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Research Report

How pro-poor are land rental markets in Ethiopia?

Centre for Land Tenure Studies Report, No. 1/2016

Provided in Cooperation with:

Centre for Land Tenure Studies (CLTS), Norwegian University of Life Sciences (NMBU)

Suggested Citation: Holden, Stein Terje; Bezu, Sosina; Tilahun, Mesfin (2016) : How pro-poor are land rental markets in Ethiopia?, Centre for Land Tenure Studies Report, No. 1/2016, Norwegian University of Life Sciences (NMBU), Centre for Land Tenure Studies (CLTS), Ås

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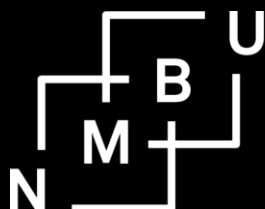
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How Pro-poor are Land Rental Markets in Ethiopia?

Stein T. Holden, Sosina Bezu and Mesfin Tilahun



Norwegian University of Life Sciences
Centre for Land Tenure Studies

Centre for Land Tenure Studies Report

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March 2016

Acknowledgments

This study builds on data collected over a 15 year period (1998-2013) in three regions in Ethiopia through funding from the Research Council of Norway, Norwegian Ministry of Foreign Affairs, NORAD, Global Land Tools Network (GLTN) of UN-Habitat, The World Bank, and Norwegian University of Life Sciences (NMBU). A large number of persons have been involved in the data collection. The most significant contributors have been Fitsum Hagos and Hosaena Ghebru in Tigray, Tewodros Tefera and Million Tadesse in Oromia and SNNP in addition to students from NMBU, Mekelle University and Hawassa University and the authors of this report. This report is essentially a desk study utilizing the various data sets and has been financed by GLTN and NMBU. The Federal Land Administration, Ministry of Agriculture, as well as Regional Land Administrations in Tigray, Amhara, Oromia and SNNP have also supported the study. We are particularly thankful for the constructive support from director of the Federal Land Administration Tigistu Gebremeskel. We are also thankful for the support from Clarissa Augustinus, Solomon Abate, Esther Obaikol and Oumar Sylla at the GLTN for the facilitation of the project.

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Acronyms

CMs	Conflict mediators
CV	Coefficient of Variation
EB	Ethiopian Birr
EC	Ethiopian Calendar
ha	Hectare
HAZ	Height-for-age z-score
LAC	Land Administration Committee
LPM	Linear Probability Model
SNNP	Southern Nations, Nationalities and Peoples
TLU	Tropical Livestock Units
WHO	World Health Organization
WHZ	Weight-for-height z-score

Executive summary

Land rental markets can potentially improve the access to land for land-poor households that possess complementary resources that can enable them to utilize land efficiently. Land rental markets can also enable landowners who are poor in non-land resources to rent out their land such that their land is utilized more efficiently and they themselves can get a better income and improved welfare from their land resource. This report assesses the land rental market that is dominated by a reverse tenancy system with relatively poorer landlords and less poor tenants. This market has largely developed informally in Ethiopia but has also been shaped by the changing land policies. We assess how pro-poor it is and whether interventions potentially can make it even more pro-poor and welfare enhancing or whether a “hands off” policy is preferable. If we can detect a significant market failure, there is room for intervention. However, there are also a number of current interventions in the market. We assess whether these achieve the intended outcomes or rather should be lifted or modified.

Population growth, economic growth, and structural transformation in agriculture may change the role of land from being the most important safety net and livelihood opportunity to become an important resource for agricultural transformation and development. The non-farm sector in Ethiopia has grown rapidly in recent years and provides new employment opportunities and this reduces the pressure on land as the only and main source of livelihood.

Our study of land rental markets in Ethiopia covers communities in Tigray, Oromia and SNNP regions focuses particularly on the period 2006 to 2012, but draws on data and research that goes back to 1998 in Tigray and utilizes information from landlords and tenants and other rural households with male and female representatives, local Land Administrative Committee (LAC) members and local conflict mediators with long experience in handling local land disputes.

In this report, we review the relevant literature and fill important gaps in this literature. These gaps include a) the stated reasons of landlords and tenants for partner choice and contract choice in the land rental market and their attitudes and preferences regarding regulation and formalization of land rental contracts; b) we investigate land access of youth in the land rental market; c) we assesses how joint certification of husbands and wives has affected participation in the land rental market; and d) how increasing population pressure and land scarcity affects land access and the land rental market over time.

The main findings are the following. The **reverse tenancy** pattern with poor landlords and wealthier tenants dominates in all three regions covered in the study. There is **rationing on the tenant side in the land rental market** due to the **dominance of sharecropping** and the lack of or limited functioning of a market clearing price mechanism. This **rationing is strongest in the oxen-based system** where the capital requirement for tenants is larger as a pair of oxen is needed for land cultivation. Complementary skills, good reputation and trust are very important factors determining access to land for tenants. One implication of limited trust is that many prefer to rent out their land to relatives that they trust more. The immobility of land and therefore **the spatial nature of the market limits the spatial integration and competition in the market**. The rationing also limits the extent to which the land rental market can be an important step in the ladder out of poverty. There may, however, be ways of reducing the information and transaction costs and enhance the performance of the market.

