farm households. The dynamics of livelihood activities and strategies are demonstrated by the change in terms of farm enterprises and management; and changes in different activities by shifting between agricultural and non agricultural activities. Recommendations from the findings of the study include activity diversification and capacity building to development practitioners.

**KEY WORDS:** Land, livelihood, household, strategy.

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### **1. INTRODUCTION**

The adoption of livelihood strategies is often explained with reference to a broad set of factors such as institutional change, market conditions and increased vulnerability (Malmberg and Tsegaye, 2006). The studies by Kollmair and Gamper (2002), DFID (1999) have also indicated that there is strong relationship between natural resources and vulnerability of households. Land is one of important natural assets attributed to the main source of rural livelihoods (Daniel, 2011) and its degradation is the cause of low and declining agricultural productivity and continuing food insecurity and rural poverty in Ethiopia. Achieving sustainable pathways out of the downward spiral of land degradation and poverty requires that farmers adopt profitable and sustainable land management practices, or pursue alternative livelihood strategies that are less demanding of the land resource (IFPRI, WUR and EEPPE, 2005). In the changing world,

dynamics of the livelihoods is inevitable but as it is noted by Ellis (2005), dynamics of small farming in Africa are poorly understood and are not captured satisfactorily. However, the context in which people living, transferring structures and process together with attracting/pulling factors such as market have leading role in process of choosing alternative livelihoods strategies.

Land as central livelihood asset has the power to shape the livelihood strategies of rural poor. Subsistence production, limited technology and traditional farming systems are characteristics of rural poor communities (Ellis, 2005). Theoretically, the livelihood of rural households moves between agricultural intensification, diversification and migration strategies. Even though, the shift in means of living is permanent, an understanding of the nature of livelihood strategies in relation to land resource requires empirical evidences. An understanding of dynamics of livelihood strategies induced by land and associated resources is vital to ensure the sustainability of rural livelihood.

Little research was undertaken in the study area where, the problems of farm households are seen in wide range resources and in the context of vulnerability to shocks and stresses, and emanated from natural or manmade pressures. However this study was undertaken based on single livelihood asset such as the impact of land on the other livelihood assets and portfolio of living. Since it was believed that the findings of the study would have significant importance for better understanding of the living situation of the poor. The study area has experienced the higher population boom and has been exacerbated due to government sponsored resettlement program resulting in decline and many problems associated with land and related resources. This study attempted to shades light on the dynamics of rural livelihoods as it is driven by land and other socio-economic factors.

## 2. METHODOLOGY

Survey research was conducted in Quara district<sup>1</sup> of Amhara Regional State, which is part of Northwestern lowland of Ethiopia bordering to Sudan. Both qualitative (using case study, focus group discussion, in depth interview and on spot observations) and quantitative (mainly using administered survey questionnaire) were employed. Taking households as unit of analysis, 146 households were randomly sampled out of the 2,786 having population of 12,903 from the study area. Various techniques and tools were employed to generate the required data. For primary data, household survey, focus group discussions (FGDs) of different representations of the community and key informant interview with experienced individuals and government officials for detailed qualitative investigation were conducted. Observation of vegetation, settlement patterns, farming systems; natural resources conservation practices and housing condition were also conducted. Published and unpublished secondary data were also used to substantiate the primary data collected using aforementioned techniques and tools. The quantitative data were analyzed using Statistical Package for Social Science (SPSS) and different descriptive statistical measurements. The results of analysis were interpreted and discussed using descriptive statistic and narrations.

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<sup>1</sup> In Ethiopia, District is the administrative hierarchy next to Region and above the grass root administrative hierarchy

### 3. RESULTS AND DISCUSSION

#### 3.1 LAND AS CRITICAL ASSET TO FARM HOUSEHOLDS

In the study area, until 2003 voluntary resettlement program was one of the government development interventions to ensure food security of chronically food insecure households from different parts of the region. It has been observed that the customary land right was the dominant classification of land holding. The quest to formalize rural land as per currently working national land tenure policy and promulgated in regional land use and administration was yet unfinished business of the area studied. This is partly due to the customary land right, ever experienced by the community for nearly half a century made the process complex and on the other hand, there is an emerging demand for land which resulted from rapid population growth. With regard to land ownership, more than 95% of farm households in the study area, owned plots of land to be cultivated. It was also recognized that significant proportion of the farm households representing nearly 5% of sampled households were landless and this figure would be expected to increase in the future. The fact that shifting cultivation was common, households have fragmented plots of land at different place. Excluding the large scale commercial farmers, the data generated from household survey indicated that land holding size varies from 1 to 45 hectares with 9.75 and 8.2 average hectares per household and standard deviation respectively.

