



Title >> The Effect of Land Tenure Systems on Soil Conservation Practices in Northern Ethiopia - A Case Study of Habru District in Amhara National Regional State (ANRS), Ethiopia

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Abstract

This paper is a summary of a thesis submitted to the Kimmage Development Studies Centre, Dublin in partial fulfilment of the requirement for the degree of MA in Development Studies. The paper examines the effect of land tenure systems on soil conservation practices as it is an important factor in shaping the socio-economic structure of the Ethiopian rural sector. This research was mainly a qualitative case study exercise, which used a range of data collection methods, semi-structured household interviews, focus group discussions, key informant interviews and secondary data reviews.

The findings of the research showed that all respondents are aware of the problems of land degradation and as a result undertake different types of soil and water conservation practices to mitigate the problem. The research also revealed that secure land tenure rights, be it before land registration or afterwards, is not a prerequisite to farm households' decisions to adopt soil conservation practices. Moreover, the analysis revealed that factors like labour availability, frequency of rural extension visits, non-farm income generating activities and household education have a positive linkage in determining farm households' decisions to invest in soil.



1. Introduction

Ethiopia, located in the East of Africa, has an area of some 1.1 million square kilometers. Its population is estimated at 77 million (in 2007), increasing by 2.31% per annum. Ethiopia's economy is mainly based on agriculture. This sector is the chief source of income and livelihood for about 84% of the country's population. It is responsible for more than 90 percent of exports and 55 percent of GDP (Berhe 1996 and Seifulaziz and Karim 2004). Given this very fact, one can easily comprehend how agriculture is an important engine for the economic growth of the nation.

Despite Ethiopia's vast resources of land, water and labour, it remains among the poorest countries in Africa, and the world. According to the UN human development indicators for year 2007/2008, Ethiopia has a rank of 169th out of 177 countries with an annual average GDP per capita (PPP US\$) of 1055.

Nowadays, however, land degradation on agricultural lands is becoming a severe problem in Sub Saharan Africa, and Ethiopia is amongst the most affected countries in this regard (Nedessa et al 2005). This in turn has a negative impact on the economic growth of the country because of low output from the agriculture sector. Factors affecting the decisions of farm households on soil conservation practices vary from area to area and are diverse in nature. Some of these factors have a positive effect on farmers choice to invest in land management while others do not.

The basic question however, remains as to what factors in the Ethiopian context affect land management decisions of farm households. It is with this background that this research considered the need for a thorough analysis and exploration of the rural land tenure system and its effect on soil conservation practices.



2. Objectives of the study

This research tried to examine the effect of land tenure systems on soil conservation practices in Habru district, Amhara National Regional State (ANRS), Ethiopia.

Based on this, the following key research questions were developed and guided the study:

- How has the land tenure system operated in the area?
- How does the land tenure system affect households' decisions on soil conservation practices and to what extent?
- What additional factors encourage or discourage households in implementing soil conservation practices?
- What roles do government and other institutions play in promoting soil conservation practices in the study area?



3. Key Concepts

3.1 Land Tenure

The term land tenure is derived from the Latin word *tenere* which means “to hold”. Tenure defines the social relations between people in respect of the object of tenure, in this case land (Lynch and Alcorn 1994). According to Maxwell and Wiebe (1999, p.826) land tenure “is the system of rights and institutions that govern access to and use of land and other resources”. Land tenure systems mainly fall into three basic categories: Private or “modern”, communal or customary, and public or state. A fourth category, open access, may also be observed where property rights have not been assigned or observed.

In the context of Ethiopia, and according to Article 40 sub-section 3 of the 1995 Ethiopian constitution, land is entirely under state ownership.

3.2 Soil Conservation (Land Management)

For the purpose of this research the term land management can replace soil conservation practices and it is interchangeably used throughout this paper. According to Blaike and Brookfield (1987, p.86) land management refers to two sets of inter-linked activities. The first is composed of activities directed at the production of current crops, and therefore has short-term effects. The second includes all activities meant to “result in the long term improvement of the productivity of the land and the creation of assets that mature in the long-run”.