Access to land for youth (young farmers with interest in farming) is constrained to their access from parents and relatives who may trust them more and who may give priority to their kin. However, it may also depend on the **ability of such young (potential) farmers to mobilize the necessary complementary inputs, especially oxen for land preparation, labor, skills and purchased inputs** that make them as productive as older tenants that they have to compete with in the market.

Restrictions have been imposed on the land rental market in form of **confiscation of land without compensation from those who have rented out their land for two years and migrated elsewhere**. This may, on the one hand have reduced such migration and the availability of land to households more interested in farming, or on the other hand, made such confiscated land available to young households through redistribution of this confiscated land.

The other restriction that households should be **allowed to rent out only 50% of their land** has **not been enforced** but such a restriction if imposed will make poor (often female-headed) households more tenure insecure. It would also further restrict land access in the land rental market and result in less efficient land use on such land because such landlords would have problems farming this land efficiently themselves. **This restriction has limited local support** and this may be one reason it has not been enforced and the way to circumvent it has been to assume that the restriction applies only to fixed rent contracts and not to sharecropping contracts.

The **law restrictions on duration of contracts that vary across regions are also not strictly enforced** and there is a **strong preference particularly among tenants for longer-term contracts**. This is particularly **understandable also given the law restriction that the tenants are responsible for the conservation of rented plots**. Such conservation investments are only profitable if land can be used for a number of years. Longer-term contracts may therefore enhance sustainable land management and land productivity.

There is a tendency towards **stronger preference for fixed-rent contracts in Oromia** but otherwise the strong preference for sharecropping contracts continues to dominate in Tigray and SNNP and is related to the risk-sharing advantage of such contracts.

Trust-based land rental contracts have typically been oral contracts among the contract partners only and this has been the dominant contract type. The recent law **restriction that all land rental contracts should be written and reported to the community has not been enforced** and also has limited public support. In Tigray we see an increase in the demand for such written and reported contracts but the majority still prefer oral contracts without or with witnesses. In Oromia and SNNP about one third prefer written and reported contracts and the support for such contracts has gone down from 2007 to 2012. There is therefore **limited motivation for reporting such contracts** to the local land administrations especially if the contract is a sharecropping contract with trusted persons. **The implication may be to have a system for voluntary reporting of contracts and/or the formalization of rental contracts must offer some benefits that provide sufficient incentives for contract partners to be willing to report the contracts. A more competitive market involving less well-known partners and longer-duration contracts is where formalization may have a potential and facilitate commercialization in agriculture.**

While it has been found that land certification in Tigray has stimulated the extent of land renting, we found evidence pointing in opposite direction in Oromia and SNNP. One reason for this could be the joint certification of husbands and wives and women's empowerment and the **requirement that land renting requires the consent of the family before land can be rented out**. It is possible that wives give higher priority to food security of the family and therefore are less willing to rent out land than their husbands. We also found that **children in female-headed landlord households had better nutrition standards than children in autarky households** and this **may imply that the land rental market helps them to improve the food provision for their children. Having**

a land certificate was also positively associated with the weight-for-height z-score for landlords' children in our sample from Oromia and SNNP and this is consistent with the findings in Tigray. There are also indications that the nutrition status of female children in particular has improved after the joint land certification was introduced in this sample. It is **possible that the empowerment of wives through joint land certification has contributed to land renting playing a stronger role in improving household food security.**

Rural population growth has contributed to shrinking farm sizes and land fragmentation with the smallest farms being unable to provide a secure and sustainable livelihood for rural households. Household food security is therefore threatened and chronic poverty a consequence unless the population pressure can be reduced through migration and provision of alternative non-farm sources of income or more productive technologies such as irrigation. We are likely to see an accelerated outmigration from the most densely populated areas as a larger share of the households pass a threshold level of land available per capita. Creation of employment opportunities for the rapidly increasing number of migrated youth is one of the biggest future challenges.

1. INTRODUCTION

Land rental markets play an increasingly important role around the world. Empirical Studies of the land rental markets in Africa have shown that such markets often are pro-poor and facilitate land access for land poor people (Holden, Otsuka and Place 2008). Some recent studies have also demonstrated that land rental markets can be beneficial for the poor (often female headed) landlord households that lack the resources to farm their land efficiently themselves and who therefore depend on renting out their land through share cropping arrangements that improve household income and food security. (Gebregziabher and Holden 2011); Holden and Ghebru 2013; Ghebru and Holden 2013). However, substantial allocative inefficiency is still observed in the land rental markets in Africa and there is scope for reducing these inefficiencies (Holden, Otsuka and Place 2008). Low-cost land registration and certification has been a very successful intervention in Ethiopia (Deininger et.al. 2008; Holden, Deininger and Ghebru 2009; 2011) and has among others stimulated the land rental market by enhancing the tenure security of landlord households (Holden, Deininger and Ghebru 2011; Deininger, Ali and Alemu 2011). More recent land law restrictions on land renting in Ethiopia may, however, potentially undermine the positive land rental effects of the land certification reform (Holden and Ghebru 2012). This may also have an impact on the potential benefits that can be achieved from the second stage land certification that has started in some regions of the country. The registration (formalization) of written land rental contracts has even been included in regional land laws but has not been implemented yet.

