
RURAL LANDLESS HOUSEHOLDS, THEIR ACCESS TO ASSETS AND LIVELIHOOD STRATEGIES: THE CASE OF WOLMERA DISTRICT OF OROMIA REGION, ETHIOPIA

Milkessa Shafe¹ and Matebu Tadesse²

¹MA, Lecturer at College of Agriculture and Veterinary Medicine, Jimma University

²PhD, Assist. Prof at College of Development Studies, Addis Ababa University

ABSTRACT: *Landlessness is a common reality in rural areas, including the study areas. The objective of this study is to identify landless households' and examine their resource access and livelihood strategies. The study was conducted in three randomly sampled rural kebeles of Wolmera district of Oromia Region of Ethiopia. The data sources were 174 randomly sampled landless households from the selected rural kebeles. Mixed method research approach was followed in which primary data was collected using household survey, focus group discussions, and key informant interviews, supplemented by secondary data that was collected from different official reports and publications. Descriptive statistics and thematic analysis methods were used for analyzing the quantitative data and the qualitative narratives, respectively. The study showed that landless rural households account for about 18.7 % of the households in the study area. The important assets they utilized to earn a living are human capital and financial capital. Livelihood strategies pursued by landless rural households were farming, and diversification into nonfarm activities. About 10.3% of the landless households pursued only farming while 2.3% of the households pursued only nonfarm strategies, and 87.4% of households pursued both or diversified livelihood strategies. To improve livelihoods of landless rural households of the study area, there is need to train landless groups in different skills-based income-generating strategies, giving emphasis to how to best improve their access to different forms of capital, improving their educational status, as well as improving infrastructure like roads, electricity and water supply is crucial.*

KEYWORDS: rural landless households, access to assets, livelihood strategies, Wolmera district, Ethiopia

INTRODUCTION

Household livelihood strategies are embedded in the natural and socioeconomic contexts in which people live. Analyzing factors that influence household livelihood choices is necessary for informing rural household policies (Peng, Zheng, Robinson, Li, and Wang, 2017). Livelihood strategies are shaped by the assets, which people can claim, and by various institutional factors (or

‘policies, institutions and processes’) (Levine, 2014). Accordingly, households with more livelihood assets are generally more resilient (able to withstand shocks) than households with fewer assets (FAO and ILO, 2009; CSA, 2013).

Scoones (1998) and DFID (1999) identify five types of assets that determine people’s living and improvement of their well-being. They are: (1) Human capital, which includes skills, knowledge, the ability to work and good health; (2) Social capital, which represents relationships with either more powerful people (vertical connections) or with others like themselves (horizontal connections), or membership of groups or organizations; (3) Natural capital, natural resource stocks that people can draw on for their livelihoods, which includes land, forests, water, air and so on; (4) Physical capital, the basic infrastructure that people need to make a living, as well as the tools and equipment that they use like transport and communication systems, shelter, water and sanitation systems, and energy; and (5) Financial capital savings, in whichever form, access to financial services like credit, and regular inflows of money. Livestock resources are also categorized in this category (Scoones, 1998; DFID, 1999). DFID (1999) defined livelihood strategies as the range and combination of activities and choices that people make/undertake in order to achieve their livelihood goals (including productive activities, investment strategies, and reproductive choices).

The basis of a livelihood strategy is the asset position of the household at a given point in time (Ellis, 2000). On the other hand, the ability to pursue different livelihood strategies is dependent on the basic material and social, tangible and intangible assets that people have in their possession (Scoones, 1998). People draw on their different assets to build a livelihood strategy, which enables them to manage and sustain their lives, and the lives of their families, (or in simpler language, they find ways to ‘get by’) (May, Brown, Cooper, and Brill, 2009). These assets are stocks, which may depreciate over time or may be expanded through investment. In making decisions on strategies to improve the livelihood position, households consider both the current situation and the long-run livelihood position. Livelihood strategies thus include a dynamic component (Winters, Corral, and Gordillo, 2001). Households that have plenty of assets in all the five areas will have strong strategies; probably with a number of ‘back-up’ plans. For example, if we consider a typical ‘reasonably comfortable’ household, their asset base will be relatively strong – both adults are in good health and have relevant skills and experience (human assets); they own their own house and car (physical assets); and are both in well-paid and secure work (financial assets). In addition, they have strong social networks (social assets) and have the confidence and knowledge to hold those responsible for public services (May, Brown, Cooper, and Brill, 2009).