4. Overview of Ethiopia's Land Tenure System

Because of the country's geographical, ethnic and cultural diversity, the pre 1975 land tenure system in Ethiopia was generally noted as the most complex in the world but it was not studied in detail (Cohen and Weintraub 1975; Gilkes 1975; Rahamato 1984; Dejene 1999 quoted in Nega et al. 2002). During that period a variety of classifications and approaches were employed to describe the land tenure system. Rist/kinship, communal, private, state and church land tenure holding were the most common ones (Nega et al. 2002; Admassie 2000).

The 1975 land reform measure by the 'Derg' mainly abolished tenant-landlord relationships in the nation. This was designed with the aim of distributing land to the tillers, to increase agricultural production, create employment and provide a basis for expansion of agriculture.

Since the 1975 land reform the right to own land is vested in the state. Article 40 of the 1995 constitution (which concerns property rights) of Ethiopian People's Revolutionary Democratic Front (EPRDF) provides that "the right to ownership of rural and urban land, as well as of all natural resources, is exclusively vested in the state and in the people of Ethiopia". Through state appointed Peasant Associations (PA) farmers have open-ended usufruct rights (the right to use another's property) to land in the areas where they physically and permanently live. It includes criteria like the ability to farm continuously and meet administrative dues and obligations. These use rights are inheritable (Nega et al. 2002). The constitution also states (Article 51) that the Federal Government shall ratify laws for the utilization and conservation of land and other natural resources. Article 52 also states that Regional Governments have the duty to administer land and other natural resources according to federal laws. This law was enacted in July 1997 through the "Rural Land Administration Proclamation, No. 89/1997" (Nega et al. 2002).

4.1 Land Registration in Amhara Region

As provided in article 52, the ANRS established an Environmental Protection Land Use and Administration (EPLAUA) bureau to administer land and related issues. This structure extends its functions to the district levels through land use administration desks (Adenew and Feyera 2004). The land use administration proclamation declared by the Amhara regional government was made mainly with the aim of ensuring land use rights of land holders and to encourage agricultural productivity through improved land management (Askale 2005; WOARD 2006).

In addition to the above stated proclamation, the Amhara Natural Resource and Land Use Bureau developed an implementation policy that clearly indicates the process of land registration. This policy does not allow for redistributing land; instead, land under private cultivation is registered with its actual size and the identification of the individual



who has been cultivating it since the 1991-1996 land redistribution. Thereafter, the Woreda Environmental Protection Land Use and Administration provides each landholder with legal certificates of their land rights (Adenew and Feyera 2004 and Askale 2005).

4.2 Current Debates

One of the key issues related to land tenure is the degree to which the tenure arrangement encourages improved land management. The assessment of better land management is evaluated in relation to farm practices such as crop rotation, terracing, fallowing and tree planting and other soil conservation practices.

Various research carried out in different countries has demonstrated mixed results. Some findings reveal the existence of robust relationships between land tenure security and investment on land, while others have not.

Goeschl and Iglioni (2006) indicate that property rights' arrangements can not generally guarantee efficient management of natural resources. Likewise, the World Bank study in Ghana and Rwanda found that an increase in individualized land rights (private ownership) does not appear to have had any effect on soil conservation practices or land investment (Platteau 1996).

In contrast, a study carried out in Uganda concluded that private land ownership is significantly and positively related to land investment (Platteau 1996). Furthermore, Jansen and Roquas (1998) explain that private ownership of land promotes adoption of new technologies, and soil conservation practices. Maxwell and Wiebe (1999) mention that greater land tenure security increases farmers' demand for land improvement by increasing their confidence that they will benefit from it in the long run. Todaro and Smith (2003) agree that land tenure security can lead to improved living conditions for the poor and increased agricultural investment.

In light of the above debates, this research tried to investigate the effect of land tenure on land management, with specific reference to soil conservation, in the Ethiopian context.