Land rental markets can potentially improve the access to land for land-poor households that possess complementary resources that can enable them to utilize land efficiently (Holden et al. 2008; 2013). Land rental markets can also enable landowners who are poor in non-land resources to rent out their land such that their land is utilized more efficiently and they themselves can get a better income and improved welfare from their land resource (Holden et al. 2011; Ghebru and Holden 2013). It is particularly the imperfections in markets for non-land factors of production such as labor, traction power, credit and insurance that create a need and demand for the land market. This is more pronounced in places where land is scarce and distributed in a way that does not match well the distribution of the non-land factors of production (Feder 1985; Binswanger and Rosenzweig 1986; Holden 2007; Holden et al. 2008).

Pro-poor land tools aim to reduce poverty by ensuring that land administration and management mechanisms incorporate the interests and needs of the poor. As the empirical evidences cited earlier indicate, better functioning land markets enhance the welfare of the poor as poor landlords are able to rent out their land and the poor landless with extra labour capacity are able to rent in land. This in turn will enable them to increase their productive efficiency since they will be able to invest their resources, including their labour, more efficiently. Yet land policies have often aimed to restrict the operation of land rental markets for various reasons. Such policies have often been counter-productive and not achieved the intended effects (Holden, Otsuka and Deininger 2013).

Overall Goal and Objectives

This project aims to further the understanding of land rental markets as a potential pro-poor land tool in poor countries facing increasing land scarcity and to assess methods that aim at enhancing efficiency of land rental markets.

Objectives

1. To prepare the ground for pilot-testing and scaling up a pro-poor land rental market enhancement tool.
2. To assess the potential of a pro-poor land renting tool based on existing data on the actual participation in and functioning of land rental markets, existing laws and land administration structures.

Activities:

1. Assessing the extent of legal restrictions on land renting and their implications for the poor;
2. Assess whether land renting enhancement (including enhancement of share tenancy contracts) can be used as a pro-poor tool;
3. Assess the potential benefits and costs of formalization (preparation and registration) of land rental contracts;
4. Identify a Team of authorized Land Administration Experts from the four main regions in Ethiopia under the Federal Directorate of Lands in preparation for tool development and piloting;

5. Hold an inception workshop on the research findings from the Phase 1 data analysis and to identify collaborating partners in the regional land administrations that can be authorized to facilitate an experimental approach to a land rental tool testing;
6. Prepare a phase II project proposal that will outline principles for alternative land rental market enhancement (prototype tool designs) for pilot experimental testing.

Deliverables from the Collaboration

Expected Outputs

1. A report with analysis of existing survey data.
2. A report of the inception workshop in Addis Ababa Ethiopia.
3. Establishment of a Team of authorized Land Administration Experts from the four main regions in Ethiopia under the Federal Directorate of Lands in preparation for tool development and piloting.
4. Project proposal for Phase II

This report represents the first of these four expected outputs.

1.1. Elaboration on the report

The extent of activity and distributional implications of land rental markets have varied a lot over time and space. Feudal systems with rich landlords and poor tenants were dominant in the past in Asia and Europe as well as in Ethiopia and some colonized parts of Africa. Today we see that reverse tenancy has become more common in parts of Africa (Ethiopia, Madagascar, Malawi) and this appears to be a more pro-poor tenancy arrangement than the more exploitative systems of the past (Ghebru and Holden 2014). This report dives into the nuts and bolts of the reverse tenancy system in Ethiopia which largely has developed informally and assesses how pro-poor it is and whether interventions potentially can make it even more pro-poor and welfare enhancing or whether a “hands off” policy is preferable.

We utilize household panel data from three regions in Ethiopia where land rental markets, dominated by sharecropping, are very active. These markets have evolved with changes in policies

such as after the radical land tenure reform in 1975 (Dessalegn 1984) and the more recent land registration and certification reforms that have strengthened the tenure security of individual households (Deininger et al. 2008; 2011; Holden et al. 2008; 2009; 2011). Population growth, economic growth, and structural transformation in agriculture may change the role of land from being the most important safety net and livelihood opportunity to become an important resource for agricultural transformation and development. The non-farm sector in Ethiopia has grown rapidly in recent years and provides new employment opportunities and this reduces the pressure on land as the only and main source of livelihood.

Our study of land rental markets in Ethiopia covers communities in Tigray, Oromia and SNNP regions over the period 2006 to 2012, and utilizes information from landlords¹ and tenants and other rural households with male and female representatives, local Land Administrative Committee (LAC) members and local conflict mediators with long experience in handling local land disputes. We assess;

1. Factors explaining participation on each side of the land rental market as well as non-participation,
2. The distribution of wealth indicators for tenants, landlords, and pure-owner-operators.
3. The age structure of tenants. To what extent do young tenants with limited endowments (livestock endowment) access the market? To what extent does kinship ties help young tenants to access land through rental contracts?
4. The potential effect of land market participation for poor households. Can the land rental market be a step in the ladder out of poverty or is it blocked by land rental and land sales law restrictions or simply by the rationing mechanisms in the unregulated market?
5. The extent of change in the rental pattern over time and in the characteristics of landlords and tenants;

¹ Landlords are households that rent/sharecrop out (part of) the land they have limited ownership right to. They may possess a land certificate as a documentation of their land rights. Their rights include the right to use, bequeath to their children and grandchildren that do not have land, rent out up to half of their land for a limited time period (varying across regions and by technology used by tenant). They also have obligations of utilizing the land and ensuring sustainable management. They do not have the right to sell or mortgage the land as the State is the fundamental owner of all land.