According to different scholars, livelihood strategies are classified in different ways. For instance, Scoones (1998) identified three broad clusters of livelihood strategies. They are: agricultural intensification/extensification, livelihood diversification and migration. Scoones sees these to cover the range of options open to rural people. Either they gain more of your livelihood from agriculture (including livestock rearing, aquaculture, and forestry) through processes of intensification (increasing output per unit area through capital investment or through increases in labour inputs) or extensification (calling more land into cultivation), or diversifying into a range of off-farm income-earning activities that since majority of these activities do not require land holdings, or they move away and seek a livelihood in urban, semi-urban or other rural areas, where land is available, either temporarily or permanently.

In that connection, McDowell and Haan (1999) identified three types of livelihood strategies that landless rural households pursue in order to survive. They are: participating in non-farm activities, engaging in farming by renting-in land from landholders, and migration. As compared to others, these strategies were similar as stipulated by Scoones, except the wording. Participating in non-farm activities represents diversification, and migration is the same for both. Furthermore, as described by Lanjouw and Lanjouw (2000), either migration to urban areas or the development of non-farm employment in rural areas is practiced by majority of rural households, as a remedy to limited arable land and growth of rural labour force that are not productively absorbed in the agricultural sector. In this case the livelihood strategies pursued are only two: migration and non-farm employment.

Ellis (2000) on the other hand identified two types of livelihood strategies namely: natural-resource-based strategies and non-natural resource based strategies. The natural-resource-based activities include collection or gathering (e.g. from woodlands and forests), food cultivation, non-food cultivation, livestock keeping and pastoralism, and non-farm activities such as brick-making, weaving, thatching and so on. Non-natural-resource-based activities include rural trade (marketing of farm outputs, inputs and consumer goods), other rural services (e.g. vehicle repair), rural manufacture, remittances (urban and international), and other transfers, such as pensions derived from past formal sector employment.

For the purpose of this study, we adopted the classifications of livelihood strategies into three: 1) farming, 2) nonfarm, and 3) both or diversification. This classification is more convenient than others, to describe livelihood strategies of the study area. Furthermore, this classification is similar with the classification by Dereje (2018), who used agriculture, non-agriculture and both, while describing livelihood strategies of the study area respondents.

In general, this study aimed to determine the proportion of landless households and identify their access to assets and livelihood strategies. Most of the previous studies on livelihood strategies of rural households did not focus on landless households. On the other hand, landlessness is increasing in the highlands of Ethiopia (Sosina and Holden, 2013). In Ethiopia, high unemployment rate, combined with a lack of access to arable land among rural youth, contributes to greater food insecurity and limits the landless households' ability to generate income from farming activities (Corsi and Abab, 2017). Furthermore, there is high dependency ratio in Ethiopian population. As reported by CSA and ICF (2017), 47% of the Ethiopian population is under age 15. Hence, viable livelihood strategies that produce high or enough output (income) are very important to ensure households' food security, well-being, and economic improvement. Considering the foregoing, this study aimed to: 1) examine the causes of landlessness in Wolmera district of Oromia region, Ethiopia; 2) determine the proportion of the rural households that were landless at the time of the study; and 3) explore the resource access and livelihood strategies pursued by the landless households in the study area.

METHODS

Description of the Study Area

Wolmera district is one of the administrative units of Finfinne Zuria Oromiya Special Zone, Ethiopia. It is located between 8⁰50'–9⁰15'N Latitude and 38⁰25'–38⁰45' Longitude. The district shares boundary with Burayu town in the East, Ejere District and Adea Berga District in the West, Sululta District and Mulo District in the North, and Sabata Hawas District in the South (Figure 1). The district has a total area of 809.27 Km² or 80,927 hectares (WWFECO, 2015).

The altitude of the district is from 2060–3380 meters above sea level. There is no specified lowest place in Wolmera District, while the highest place is located around Wechecha Mountain. About 69% of the *kebeles* are in *dega* [highland] and 31% have *Woina dega* [midland] agro-ecologies. According to the estimation based on the 2007 census, Wolmera District had 103,092 people in the year 2014. From the total population of the District, only 4% are living in urban areas. This indicates that more than 96 % of the population of the District is living in rural area and depending on agriculture for their livelihood activities. The District had a crude density of 123.83 persons per km² in 2014. Similarly, the agricultural density of the district was about 115.63 persons per km² in 2014.