5. Methodology

This research was mainly a qualitative case study exercise, which employed a range of data collection methods; semi-structured household interviews, focus group discussions, key informant interviews and secondary data reviews. The emphasis in such an approach was on understanding what people think and feel and why (Laws et al. 2003). While some of the findings from the study may well have wider relevance, it is important to note that generalisability was not a primary aim of this study, which tried instead to get a contextual and detailed understanding of the issue.



6. Summary of Findings and Analysis

6.1 Status of Soil and Water Conservation Practices

When asked about the status of the soil and water conservation methods used by respondents, they highlighted that rainfall is unpredictable in the area and when it rains it is insufficient in terms of coverage and amount. Therefore, to conserve moisture and intercept runoff, all farmers indicated the importance of undertaking soil and water conservation practices. All respondents also perceived the negative impact of soil erosion. As a result nearly 100% of them indicated their willingness to implement different types of soil conservation activities.

The majority of respondents, including focus group participants, also revealed that soil conservation measures are beneficial in terms of improving agricultural outputs. Consequently, all farmers in the research area undertake short-term soil and water conservation practices¹. At the same time a good number of farmers also undertake long-term soil and water conservation measures² in addition to the short-term ones. Esser et al (2002, p.10) highlight that the “aim of soil conservation is to facilitate optimum levels of production from a given area of land while keeping soil loss below a critical value”. A farmer who was interviewed for my research explained the usefulness of soil conservation practices as: “No soil, no life. It is the foundation of our livelihoods if not our life”.

On the other hand, a few respondents revealed that physical structures particularly the long-term ones are labour intensive, and therefore those labour-constrained households are finding themselves in a difficult position to implement these activities on their farmlands. Female headed households, disabled and elders are the main ones cited as labour constrained households. Thus, one can imagine how the availability of labour is a crucial factor in household decisions to invest in land. This finding is consistent with that of other studies which say that most soil and water conservation measures are labour intensive, and it is assumed that they are often the first victims of farm labour shortages (Turton et al. 2000).

Interviewed experts also revealed that location of farmlands has an effect on household decisions to undertake soil conservation practices. Accordingly, and given the labour intensive nature of most soil conservation practices, farmlands located near to household residences are more likely to be managed frequently and properly than a plot located far from the ‘owner’s’ home. In other words, in terms of land management ‘Yewojede’³ land gets more focus than ‘Yeberha’⁴ land just because of its proximity and location. This finding seems consistent with the research conducted by Gebreselassie (2006) which says that long-term investments in stone terraces were associated with proximity to the farmstead.

1. Improved farming practices like timely plowing, crop rotation, crop mulching, minimum tillage, contour ploughing, weeding and manure application.

2. Construction of physical and biological conservation measures, for example.

3. Yewojede farmland refers to those farmlands located near to the home of the household.

4. Yeberha farmland refers to those farmlands located far from the ‘owner’s’ home/residence.



6.2 The Land Tenure System Before Land Registration and its Effect on Soil Conservation Practices

When households were consulted on their tenure security, 17% of them indicated that they felt moderately secure⁵ with the land tenure system, and 50% of respondents (two were females) said that the system was very insecure. The other 33% of respondents (three of them were female headed households) were unable to clearly identify their feeling and replied 'I don't know'. Discussions with focus group participants, however, clearly revealed that their feeling about the land tenure system was very insecure and many felt very uncomfortable with the system.

Despite different views provided on the sense of tenure security, the majority of farmers involved in this research were aware of the problem of land degradation. As a result, whatever the land tenure system in place and no matter how farmers felt about it, the majority of the respondents in the research area argued that land tenure security is not a discouraging factor in farm households' decisions to adopt soil conservation practices or not. Farmers' willingness to implement a wide range of soil and water conservation practices can be cited as a good indicator of this. This finding is consistent with existing research in this regard (Platteau, 1996). To illustrate this point, it is worth mentioning the following case studies:

Mrs. A, a female head of a household, with a family size of four, is fifty years old. She has 0.5 hectares of farmland. When asked about the effect of the land tenure system on soil conservation practices, she said that

"although I felt very insecure about the land tenure system, with all the capacity and experience that I have, I am trying to implement different types of soil conservation practices on my farm plot. I do this because deterioration of soil fertility is also the deterioration of my livelihood and it has a negative impact on my family".