6. Land rental contract choice in terms of type of contract (fixed rent contracts, sharecropping contracts, cost-sharing contracts), the duration of contracts, the degree of formalization of contracts;
7. The extent of disputes related to land rental contracts, the level of trust among contract partners, the demand and need for formalization of contracts;
8. The knowledge of the land rental market law restrictions, and perceptions and attitudes related to these restrictions among rural household members (men and women), conflict mediators, and LAC members;
9. The relationship between land certification and land rental market activity based on perceptions by the stakeholder groups and by assessment of the change in the activity over time;
10. Assess land rental patterns over time and potential policy options. Are there ways to intervene such that the land rental markets are enabled to work better and in a pro-poor way e.g. making more land available to landless and land-poor youth?

Part 2 of the report provides a literature review, part 3 a conceptual framework, part 4 gives an overview of the data sources, part 5 provides the main findings, before we conclude in part 6

2. REVIEW OF LITERATURE

This part provides an overview of the most relevant literature for our study of the land rental market and its policy and development implications in Ethiopia. There is a huge theoretical and empirical literature on land rental markets in Asia and Europe and a more limited empirical literature on land rental markets in Africa. We put more emphasis on the latter but draw on some studies in Asia as well where conditions are more similar. At the end of this part, we identify some important gaps in the literature and show how we aim to fill some of these gaps in the case of Ethiopia.

We refer to other studies for how land sales markets affect equity and poverty as land sales are prohibited in our country of study. The efficiency implications of land rental markets have extensively been studied. Studies of the allocative efficiency of the land started with Bliss and Stern (1982) in India and with further developments of the methodology by Skoufias (1995). They found evidence of substantial transaction costs and incomplete adjustment in the tenancy market. More recently, Holden et al. (2008) also found evidence of incomplete adjustment in tenancy

markets in Africa (Ethiopia, Kenya, Malawi and Uganda). There could be many reasons for such incomplete adjustments, which also have equity, poverty, and policy implications. We explore this further.

2.1. Land rental market participation and poverty

Bell and Susangkarn (1988) demonstrated that markets for tenancies might not clear in a Walrasian fashion because of adverse selection and moral hazard problems that cause rationing in the market. They related it to high transaction costs on the landlord side which is more appropriate in a setting with absentee landlords and landlessness such as in India where their study took place. Bliss and Stern (1982) also argued that sharecropping involved moral hazard issues and a strong likelihood of rationing. Skoufias (1995) investigated this further and found a significant asymmetry in the land rental market.

In Tunisia Laffont and Matoussi (1995) found that tenants had higher levels of working capital than landlords. Bellemare (2009) also found evidence of reverse tenancy in Madagascar. In Eritrea Tikabo and Holden (2003) found that poor female-headed households tended to rent out their land to wealthier male-headed households. Ghebru and Holden (2008) in Tigray, Holden and Bezabih (2008) in East Gojjam and Wollo and Kassie and Holden (2007; 2008) in West Gojjam in the Amhara region also found a similar pattern in Ethiopia. Ghebru and Holden (2008) found that oxen ownership was a key determinant of participation in land rental market in Tigray as households without oxen typically failed to cultivate their land themselves and therefore rented it out to households with oxen. The market for ploughing services were poorly developed due to the highly seasonal demand for oxen in rain-fed agriculture, the lumpiness of oxen, and moral hazard related to renting out animals that easily can be damaged by mis-management. They found evidence of an entry barrier in the market on the tenant side as many tenants and potential tenants were rationed in/out of the market. A high percentage of kinship contracts appeared to contribute to better access to land for some tenants. Holden and Bezabih (2008) also found kinship contracts to be important in Amhara region and such contracts to be associated with less efficient land use on land rented out by poor female-headed households who rented to wealthier male in-law kin tenants. They indicated that tenure insecure female landlords (widowed or divorced) living in the village of their late or ex-husband were unable to freely choose their tenants and that in-laws claimed their land against a share of the output.

However, there have been only a few careful studies of how landlords and tenants choose their contract partners. Akerberg and Botticini (2002) analyzed historical data from Renaissance Tuscany with data on contracts between landlords and tenants as an endogenous matching problem. They found strong evidence of matching between landlords and tenants. The tenants' wealth was not related to contract choice before controlling for matching, but after controlling for matching, they found a stronger and significant effect of tenants' wealth. They proposed that this could be evidence of risk sharing, as poorer tenants were more likely to have sharecropping contracts.