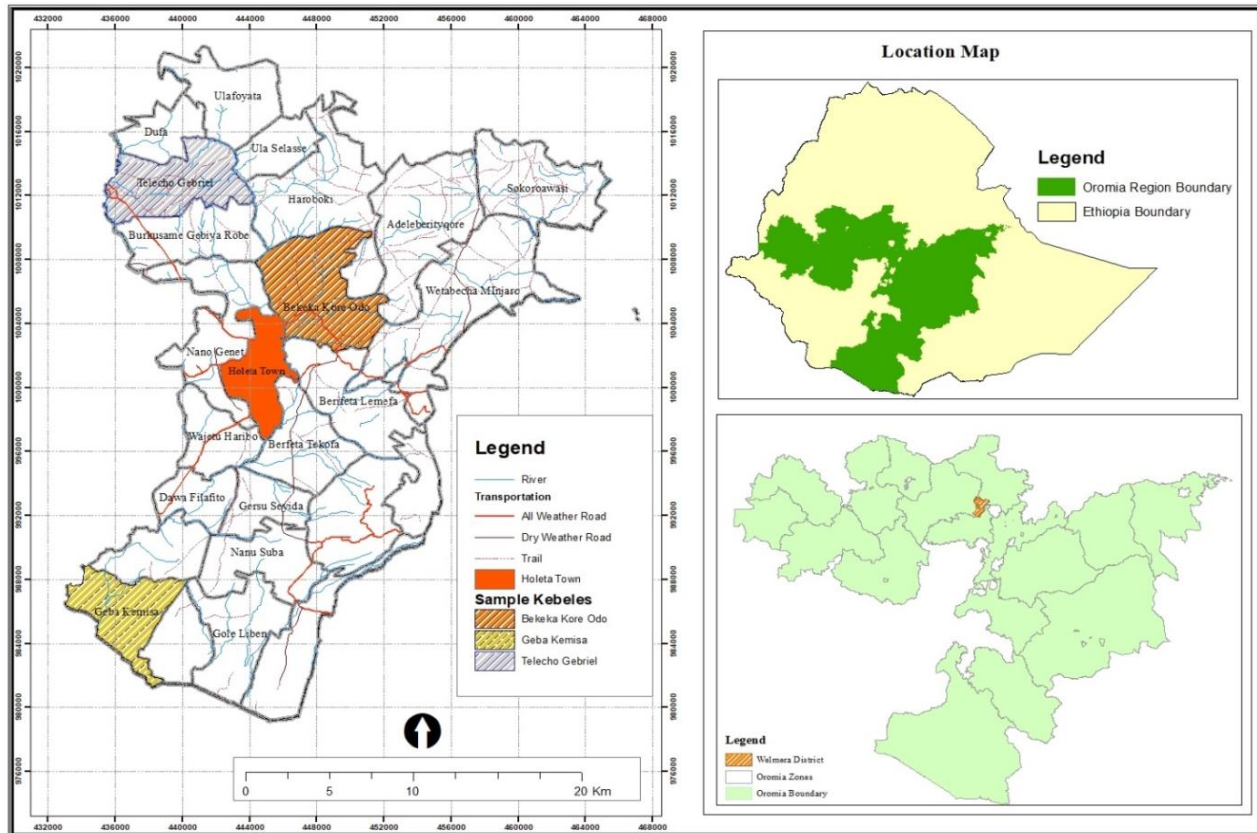


Figure 1. Locational Map of Wolmera District

Research Design

This cross-sectional study followed a quantitative-dominant concurrent mixed methods research design, which allowed researchers to employ both qualitative and quantitative data collection and analysis methods to get both depth and breadth of data from respondents, as advised in Creswell (2014).

Data: Type, Sources, Tools and Analysis Techniques

This study is based on a cross-sectional primary data of qualitative and quantitative nature that was collected from randomly sampled landless rural households. The primary data collected using a household survey, key informant interviews, focus group discussions and case study methods were supplemented and triangulated by secondary data that was collected from official reports and pertinent academic publications (journals, books, and thesis).