Mr. B, aged 67, has a family size of four of whom two can help in contributing household labour. When asked about the effect of the land tenure system on soil conservation practices, he said that

"nothing prevents us (me and my family) from managing the farmland and doing different types of soil conservation practices. We do this mainly because our livelihood is based on agriculture and only agriculture. If I invest in soil, the return will be promising and if not vice versa. So how can I think of not investing in the farmland while agriculture is the only source of my family livelihood".

5. Tenure security means "both (formally) some form of registration of their right to their land, and (informally) confidence that government policy with respect to land redistribution or changes to the tenure arrangements will not arbitrarily change in the future" (Devereux 20003, p. 146).



6.3 Effect of the Land Tenure System (Post Land Registration) on Soil Conservation Practices

Since 2004 the Ethiopian government has been undertaking a land registration programme in some rural parts of the nation. As confirmed by all respondents, the study area is also part of this. According to EPLAUA (2000, p.3), the purpose of the land registration is:

To determine and provide the rural land administration and use to maintain its fertility and to be able to transfer to the next generation by using it properly and carefully. In addition, to incorporate in detail the rights of farmers.

In view of this, all respondents' farmland had been registered and 92% of them have a land holding certificate⁶; while 8% had not yet obtained the certificate at the time this research was conducted for various reasons. In relation to how land registration affected their feelings on tenure security, 25% of respondents (one female headed) indicated no change, and 67% of households (three of them were female headed) expressed that they felt very secure with the tenure system following land registration. Eight percent of respondents declared their feeling as moderately secure. On the same issue, participants in focus group discussions indicated, in general, that they felt more secure with the new land tenure system.

Following the land registration programme, the majority of farmers obtained a land holding certificate and revealed that they felt more secure with the tenure arrangement. In spite of this however, the majority of farm households plainly expressed that the land registration program didn't bring a significant change in farmers' decisions to invest in land management. On the contrary, the majority of respondents emphasized that "before the land registration program we were doing different types of soil conservation practices; and now after the land registration we are still implementing the same". This finding seems to support Adenew and Feyera's (2004) survey which indicated that only 14% of respondents believed that the land registration programme has brought better soil and water conservation practices.

Interviewed experts, however, highlighted that any farmer who has obtained a land holding certificate is obliged to conserve the soil and invest in his/her land. If a farmer is found to not comply with this, s/he loses the farmland and it can be transferred to some one who can manage and work on it properly. This obligation is also stipulated in the proclamation (EPLAUA 2000). In view of this, participants of key informant interviews said that at this stage it would be premature to evaluate the effect of the land registration programme on farmer decisions in relation to soil conservation practices. Be that as it may, through the focus group discussion the researcher found that only very few farmers are aware of their obligations and rights as stated on the certificate. Therefore this calls for more awareness work in the future to familiarize households with the programme and to inform them of their rights and obligations (Adenew and Feyera (2004, p.27).

In summary, as mentioned by all respondents, it can be argued that the land tenure system, be it before the land registration or afterwards, is not a disincentive factor in farmers' decisions to invest in soil.

6. "Any person, granted rural land shall be given the land holding certificate in which details of the land is registered by the authority prepared with his name and his photograph fixed thereon. The holding certification is a legal certificate of the holder. Where the land is a holding of a husband and a wife in common, the holding certificate shall be prepared with the name of both spouses" (EPLAUA 2000, p.27).



6.4 Role of Institutions in Promoting Soil Conservation Practices

As part of the research I tried to gain an understanding of the role of different development organizations operating in the study area in order to assess their effect on soil and water conservation practices. Despite a number of government institutions and NGOs engaged in development work in the region or woreda, I focused only on those organizations that had direct involvement in promoting soil conservation practices in the study area, the Woreda Office of Agriculture and Rural Development (WOARD) and the Lutheran World Federation (an international NGO).