Macours et al. (2010) assessed how tenure insecurity affected the matching of landlords and tenants in the Dominican Republic. They found that insecure property rights resulted in matching along socio-economic lines and this constrained the size of the market substantially and the choice of tenants by the landlords. This reduced the access to land for the rural poor. Using simulations, they estimated that improving tenure security would increase rental transactions by 21% and the area rented out to the poor by 63%. If the poor potential tenants in addition were provided working capital, the simulation results indicated that there would be a 150% increase in the number of poor that get access to land and the total area rented by the poor would increase by 300%.

The last example is interesting because of the land registration and certification reform in Ethiopia, which provided such stronger tenure security for (potential) landlords. Holden et al. (2011) put land rental market development into a dynamic setting where land certification may enhance gender-specific tenure security of experienced and potential landlords, making them more willing to rent out land. They assessed empirically whether low-cost land certification has improved allocative efficiency in the land rental market using four rounds of household panel data from Tigray covering the period 1998-2006 with the baseline year being the year land registration and certification was implemented. Above fifty percent of the households stated that they felt tenure insecure in 1998 and expected to lose land in land redistributions. The patrilineal and patrilocal marriage system in Ethiopia implies that women move to the home and village of the husband upon marriage given that he has farmland.

Female-headed households often lack male labor and oxen that are required for ploughing which is considered a male task. Therefore, female-headed households often rent out their land but may

have insecure rights to their land. Land certification, however, may have strengthened their land rights. The study finds that the land certification had a significant positive effect on land renting out by (potential) landlords and this improved the land access of (potential) tenants. Particularly female-headed households had become more likely to rent out land and they rented out a larger share of their land. They estimated that the area rented out increased by 7% per year in the early years after certification. Among all landlords, 81% stated that land certificates gave them an advantage; 33% stated that it improved their tenure security, 26% that it improved their bargaining power related to tenants, 22% that they obtained better performance by the tenants, 12% that contract fulfillment was better, and 6% that they could go for more long-term contracts (Holden et al. 2011). They found evidence of entry barriers in the market both from the landlord and the tenant side. Female-headed households were estimated to increase their area rented out by 1.1-1.6 tsimdi² in response to receiving a land certificate if they already were renting out some land and by 0.23-0.36 tsimdi if they were initially not renting out some land. These effects were much smaller for male-headed households.

Ghebru and Holden (2014) investigated the land use efficiency implications of land rental contracts in Tigray and how they related to landlord and tenant characteristics. They used data from paired landlords and tenants from 2006 (eight years after land certification was implemented). They found the typical reverse share tenancy system already described. Landlords do not have significantly more land than tenants but tenants have significantly more non-land resources. Tenants are on average younger. It is more common than not that landlords and tenants are kin related. Almost all tenants have some own land such that landless tenants barely exist. They found that land productivity on average is lower on sharecropped land than on the owner-operated land of the tenants and lower on sharecropped land for non-kin than for kin tenants and so is input use although non-kin tenants are found to be wealthier than kin tenants are. Kin tenants are on average younger than non-kin tenants. About 60% of the kin landlords rented out all their land (pure landlords) against 47% for non-kin landlords. Female landlords were more likely to rent out to kin tenants than male landlords. Kin tenants were more efficient on rented land than non-kin tenants. However, kin tenants were also inefficient in the case when their landlord was tenure insecure.

² 1 tsimdi=0.25 ha approximately.

These results from Tigray are different from those found by Kassie and Holden (2007; 2008) in an area in West Gojjam in the Amhara region of Ethiopia. They found kinship to be associated with lower land productivity while non-kin contracts were associated with land use efficiency at the same level as on owner-operated land. They explained this by threat of eviction that was more efficient in relation to non-kin tenants who worked hard to get their contracts renewed. Holden and Bezabih (2008), another study in East Gojjam and Wollo in Amhara region also found kin contracts of female-headed households to be associated with lower land use efficiency and explained it by the low tenure security of female landlords who were unable to invoke threats of eviction. In Tigray it may appear that landlords are unable to use threat of eviction against non-kin tenants and we may wonder why this is the case after tenure security has been strengthened through land certification. We hope to shed more light on this in this study.

It appears that younger persons more easily access land in the land rental market through their kin than otherwise. Poor youth may not have the necessary complementary resources such as oxen and skills that are required to convince a landlord to rent them her land. Kinship contracts may thus be associated with transfer of land to younger family members but also to coercive control of the land of female (widow) landlords by her in-laws. The latter type of arrangement was found to be more common in the Amhara region before land certification was implemented (Kassie and Holden 2007; 2008; Holden and Bezabih 2008), while more efficient contracts with kin were found in Tigray eight years after land certification had been implemented. The latter is also more consistent with what Sadoulet et al. (1997) found in the Philippines where kinship contracts appeared to enhance land use efficiency.

In another study, Ghebru and Holden (2013) assess the food security implications of the land certification reform in Tigray by building on the same sample from Tigray that Holden et al. (2011) used while including another survey round from 2010. Food security is measured in the form of calorie availability from farm production per consumer unit in the household and the Body Mass Index of children in the family. They used the number of years of certificate ownership for identification of the impact of certification on food security. A significant positive food security effect was found related to land rental market participation. The strongest positive effect was found for landlord households and female-headed households (these two categories strongly overlap).