Target Population and Sampling Technique

The target population of this study is rural landless households living in Wolmera district of Oromia region, Ethiopia. The criteria used to identify these landless rural households are only confined to having farmland or not. Also households that may have a small parcel of land for house and backyard are considered landless if they have no farmland. In general, the target population of this study were household heads of landless households. According to Wolmera District Rural Land Use Administration (2017), there are about 2,564 landless households in the district, a number which represents about 13 percent of total rural households of the study area. Out of the 2,564 landless households, the sample size was determined following Cochran's (1977) formula

$$n = Z^2 pq / d^2$$

Where,

N = is the desired sample size;

Z = is standard normal variable at the required confidence level (Z statistics: 1.96);

d = is the desired level of precision or level of statistical significance (0.05);

p = is estimated characteristic of target population, which is 13% of the population and

q = is 1-p

Hence, $n = Z^2 pq / d^2$

$$n = \frac{0.13 * 0.87 * (1.96)^2}{(0.05)^2}$$

$$n = 174$$

So, according to this formula the sample size is 174 landless households.

To select the predetermined sample size, the 23 kebeles' of the district were stratified into three groups based on their distance from town: near town, medium distance from town, and very far from town. Because distance to market and urban areas determine landless households' livelihood strategies (Winters et al., (2009). The near kebeles are those that share boundary with Burayu, Sabata and Holeta towns. On the other hand, those kebeles' which are available at medium and very far distance from town is stratified based on their distances.

Based on the above criteria, the selected kebeles are: Bakaka Kore Odo which is nearby town, Talaco which is located at a medium distance from town, and Gaba Kamisa Kebele which is very far from town. Finally, in all these three kebeles, sampling frame of landless household was prepared by development agents. Then, the total sample size was distributed to each of the three kebeles based on the proportions of landless populations in those sample kebeles (Table 1).

Table 1. The study area population from sample *kebele* and selected sample size

| Name of sample kebele | Study Population of sample kebele (Households) | | | Number of Sample Household | | |
|-----------------------|--|--------|-------|----------------------------|--------|-------|
| | Male | Female | Total | Male | Female | Total |
| Bakaka Kore Odo | 66 | 13 | 79 | 37 | 9 | 46 |
| Talaco | 107 | 6 | 113 | 65 | 5 | 70 |
| Geba Kamisa | 74 | 6 | 80 | 56 | 2 | 58 |
| Total | 247 | 25 | 272 | 158 | 16 | 174 |

Source: Own survey (2019)

A pre-tested and revised survey questionnaire with a set of questions about farmland holding and landlessness in the study areas, causes of landlessness, proportion of landless households, their access to assets and livelihood strategies was used to collect the numeric data from the survey participants. To supplement and triangulate the quantitative data, in-depth qualitative information was gathered through KIIs, FGDs, and IDIs with purposively selected household heads.

Data Analysis

The quantitative data was analyzed using descriptive statistics and the qualitative following the thematic analysis method.

RESULTS AND DISCUSSION

Landless Rural Households of the Study Area

According to focus group discussion and Key Informant Interview, landless rural households are those households living in rural areas without any parcel of agricultural land but may have about 500m² (0.05ha) of land, which is used for housing and as backyard. Furthermore, those who have no land holding certificate given by the District Land Administration Office are also said to be landless.

Table 2. Landless Rural Households in Sample *Kebeles* of the study area

| Name of Kebele | Total HHs | | | Landless HHs | | | |
|-----------------|-----------|--------|-------|--------------|--------|-------|------|
| | Male | Female | Total | Male | Female | Total | % |
| Bakaka Kore Odo | 296 | 61 | 357 | 66 | 13 | 79 | 22.1 |
| Talaco | 456 | 88 | 544 | 107 | 6 | 113 | 20.8 |
| Gaba Kamisa | 496 | 56 | 552 | 74 | 6 | 80 | 14.5 |
| Total | 1248 | 205 | 1452 | 247 | 25 | 272 | 18.7 |

Source: Own Survey (2019)

According to data collected from three randomly selected kebeles, landless rural households on average account for about 18.7 % of the total rural households in the study area (Table 2). Very few of those households in fact have the opportunity to get land by inheritance upon death of their parents. The study participants indicated that they are landless because the population size increased from time to time, and their parents prefer renting their land out to others. It was indicated that if the parents rent out their plots to their offspring, they fear the offspring may not provide them sufficient produce and may also raise landholder claim over the land.