Access to land and ownership in Ethiopia has experienced different patterns and forms. Land as critical resources, is always at the center of economy, social and political sphere in different times and conditions. This has resulted in complexity and irregularity in having commonly accepted policy over access, use and ownership. In stating the diverse roles and complexity in all aspects, Crewett et al (2008), noted that land policy, the real source of power in imperial and contemporary Ethiopia, remains at the center of a controversial policy debate. Their study also have identified open access (no rights defined), public (held by the state), common (held by a community or group of users), and private (held by individuals or "legal individuals" such as companies) property regimes as broader classifications.



*Source: own survey (2015)*

The interesting finding with land ownership of the study population in Quara district was that it was greatly affected by the number of years that households established in the area. It has been clearly demonstrated that the respondents, who have lived for many year in the area tends to have more land as demonstrated by strong correlation ( $r=0.46$ ) at  $P=0.01$  signifying that the one who live for many year in the area owned more land size.

The ways land accessed by the households predominantly emanated from traditional land holding system, government land redistribution program through direct distribution or as development intervention program and inheritance from the family members. But in recent time, the last mechanism to get land has become the only option in the study area, because there was no way to access land through direct land redistribution or government intervention programs such as resettlement and villagization.

Land has become very critical asset to meet immediate demands and sustain the lives of farm households. As a critical asset, it was rated as the top most important asset of households. Sampled household respondents were asked to rank cash money, land, infrastructure, and livestock in accordance with importance to their households considering that all the assets have equal value at a time. As result, plot of land that faming households owned is found to be top rated as most important asset in supporting means of living. Regardless of the type of livelihood strategy that people are engaged, 81% of sampled respondents, ranked land as first priority asset among others as it have been clearly shown in the following table.

Table 5.1: Land compared to other asset

Asset	Rank expressed by percent of respondents			
	First	Second	Third	Fourth
Land	81	13.1	1.2	-
Livestock	2.4	20.2	19	53.6
Money	4.8	8.3	42.9	31
Infrastructure	4.8	20.2	41.7	28.6

*Source: own survey data (2015)*

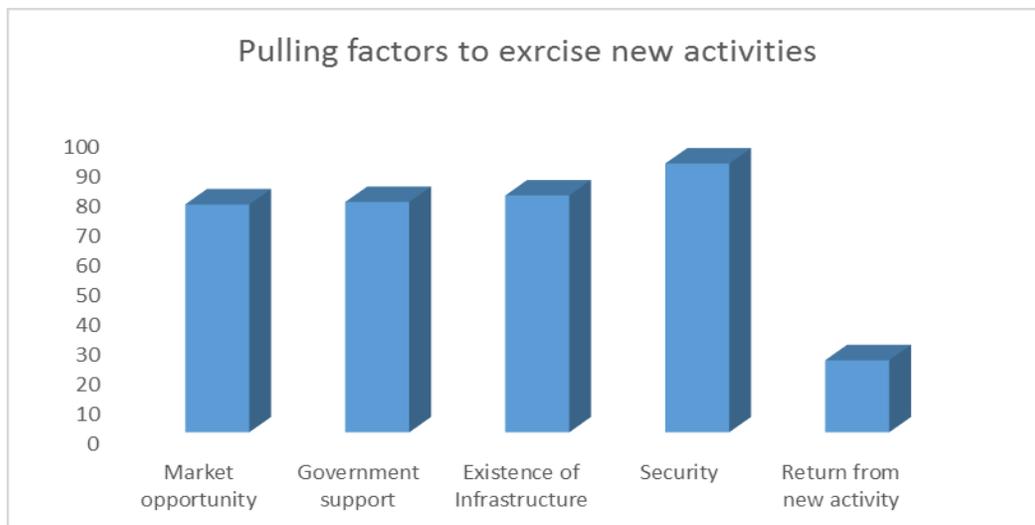
### 3.2 PULL FACTORS OF EMERGING LIVELIHOOD STRATEGIES

Dynamics of livelihood strategies and activities is a natural process. As it is stated by Barrett *et al* (2001) the changes between different activities are determined by push and pull factors. Similarly, sustainable livelihoods framework (DFID, 1999), livelihoods are conditioned and shaped by different factors. The context in which rural community live including shocks, stresses and seasonality; different assets coupled with the policy environment play a great role (see also Ellis Chambers and Conway, 1992). For the farm households, land is crucial asset and the change on it, affect not only the economic situation but also social and cultural aspects. From

randomly sampled households, 95.2% of household respondents boldly supported the fact that land is the driving force of livelihood of agrarian society.