Tenants that had managed to increase their land access through the land rental market had also significantly improved their food security measured as calorie availability per consumer unit. The study also provides evidence that pure owner-operators of land benefitted from land certification through an investment effect that improved land productivity. Related to this, another study by Holden and Ghebru (2013) shows that the productivity on rented land relative to owner-operated land improved from being substantially lower in 1998 to be much closer to the same level in 2006. This is a sign that landlords have been able to get better tenants or have become more able to make the tenants do a better job. With sharecropping as the strongly dominant contract form, improved tenure security through land certification appears to have reduced “Marshallian” inefficiency in the land rental market over a period of eight years after its implementation.

In the Amhara region of Ethiopia Deininger et al. (2011) assessed the early impacts of land certification on tenure security, land investment and land rental market participation. They studied the impact on households’ perceptions regarding gain or loss of land through land redistributions within the coming five years and land certification was associated with a significant reduction in the perceived probabilities that land would be lost or gained through such redistributions. They studied land rental market participation in villages that had received land certificates (treatment) and had not yet received land certificates (control) within the same period of one to two years before and after the treatment villages had received their land certificates. They found a significant increase in land rental market participation in the treatment villages as compared to the control villages. They also had data for the same villages for two survey rounds before this. Similar to what Holden et al. (2008; 2011) found in Tigray they found signs of dynamic adjustment in the land rental market indicating non-linear (nonconvex) transaction costs in the market. Those who are already in the market responded more than those who just entered the market. Like in Tigray, they also found that it is resource-poor households, often female-headed, that rent out their land to more resource-rich households. The latter group being with oxen that are instrumental in land preparation. The non-linear short-term response makes it hard to predict the longer-term impact of certification on the land rental market.

Another study in Amhara Region (Bezabih et al. 2015) investigated how joint land certification affected land productivity on male- versus female-owned farms. Similar to what Holden et al.

(2011) and Holden and Ghebru (2013) found in Tigray, they found that land certification enhanced land rental market participation and productivity on rented land and the productivity gain was higher on rented land of female-headed households than that of male ones.

2.2. Land rental contract choice and poverty/equity

There is a huge theoretical and empirical literature on land contract choice in agriculture. Here we limit the focus to the part of the empirical literature that relates contract choice to poverty and equity issues with emphasis on land access for the poor and its welfare implications. We refer to reviews by Otsuka et al. (1992) and Otsuka (2007) regarding contract choice and sharecropping efficiency in Asia. In most cases, the contracts were between more land-rich and wealthy landlords and land-poor or landless tenants.

Sharecropping contracts served several purposes in such a setting and were often combined with provision of credit and cost-sharing arrangements for input purchase as tenants were poor. Delay in payment of the land-rent was another form of implicit credit that was helpful for poor tenants who had difficulties obtaining the resources to pay both the land rent and the inputs at the beginning of the planting season. Sharecropping also helped them to share the risk in production and provided them stronger incentives to work than a pure labor contract. The trade-off between moral hazard and risk was therefore seen as the main explanation of sharecropping being such a dominant contract form in many places in Asia (Stiglitz 1974).

Reviews regarding the efficiency implications of sharecropping are also providing mixed results and Otsuka (2007) concludes that sharecropping mostly is inefficient in cases with improper interventions that have enhanced the tenure insecurity of landlords. With secure property rights, sharecropping may be the best contract in a second-best world with pervasive information asymmetries and transaction costs.

A range of hypotheses have been launched to explain land rental contract choice. These include screening theories (Hallagan 1978; Allen 1982; Shetty 1988), bargaining (Bell and Zusman 1976), resource-pooling (Sadoulet et al. 2001), land quality adjusted contracts (Dubois 2002), credit/liquidity constraint, risk sharing (Cheung 1968), moral hazard and incentive provision (Stiglitz 1974), reputation and trust-based contracts, and distress contracts (Gebregziabher and Holden 2011).

Tadesse et al. (2008) assessed land rental contract choice in Southern Ethiopia (perennial crop zone) and found a large variation in contracts. When testing alternative hypotheses to explain contract choice the evidence was more in direction of the resource pooling than the bargaining hypothesis and rented plots with higher land quality were associated with tenants covering more of the input costs. Gebregziabher and Holden (2011) investigated how contract choice was associated with shock exposure of food insecure poor farm households in Tigray region of Ethiopia. They found that land renting was one of the coping responses of poor households to shocks and that distress rental was associated with fixed rent contracts by desperate landlords in need of urgent cash. Their weak bargaining power in such situations cause them to rent out their land at rental rates much below what they would have gotten with a standard sharecropping contract.

Many empirical studies aiming to “explain” sharecropping have, in many cases, failed to identify risk sharing as a major explanation. Laffont and Matoussi (1995) in their study in Tunisia found many tenants to prefer sharecropping to fixed rent contracts due to financial constraints. Tikabo and Holden (2003) found that wealthier tenants and poorer landlords were more likely to have fixed rent contracts and less wealthy tenants and more wealthy landlords were more likely to have cost-sharing contracts. This also supports the credit constraint hypothesis. An alternative hypothesis could be that the wealthier are less risk-averse and are therefore willing to carry more of the risk. The study of Gebregziabher and Holden (2011) in Tigray found that sharecropping contracts were more likely to be chosen when *ex ante* production risk is high while fixed rent was more likely to be chosen when such risk is low. Their data was only from one side of the tenancy market and they did not have data on the risk preferences of contract partners.