And where the offspring access land on inheritance, the land size is much reduced and that fragmentation leads to diminished productivity of labour-to-land ratio. However, respondents also indicated that although land sale is prohibited by law in Ethiopian context, they save some portions of their incomes, as well as use remittances, to purchase plots informally for undertaking agricultural production.

In general, the main reasons for landlessness are: population increase, being underage during the last land redistribution, investment activities in kebeles that are adjacent to towns. the latter reason conforms to the statement of Tuyen (2012), which reads that landlessness is the result of conversion of agricultural land to non-agricultural land uses for urbanization and industrialization during phases of economic development and population growth.

Landless Households' Access to Livelihood Assets

Assets hold special place in pursuing livelihood strategies of one's choice. Respondents have varying access to livelihood assets which, according to them, are land (natural capital), human capital (labour), financial capital and social capital. Physical capitals availability is too small, although there is some improvement from previous two decades.

Access to human capital and social capital

In the case of human capital, labour was noted to be a very important resource for landless households in the study area. The results revealed that, a respondent household on average owned about 2.92 work force. This work force used to generate income and support their and their households' living, as well as to accumulate financial capital, which helps them to access natural capital specially land through renting in for agricultural production. The study found that other elements of human capital like literacy status, skills, health status and training are not evenly distributed across all respondent households, and their availability and impact on livelihood activities was minimum.

The study participants testified that they save a portion of the income they derive through their human capital, and when their saving bolsters, they bought some livelihood assets. Results showed

that the size of livestock owned by a landless household was about 4.087 TLU on average. According to the participants in the qualitative strand of the study, their financial capital, including ownership of livestock resources, derived from human capital is also helping them to access farmland (through renting in or purchasing) and to pursue nonfarm livelihood strategies of their choice.

Social capital is a good fallback during bad times. It was found that acquire this capital in different ways, including through membership to local institutions like '*idir*'¹, locally known as "*afosha*", and different types of cooperatives that enable respondents pursue some kinds of income-generating activities in collaboration. The benefits derived from being a member to these local institutions include social support during sorrow and wedding ceremonies, getting interest-free credit or credit with minimum interest rate, and labour support for weak people. Furthermore, it was revealed that when a shock befalls a family, especially death of ox and horse, which provide valuable draft power, members of the local community collect money from their neighbors and replace the ox or horse by purchasing from the market. Furthermore, the study participants emphasized that when a member of a given household falls sick and if covering medical expenses is difficult for that family, these local institutions support that household to meet the medical expenses.

Access to Land

The study found that landless households in the study area get access to land in different ways, including gift, land renting, and share cropping. Where they got land through gift from parents or relatives or elders who have no child, they cultivate the land for undefined period; but they can't possess the landholder right; nor do they have the right to operate the land the way they want (meaning, the land use system is dictated by the landholders). And in order to continuously use the land for production, the operators are expected to take care of and feed the landholders, usually their parents, as they may not be able, or may not want, to cultivate the plot themselves. In most cases, if those temporal operators (the landless) fail to discharge their responsibilities, the landholders revoke/retract the land use right from those temporal operators.

Renting in agricultural land is another mode in which landless households access land to undertake agricultural activities. Focus Group Discussions (FGD) participants and Key Informant Interviewees (KII) revealed that accessing land through renting-in has become increasingly competitive. The competition is manifested by the rent price per a given parcel of land and other in-kind services provided to the landowners, as a warranty to use the land continuously. The

¹ *Idir* (in Amharic) *afosha* (in Oromifa) is a local institution for mutual support of members mainly during burial, but with extended role in development undertakings.

competition is further intensified as also other households that hold land rent-in extra plots by competing with the landless households. The results show that those landholders usually plant Eucalyptus tree on the plots they held and rent in other plots for farm operations. In land renting system, the landless undertake all the activities required on that land, from land preparation to harvesting, at their own expenses and take all the produce accruing from that land.