Discussions with households showed that these institutions provided support in the area of soil and water conservation, afforestation, forage development and crop production. Support rendered from these institutions was in the form of material provision, training and technical back up. Interviewed key informants revealed that in order to advise farmers and promote/introduce new technologies in the area of soil conservation practices, WOARD assigned three development agents (DAs) in farmer training centers. The development agents provided extension services (education) in the area of crop production, livestock development and soil conservation. Furthermore, at the woreda level there were two soil and water conservation experts responsible for providing technical back up in the area of natural resource management.

The findings of this research indicated that governmental and non-governmental organizations in the study area played a significant role in promoting soil conservation practices. Support from these institutions positively contributed to farm household decisions to conduct a range of short and long-term soil and water conservation practices. These results confirm the findings of Horacio (2004) who argues that the frequency of rural extension visits plays a positive and significant role in determining the level of adoption of soil conservation practices.

Given the key role of agriculture in the Ethiopian economy, it wouldn't be surprising if government policies and strategies put natural resource management practices at the centre of its development agenda. In spite of this fact however, the majority of farmers interviewed reflected on the importance of having additional support from these institutions mainly in the following areas:

- Introducing new technologies (which demand less time and labour) in the area of soil conservation practices in addition to the usual physical conservation works;
- Expansion of credit facilities to help farmers engage on off-farm activities and generate additional income.

Interviewed experts also revealed that a lot of issues have to be addressed on the government side in order to further promote soil conservation practices in the woreda.



Issues they mentioned include:

- Vehicle shortage at woreda level which can impede frequent movement of experts to grassroots areas in order to provide the required support;
- Shortage of staff and experts not focusing on their area of expertise alone because of their responsibility for covering additional tasks;
- Different disciplines at the woreda office level not working in an integrated manner and, according to research participants, a low level of synergy among different professionals which has a negative impact when doing soil conservation practices at watershed level.

6.5 Additional Factors in Land Management

Although the core theme of this research was to explore the correlation between soil conservation practices and land tenure, the researcher also attempted to examine the effect of other factors on household decisions on land management.

6.5.1 Household Type, Age and Labour Availability

As mentioned earlier, soil conservation activities, particularly the long-term (physical) ones, are labour intensive and therefore labour constrained households are most affected. In this research, all respondents ranging from households to focus group participants and interviewed experts confirmed the importance of the availability of labour.

Female headed households, elders and disabled are labour constrained households and therefore find it difficult to implement soil and water conservation practices on their farmlands. Child care, house management, reproductive roles and other tasks place additional burdens on women headed households which in turn compete with their time for soil conservation.

Furthermore, with the increasing age of a household, the practice of land management declines unless there is a more able bodied person in the family who can contribute labour. Poor households with no labour and oxen are forced to rent out their farmland which in turn has a negative impact on soil conservation practices as the lessee doesn't tend to equally treat the land as their own. Akinbile and Odebode (2007, p.329) support this point demonstrating that "tenants (lessees) are less likely to invest in others' lands due to the fact that long-term net benefits are no longer available to them". The results are also consistent with Devereux et al. (2003, p.59) who indicate that "sharecropping or renting out land is common among elderly and female headed households who lack labor power".



6.5.2. Non Farm Income Generating Activities

Although agriculture was the main source of livelihoods for the majority of respondents in this research, most of them explained that off-farm income generating activities had a positive and significant effect on their land management decisions as it provides an important opportunity to farmers to diversify their livelihood options and thereby strengthen their resilience to shock.

This research found that environmentally friendly income generating activities were viewed as incentives in many ways to positively influence household decisions on land management. Additional income, according to the respondents, is positively related to land management for the following main reasons:

- Additional income from non-farm activities enables labour constrained and other households to hire daily laborers and manage their plot in a timely manner;
- With additional income, households can purchase different type of inputs like fertilizer, farm tools, technologies and oxen that can support soil conservation practices;
- Additional income also improves the well being of the family as the household is in a position to cover their health expenses and non food items, which in turn has a direct positive effect on human capital. At the same time, parents are more likely to let their children attend school and this helps the family to have a better future.
- These findings support existing research in the area (Turton et al 2000, and Akinbile and Odebode 2007).