Deininger et al. (2012) used a large matched sample of landlords and tenants from East Gojjam and Wollo in Amhara region from 2007. When excluding the rental partners, 57% of the households participated in the land rental market, showing the importance of the market. When including the rental partners 63% of the landlords were cultivating part of their land while only 2% of the tenants were landless. Above 85% of the partners were from the same village, showing that the market is spatially limited and this may limit the competition in the market. Oxen ownership was found to be the main determinants of participation and female-headed households were less likely to have oxen and more likely to rent out their land. The Gini-coefficient for owned

holdings was 0.37 while it was 0.48 for operational holdings, a similar pattern as found in Tigray by Ghebru and Holden (2008). Sharecropping was the dominant type of contract with 95% being sharecropped and out of these 12% also had input sharing while the rest were under pure output sharing (Deininger et al. 2012). They found that land productivity was 17-26% higher on owner-operated land of tenants than on owner-operated land of landlords, indicating that land is transferred to more efficient producers. However, pure sharecropping was also associated with lower input use and productivity that was 16-25% lower than that on owner-operated land of tenants. They therefore concluded that sharecropped land was not cropped more efficiently than the owner-operated land of landlords due to Marshallian inefficiency. The small percentage of rented plots with fixed rent and input sharing/cost-sharing contracts did not show a similar lower productivity as expected from theory. Limited monitoring capacity of landlord households was associated with lower productivity on sharecropped plots. They concluded that therefore landlords did not benefit much from sharecropping out their land. However, landlords may not have been able to cultivate the rented out land equally efficiently as the much smaller land they were currently cultivating due to the market imperfections they faced (Deininger et al. 2012). They argued that provision of insurance could create an incentive to move to more efficient fixed rent contracts. It remains to be seen whether such an intervention can work and enhance the efficiency of land use by changing the dominant contract form. It is possible that a transition towards more commercial agriculture will create a tenant class that is willing to offer better fixed rent contracts to landlord households and that this can enhance land use efficiency on rented land. Future studies should investigate this.

2.3. Regulation of land rental markets

Land-to-the-tiller policies in Asia have aimed to improve the land access for poor tenants but these policies have not been very successful (Otsuka 2007). In Nepal the land rental market was strongly influenced by the caste system where the high caste were the landowners renting out land to landless or very land-poor low-caste tenants. Interventions started in the 1960 aiming to improve land access for the land poor through “land-to-the-tiller” policies. These policies included imposing ceilings on farm size, fixing the land rent at half of the output, formal registration of land and tenants. While surplus land (based on the ceilings) was to be redistributed among the landless, the landowners managed in most cases to share the land among their relatives such that only a

small share was made available for the landless, less than 2% according to Yadav (1999). The registration of tenants was also problematic due to weak administrative systems and the majority of tenants failed to register. When the land law after a while was interpreted such that the rented land should be shared among the landlord and the formally registered tenant this created tenure insecurity on the hand of the landlords and many tenants were evicted even though the law prohibited eviction of tenants and sale of rented land. In reality, the extent of land renting declined over time and much of the rental contracts became informal short-duration contracts that did not require registration of tenants as formal tenants (Aryal and Holden 2013). The land-to-the-tiller policies had long-term impacts. In a study in 2003 in the western hills of Nepal, Aryal and Holden (2013) find that high-caste landlords still dominate and rent out land to other high-caste households or to low-caste more land-poor households. They find that low-caste households are rationed in the market. Even though they are more efficient in using the land as Marshallian inefficiency is not revealed in their contracts, many landlords prefer to rent out their land to other high-caste households where the study revealed substantial inefficiency. Due to tenure insecurity, many landlords do not dare to rent out to the more efficient and land-poor low-caste tenants. The tenure insecurity created by the land-to-the-tiller policy has therefore reduced the land access for land-poor low-caste households who only can get short-term informal land contracts. It has also resulted in less efficient land use due to choice of less efficient tenants and rapid turn-over of tenants that do not have the incentive to work hard to get their contract renewed (Aryal and Holden 2013). The effects of this tenancy reform has therefore been the opposite of its intention. Caution is required when attempting to improve land access to the poor through the land rental market.

West Bengal in India had a more successful tenancy reform called, Operation Barga, that was implemented from 1977. This reform strengthened the tenancy rights of tenants by prohibiting eviction and putting a ceiling on the share (25% with no cost sharing and 50% with full cost sharing) of the output that could be paid to their landlords. Banerjee et al. (2002) assessed the impact of the bargaining and the tenure security effects of this reform using aggregate data. They found that tenants increased their investments on the land due to the increased tenure security and the fact that they could retain a larger share of the marginal product from the land. They found that the reform enhanced land productivity by about 50% on rented land and that this reform was much more successful in registering tenants and giving them tenure security than the reform in Nepal and most other states in India that attempted to implement land-to-the-tiller policies. A follow-up

study by Deininger et al. (2013) based on data from 2008 compared productivity and investment on rented land of tenants with that on their owner-operated land. They found that productivity and investment levels were significantly lower on the rented land. Rented plots were 26% less likely to have received labor-intensive investments and 7% less likely to have irrigation investments while productivity was 14-16% lower. It is possible that it is the rigidity of the reform, limiting the possibility of selecting the more efficient tenants, and the fact that the tenants are not full claimants of the marginal return to their investments that cause the full potential of secure property rights not to be realized.