It was revealed that the rent price of land under rainfed production system in the study area was about 4000 to 5000 birr per hectare while rent price of land under irrigation-based production was 6000 to 8000 birr per hectare. The rent price of land under rain fed system was consistent with what has been estimated in the OWWDSE (2018), whereas, the rent price of irrigable land was below the estimated price, probably because the operators are not adequately tuned to producing market-oriented commodities, especially onion and tomato.

The study participants indicated that as the rent price and other related qualitative benefits increased, many of the landowners do not rent their plots to their children, because the children may not pay the market price of the plot, and partly also because those parents fear their children might claim holding right over that land, and cause decreases in their [the parents'] land size and land-based benefits.

Share-cropping is another kind of land access arrangement available for landless households in the study area. In this arrangement, landless households access, on agreement, land from land holders and undertake agricultural activities with their own capital to pay for expenses required from land preparation to harvesting. After the harvest, they share the production on equal parts. This means, landholders participate in the agricultural production only by availing the land they held for cultivation by the landless. As in land renting, there is high competition in accessing land through sharecropping. To access land through sharecropping, the landless have to pay also some amount of money to the landholder.

Depending on the size, fertility status, and distance of farmland, the share of produce could be *Sisso* (arrangement whereby landless households take two-third of the produce and give one-third of the produce to the landholder. In this type of land use arrangement, the landless households also pay some amount of money, usually about one thousand birr per hectare of land, to cultivate the land. Another type of crop share arrangement is *Erbo*, in which landless takes about three-fourth of the produce and the remaining one-fourth goes to landholders. However, sharecropping arrangement is on extinction, due to increasing competition for agricultural lands.

Apart from access to other natural capital like forest, minerals and water bodies to generate income from them in order to lead living is very small. Very few households especially women headed households collect leaves of eucalyptus and other fire woods from nearby plantations and sell to markets to supplement their incomes derived from other activities.

Livelihood Strategies of Landless Rural Households in the Study Area

It was found that landless households in the study area pursue different kinds of livelihood strategies, mainly farming (agriculture), nonfarm (non-agriculture) and diversified livelihood strategies, which include agriculture, non-agriculture and migration (Table 3).

Table 3. Livelihood strategies pursued by respondents of the study area

| Livelihood strategies pursued | Frequency | Percent | Cumulative percent |
|---|--------------|------------|--------------------|
| Where only a single livelihood strategy was pursued without overlap | Farming | 18 | 10.3 |
| | Nonfarm | 4 | 2.3 |
| | Both | 152 | 87.4 |
| | Total | 174 | 100.0 |
| Farming (MR) | No | 4 | 2.3 |
| | Yes | 170 | 97.7 |
| | Total | 174 | 100.0 |
| Nonfarm (MR) | No | 18 | 10.3 |
| | Yes | 156 | 89.7 |
| | Total | 174 | 100.0 |
| Both (Diversification) | No | 22 | 12.6 |
| | Yes | 152 | 87.4 |
| | Total | 174 | 100.0 |

(MR): multiple response

Source: Own Survey, 2019

As presented in Table 3, 10.3% of the respondents in the study area pursue only farming; 2.3% of the respondents pursue only nonfarm livelihood strategy; while the vast majority of the respondents 87.4% diversified into both farming and nonfarm livelihood strategies.

Farming

As noted above, landless rural households in the study area pursue farming alone as their livelihood strategy or diversify into both farming (including livestock rearing) and nonfarm livelihood

strategies. About 10.3% of respondents pursue farming only livelihood strategies and whereas, 87.4% of respondents pursue in connection with nonfarm livelihood strategies. This finding is consistent with different studies that show farming as a strategy, is practiced by landless rural households through renting in land or share cropping (Degefa, 2003; Mezgebu, 2014). Households pursuing farming both under rainfed as well as irrigation production systems. The study participants noted that the major crops grown in the area are: barley, potato, wheat, horse bean and *Teff [Eragrotis teff]*.

Generally, the results show that landless rural households cultivated about 176.56 ha (5.02 %) of farmland from a total of 3513 ha of farmland that is under various land access arrangements in the three sample *kebeles*. According to the participants in the qualitative discussions, farming only does not enable the landless households to sustain their living, because it is difficult to get enough land required for farming, and also because the prices of agricultural commodities do not give incentive for them. Hence, majority of them simultaneously diversify into both farming and nonfarm livelihood strategies.