Land as pushing factor to shift the strategies is not enough for the households to choose among alternatives given. In this regard, the rationality of farmers in looking different opportunities as attracting factors determines the new strategy. The data generated from key informant interview and focus group discussions also revealed that land shortage and associated problems such decline in fertility and productivity have triggered the farming community to look into existing resources and opportunities such as rivers, which previously were under and/or not utilized. The practical observation of the type of livelihood strategies and activities experienced by the study population is found to be a function of different factors. The objectives of farm households determined type and amount of agricultural commodities to be produced. The strategies and activities of farm households are attracted by market, government support to intensify smallholder agricultural production, infrastructure facilities; anticipated return of emerging agricultural activities and relative peace and security of the area.

Market, important driver of livelihood activities and strategies has conditioned farm households of the study area to redesign and implement agricultural based activities to be market oriented. The road and telecommunication services in the area following the resettlement program, have increased access to market for farm households compared two decades back, when people of the study area were forced to go longer distances on foot and using donkey and camel to transport to Sudan. They used to sell their agricultural communities and livestock with less bargaining power and price. The direction of the government to intensify smallholder agriculture productivity and efficiency has induced the farming community to shift their production strategies and activities. The relative peace and security of the area as it was mentioned by 89% of respondents, has also contributed for the emergence of the new agricultural based livelihood activities as the community feel secured, tend to produce permanent crop and fruits trees such as mango, papaya, avocado and other crops instead of annual and season dependent crops.



*Source: Survey data, 2015*

The shrinking trends in size and associated problems of land coupled with availability of rivers flowing throughout the year and potentially irrigable land have also diverted the farming community into alternative livelihood strategies and activities. Availability of rivers such as Shaho (Gelegu), Shinfa, Ayma and Guang rivers covering potentially larger irrigable land have attracted people to exercise an emerging and potentially sustainable agricultural production system.



*Shaho (Gelegu) rivers with potentially irrigable land, photo by Genanew Agitew, June, 2015*

### **3.3 THE DYNAMICS OF LIVELIHOOD ACTIVITIES**

Rural Livelihood strategies and activities are not static. As mentioned above, the changes in livelihood strategies and activities could be induced by many factors such as resource endowment, market structure and price, policy, climate and biophysical aspects of the area and many other pulling and pushing factors. But in this study, land and associated resources as driving forces and availability of market, infrastructure, and socio-economic aspects as attracting issues are considered for the dynamics of agricultural based livelihood strategies and activities. It is revealed that the livelihood of farm households is experiencing different types of changes with varying degree of magnitude and direction. Taking the two dominant components of broader farming system (crop and animal production) with traditional production and management system, in which 78.1% of farming community are engaged, the livelihoods of farming community in Quara district have experienced changes within agricultural production including the change in diversified livelihood portfolios either by combining agricultural and non-agricultural activities in parallel or shifting between the two on seasonal basis. The interesting finding with dynamism of agricultural based livelihood activities is complete shift from agricultural based activities to non-agricultural activities.

### **3.4 THE CHANGE IN FARM ENTERPRISES AND MANAGEMENT**

The two important components of smallholder agricultural are dominantly crop cultivation and animal domestication and the same is also true in Northwestern part of Ethiopia. The change in the component of the farming system enterprises is one of an emerging agricultural activities widely exercised in the study area. The livestock domestication of the area is predominantly dependent for free grazing by sweeping the cattle, goats and sheep over grasslands and has been

challenged due to shrinking of land resources emanated from an increase in both human and cattle population.