6.5.3 Education

Education as part of human capital also plays a significant role in increasing households' opportunities and their ability to engage in a range of off-farm and on-farm activities. Focus group participants and interviewed experts, as well as the majority of households, positively linked household education level (the ability to read and write) to farmers' decisions on land management.

Although the literacy rate in the study area is low (17%), this research found that the majority of farmers in the study area were implementing different types of soil conservation activities. However, it is generally thought that those households with members who can read and write can more easily understand and practice key messages of different brochures disseminated from various institutions. Devereux et al. (2003, p.160) argue, for example, that "for adults, functional literacy and numeracy can make an enormous contribution in terms of expanding the livelihood opportunities that they might access which are inconceivable at present because of their illiteracy". In addition, educated farmers are more likely to take risks and use different technologies and inputs that improve agricultural productivity than those who are not literate. Taking all this points into account education can have a positive and significant effect not only on farmers' decisions on soil conservation practices but also beyond.



7. Conclusions and Recommendations

Land degradation and deterioration of agricultural productivity are major threats to current and future livelihoods of farm households in Ethiopia. Of the complex environmental problems Ethiopia faces today, soil erosion and deforestation remain the most serious. As a result it is not only the current supply of food, fodder, fuel and construction material that is under threat, but the very resource base itself (Nedessa et al 2005). Given the agrarian nature of the country, it wouldn't be surprising if the land tenure system is taken as a major issue in the contemporary history of Ethiopia. This paper, therefore, set out to examine the effect of the land tenure system on soil conservation practices as it is an important factor in shaping the socio-economic structure of the rural sector.

The results of the research showed that soil erosion is one of the major problems in the study area. As a result, all research participants undertook different types of soil conservation activities (short and long-term). Reducing soil erosion, improving the moisture retention capacity of the soil and increasing crop production were perceived to be some of the benefits of implementing soil conservation activities.

With regard to the effect of the land tenure system on soil conservation practices, all respondents agreed that land tenure security, be it before land registration or afterwards, is not a precondition to farmers' decisions on soil conservation practices. The research findings also revealed that no matter how the land tenure system operates, additional factors like non-farm income generating activities, availability of labour at household level and education levels have positive effects on determining farm households' decisions to invest in soil.

7.1 Recommendations for Future Consideration

Based on the key findings of the research, the following recommendations have been suggested:

1. The land registration programme was regarded by research participants as being very useful, particularly in boosting farmers' confidence in their security. However, only very few farmers were aware of their obligations and rights as stated on the land holding certificate. Hence, through various workshops and training, the land use administration office at woreda level should exert maximum effort to raise farmers' awareness of the land registration programme especially in relation to rights and obligations.
2. Due to the labour intensive nature of soil conservation activities, those households with no labour are in a difficult position to implement these activities. The current government approach which obliges individual farmers to invest in soil on their own farmlands could worsen the situation of those labour constrained households. Thus, the government should design a mechanism



where households can get support through public conservation campaigns to cover their labour needs and for the implementation of soil conservation practices on their plots.

3. Considering its importance in contributing towards household food security as well as the positive effect it has on soil conservation practices, it is advisable to expand credit facilities/ services in the study area. Access and expansion of the service would enable large numbers of farmers to engage in environmentally friendly non-farm income generating activities which in turn could have a positive effect on soil conservation practices and beyond.
4. Given the importance of soil conservation practices in increasing crop production, a coordinated effort at woreda level is crucial to further promote these activities. However, the level of coordination and integration among different disciplines seems weak. This in turn lessens the effort towards combating soil erosion in an integrated manner. Thus, it is crucial to instigate integration among different disciplines and encourage working together to successfully implement physical and biological soil conservation measures at watershed level.



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