Furthermore, respondents of the study area undertake livestock rearing under farming livelihood strategies. The types of livestock reared were, cows, sheep, goat, horse, donkey, and poultry. Ox and cow are reared by many households and share the highest TLU of respondents' assets. They are used for traction power as well as in generation of income by selling milk. Many of them said they use horses as means of transportation, especially for taking productions to market and for pulling cart, thereby generating cash that augments their income and livelihoods.

Nonfarm Livelihood Strategies

We found that very small portion of respondents pursue nonfarm only livelihood strategies. However, majority of respondents are pursuing nonfarm livelihood strategies in combination with farming. The nonfarm livelihood strategies augment the livelihoods of about 89.7% of the respondents. About 2.3% of the rural landless households pursue only nonfarm livelihood strategies for generating incomes. About 87.36% of respondents pursue nonfarm livelihood strategies with farming. This means the vast majority of respondents pursue diversified livelihood strategies. They pursue both farming and nonfarm livelihood strategies simultaneously for sustenance.

The results of this study reveal that off-farm, nonfarm, migration, and remittances are all used as a source of nonfarm livelihood income for some portion of respondents. The common nonfarm livelihood activities of the area include trading crops and other commodities, trading livestock, petty trading, wage labour in different companies (such as flower producing companies and

Habesha Cement Factory), loading and unloading, skilled activities like construction and hair cutting, as well as cutting eucalyptus, guarding, mining, and giving transport services with horse-drawn cart. Pension and government transfers were not witnessed in the study area. Off-farm livelihood activities are undertaken by majority of respondents. Migration as a strategy ranks the third place. Off-farm livelihood activities are undertaken by the majority of the participants in the study area, because they are easily accessible, require less skill, little capital and expertise to pursue.

The off-farm livelihood activities practiced by many respondents of the study area include wage labour on others' farm like (planting, weeding, harvesting, threshing), collecting and selling fuel wood, and making and selling charcoal. Regarding migration, the study participants indicated that some members of the landless households in the study areas practice both seasonal migration and temporary migration for few months or years. Permanent migration is not practiced at all. Seasonal migration when it is off season at the place of origin, i.e. when it is slack time for agricultural activities, is practiced usually by the husbands to improve income.

Regarding the destination, it was revealed that the majority of migrants migrated to nearby towns and Middle East countries. Wives and daughters of the landless household heads migrate to the Middle East countries while sons and husbands migrate to nearby towns to engage in income-generating activities. Overall, at destination migrants undertake livelihood activities to generate income which they needed to invest on meeting household demands and their basic needs. Migrants support their families at home through remittance. Households whose member practiced a temporary migration on average received remittance of about 9930 Ethiopian birr per year for the year preceding the study period. The study participants indicated that households that received remittance used the money to buy or build house, start nonfarm activities, buy food and clothes, cover health expenses, and rent in or buy land from land holders.

CONCLUSION AND IMPLICATION

Landlessness is increasing from time to time in the study area, mainly due to a combination of factors, such as landholding system that marginalizes the subsequent generations, the continuous increase in size of the population, and the investment projects that compete for much area of farmland in the peri-urban and outskirt areas of towns. With an increasing number of the rural youth joining the state of landlessness, the situation is featuring a generational divide. Landlessness is constraining the employment and economic opportunities available for those landless households. However, they still pursue farming though the majority diversify into both farming and non-farm livelihood strategies. The landless access farmland through gift from parents,

inheritance, renting-in and sharecropping arrangements; but competition for land is becoming increasingly fierce. Diversification has appeared a promising strategy for those households but there is need to create mechanisms of supporting the landless households into more viable diversification.

Notes

Kebele: The lowest administrative unit in Ethiopia, which is below a district.

Farming Livelihood Strategies: Include activities like rain-fed crop production and irrigation-based agricultural production and livestock rearing.

Nonfarm Livelihood Strategies: Includes a bunch of activities such as wage labour undertaken on others' farms or skilled labour or self-employment in rural non-farm activities. Generally it includes all activities that are non-agriculture.

Diversification Livelihood Strategies: Integrates farming or agriculture based livelihood strategies with nonfarm or non-agriculture types of livelihood strategies. If a given households undertake farming as well as non-agricultural activities to earn income as well to lead living it is said to be diversified livelihood strategy.