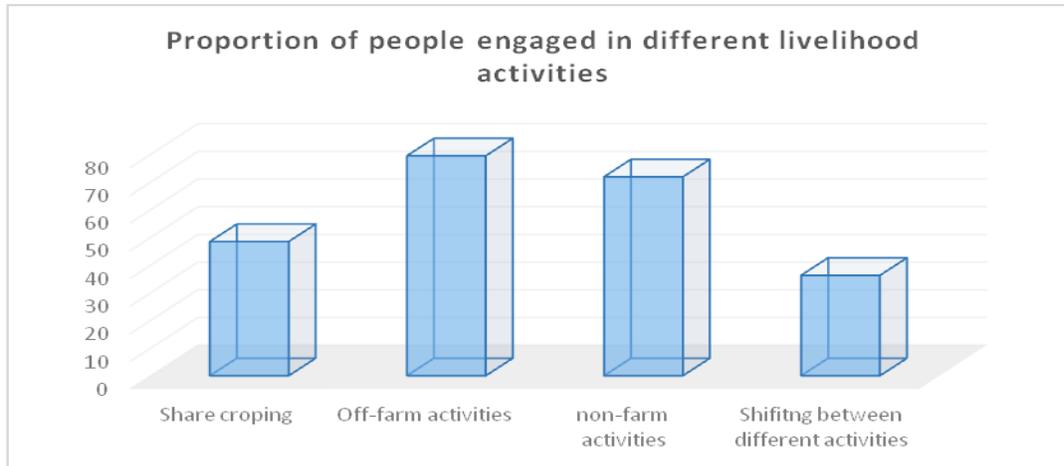
Consequently, people tend to minimize the livestock population either changing them to fixed assets such as constructions and cash money or investing more on crop production. The qualitative data obtained from focus group discussion and interviews witnessed the fact that livestock population per household is decreasing from time to time, but the total population in the areas is reported to be increased as a result of increase in number of households in the area. In addition to the tendency of reducing the number of livestock and shifting to crop production and other activities, the changes within crop cultivation has also been observed. The dominant crop types cultivated in the area are mainly cereal like sorghum followed by cash crops mainly sesame and cotton. The practical field observation indicated that there is a trend in shifting from food crops to cash crops especially sesame, which is highly demanded in domestic and international market. Though, it is limited to the opportunistic areas having rivers with potential irrigable land and water throughout the year, smallholder farming activities tends to change from cereals to vegetables and fruits. The important and promising change observed in study area is the change in rain fed to irrigation practicing using water pump motors to produce fruits and vegetables. But the fruits, such as papaya, banana and mango producers have been challenged and discourage due to market problems and post-harvest losses. The gaps in introducing and promoting improved varieties of the fruits and vegetable and best management techniques are also some of the problems identified with these emerging alternative agricultural base livelihood activities.

### **3.5 THE CHANGE IN TYPES OF ACTIVITIES**

Diversification of livelihood portfolio is chief strategy of smallholder farmers which is mostly combination of the farming and non-farming activities. In this regard the magnitude and direction of the activities vary from place to place as a result of different factors. The farming communities in the study area have experienced different changes in activities. The shift from on farm activities to off-farm activities is observed to be common exercises of smallholder. People work in others farm to receive returns in kind or cash for being involved in farming activities of others, who have enough land to absorb additional labor force. Significantly larger proportion of people exercises a combination farming and non-farming activities simultaneously. From randomly taken representative household respondents, 81.5 % have demonstrated that they are engaged in combination of farming and non-farming activities.

The seasonal shift between agricultural and non-agricultural activities (in most cases, trading in dry seasons and crop cultivation in wet seasons) is also found to be one of manifestations of dynamics of livelihoods. However that smallholders farming community members, who have engaged in such seasonal based dual livelihood activities are registered as farmers. Another important finding of the study is complete shift from agricultural activities to non-agricultural livelihood activities, which represents lower proportion of the study population.

The dynamics of agricultural based livelihoods in the studied population have been demonstrated in terms of both activities and strategies (combination of activities). However that more of the changes in general is highly significant in terms of activities than strategies.



*Source: Survey data, 201*

#### 4. CONCLUSION

Land as important livelihood asset has remained at the center of socioeconomic sphere of the community and society at large. It has power to mold and shape the livelihoods of smallholder, whose lives are predominantly dependent agriculture and have limited option to the other alternatives. The dynamics of agricultural based livelihood strategies and activities, which are conditioned and shaped by land is supported and accelerated by policy environment, infrastructure, market and relative security. Increasing shortage of land coupled with degradation of its productivity and associated resources have forced smallholder to look into available resources and opportunities, which are the leading factors of emerging livelihood activities and strategies. Diverse change has also been observed in livelihood activities than broader strategies with changes in term of the components of farm enterprises and management and type of activities with tendency to move from agricultural activities to mixed and non-agricultural enterprise.

#### 5. RECOMMENDATIONS

Despite the fact that land remained as central asset for smallholder livelihoods, formalizing it along with proper land use plan and cadastre is yet unfinished work and there is also higher variation in ownership of land across different households in the same area. This may bring unwise utilization of land with devastating impact on natural resources and resources based claims resulting in conflicts between people. To avoid future expected natural resources conservation problems and land related disputes, it is highly recommended that local government to take measures as per the working rules of land use and administration.

The exercise of the small-scale irrigation schemes using available resources are promising production systems. But some fruits such as papaya, mango and banana produced using such

schemes are affected by the market and post-harvest loss problems. To make this good production system initiative of smallholders sustainable, the government and concerned bodies should consolidate and introduce public irrigation schemes and existing extension system should also strive towards promoting existing and new appropriate agricultural technologies and management techniques.

The dynamics of livelihood strategies and activities is inevitable natural process, but the direction and fate of sustainability matters. To this effect, the smallholder farming community members, whose livelihoods is greatly dependent on land, should be capacitated by providing technical training and support through extension system on alternative livelihood activities.

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