References

- Cochran, W. G. 1977. *Sampling Techniques*. New York, John Wiley.
- Corsi, A., and Abab, S. 2017. *The Emerging Tenure Right Fortunes and Its Policy Implications: The Case of the World Bank Financed Ethiopia Sustainable Land Management Project II*. Washington DC: World Bank.
- Creswell, J. W. 2014. *Research Design: Qualitative, Quantitative and Mixed Methods Approaches 4th edition*.
- CSA. 2013. *Population Projection of Ethiopia for All Regions*. Addis Ababa: FDRE CSA.
- CSA and ICF. 2017. *2016 Ethiopia Demographic and Health Survey Key Findings*. CSA and ICF. Addis Ababa, Ethiopia, and Rockville, Maryland, USA.: Central Statistical Agency (CSA) [Ethiopia] and ICF.
- Degefa, T. 2003. *Issues of land tenure and food security: the case of three communities of Munessa woreda, south-central Ethiopia*. *Norsk Geografisk Tidsskrift- Norwegian Journal of Geography* Vol. 57, 9 - 19.
- Dereje, R. T. (2018). *Rural Household Assets and Livelihood Options: Insights from Sululta District, Oromia Regional state, Ethiopia*. *Journal of Agricultural Economics and Rural Development*, Vol. 4(2), pp. 423-435.

- Ellis, F. (2000). *The Determinants of Rural Livelihood Diversification in Developing Countries*. Oxford University Press.
- FAO, & ILO. (2009). *The Livelihood Assessment Tool- kit Analysing and responding to the impact of disasters on the livelihoods of people*. Food and Agriculture Organization of the United Nations (FAO), and International Labour Organization (ILO),.
- Lanjouw, J. O., & Lanjouw, P. (2000). *The rural non-farm sector: issues and evidence from developing countries* . *Agricultural Economics* 26 (2001) , 1–23.
- Levine, S. (2014). *How to study livelihoods: Bringing a sustainable livelihoods framework to life. Researching livelihoods and services affected by conflict*. Secure Livelihood Research Consortium.
- May, C., Brown, G., Cooper, N., & Brill, L. (2009). *The Sustainable Livelihoods Handbook:An asset based approach to poverty*. Manchester: Church Action on Poverty and Oxfam GB.
- McDowell, C., & Haan, A. (1999). *Migration And Sustainable Livelihoods:A Critical Review Of The Literature*. *Ids*.
- Mezgebu, A. W. (2014). *Poverty and Livelihood Strategies of Rural Landless in Amhara Regional State of Ethiopia: The Case of Mecha District*. Addis Ababa.
- OWWDSE. (2018). *Oromia Irrigation Potential Assessment; Socio Economy Study of Awash Basin of ONRS*. Not Published.
- Peng, W., Zheng, H., Robinson, B. E., Li, C., & Wang, F. (2017). *Household Livelihood Strategy Choices, Impact Factors, and Environmental Consequences in Miyun Reservoir Watershed, China*. *Sustainability*, 1 - 12.
- Scoones, I. (1998). *Sustainable Rural Livelihoods A Framework For Analysis*. *Ids Working Paper* 72.
- Sosina, B., & Holden, S. T. (2013). *Land Access and Youth livelihood opportunities in Southern Ethiopia*. *Center for Land Tenure studies Working paper*11/13.
- Tuyen, Q. T. (2012). *A review on the link between nonfarm activities, land and rural livelihoods in Vietnam and developing countries*. Hanoi: University of Economics and Business, Vietnam National University.
- WWFECO. (2015). *Socio economic profile of welmera district. Holeta, Oromia, Ethiopia*.
- Winters, P., Corral, L., & Gordillo, G. (2001). *Rural livelihood strategies and social capital in Latin America: Implications for rural development projects*. *Working Paper Series in Agricultural and Resource Economics*.
- Winters, P., Davis, B., Carletto, G., Covarrubias, K., Quinones, E. J., Zezza, A., et al. (2009). *Assets, Activities and Rural Income Generation: Evidence from Multicountry Analysis*. *ELSEVIER*, 1435 - 1452.
- WWRLA. (2017). *Fourth Quarter Report*. Unpublished.