In Ethiopia, the regulation of the land rental market goes back to the prohibition of both land sales and land rentals under the Derg regime from 1975 while short-term rental contracts were allowed under the new regime after 1991. The constitutional right to access land for all rural residents without an alternative source of livelihood was behind the land redistribution policies, the maximum farms size restriction of 10 ha under the Derg regime. With the new land proclamations this maximum farm size has been reduced to 2.5 ha but no redistribution of land from farms with more than 2.5 ha has been implemented. On the other hand, in Tigray a new restriction was introduced in 2006, that land held by households that have been away from the community for more than two years should be confiscated and redistributed to young landless households. To further restrict migration and the growth of an absent landlord class, a new restriction was also introduced from 2006 that maximum 50% of the farm can be rented out. This restriction is stated in the land proclamation of all the three regions under study here, while the two-year migration rule only applies to Tigray. There is also variation in the maximum duration of land rental contracts under traditional and modern technology; with 2, 3 and 5 years in Tigray, Oromia and SNNP respectively under traditional technology; and 10, 15 and 10 years under modern technology. In this study, we investigate the extent of knowledge of these restrictions, the degree of violation, the perceptions and opinions and possible implications of these restrictions. In particular, we assess the implications of these restrictions for the poor and vulnerable households as well as how they may affect the functioning of the land rental market.

2.4. Final note

In summary, this literature review reveals several gaps in the literature on land rental markets:

1. There are very few studies that assess the actual stated reasons that landlords and tenants give for their land rental decisions, including choice of partner and preferred characteristics of partner, preferred contract type and reasons for the preference, attitudes and preferences on regulation and formalization of land rental contracts.
2. It is not well known how land certification has affected land access for youth through land renting.
3. We know little about how the joint land certification of husbands and wives implemented in Southern Ethiopia affected land renting.
4. It is not well known how the increasing land scarcity and population pressure affects the land rental market over time.

This study will aim to provide new information on these questions utilizing data from three regions in Ethiopia. We provide information on the same issues by drawing on local stakeholders such as local land administration officials and local conflict mediators who have experience with land conflict resolution.

3. CONCEPTUAL FRAMEWORK

We build on the conceptual frameworks in Holden et al. (2008) and Holden et al. (2013). To make the report more readable to a wider audience we avoid mathematical models. We try to emphasize possible causal mechanisms where the distribution of resources and rights interact with market characteristics (often specific market imperfections) in markets for land and non-land resources. The peculiar characteristic of Ethiopia where land sales are prohibited and land was distributed in an egalitarian way during the 1975 land reform (Rahmato 1984) provide some of the fundamental conditions for our analysis of land rental markets in the country. First, we need to outline a few even more fundamental characteristics that determine the functioning of rural factor and output markets in agrarian societies (mode of production) and their implications for welfare outcomes (efficiency, poverty and equity).

The most fundamental characteristic of land is that it is an immobile resource making it necessary to transport all other production factors needed to the land and after harvest to transport the output to the places for processing and consumption. With most of agricultural production taking place

under rain-fed conditions the timing of land preparation, planting and other input use are essential for efficient production. This also creates synchronized harvesting periods and a highly seasonal demand for inputs and supply of outputs. The combination of the spatial and seasonal nature of agricultural production determine much of the nature of agricultural factor and output markets making the markets highly seasonal and with limited or varying degree of spatial integration. The quality of infrastructure, topographic and agro-climatic conditions also matter for the functioning of markets over space and time. Climatic shocks can typically affect a larger area and cause covariate risk³ that has prevented development of well-functioning inter-temporal markets such as credit and insurance markets (Binswanger and Rosenzweig 1986). The population density and distribution of land among landowners affect the distribution of farm sizes.

Now, how does this affect land markets? When will land markets occur and what are their rationale? The fundamental conditions are:

- a) There must be a scarcity of land such that its marginal value is positive at least for some agents who have restricted land access,
- b) Factors of production in agriculture are fundamentally complementary and land is one of the essential factors of production and this implies a low elasticity of substitution between land and other fundamental factors of production,
- c) There must simultaneously in a specific location be willing sellers and buyers that can agree on a price whether the transfer of land is permanent or for a limited time period (rental contract), or alternatively there must be a possibility to share inputs (including land) and output in a mutually beneficial contract arrangement (assuming forced contracts are infeasible).

With perfectly functioning markets for all other factors of production than land and outputs, there will be no need for a land market. However, the fact that other factor markets are functioning imperfectly and may even be missing for reasons stated above, creates a rationale for land markets to compensate for these imperfections in non-land factor markets. We may illustrate this in the

³ Covariate risk implies that all producers in an affected area produce less than expected. With limited market integration, this can cause output prices to increase sharply and the area may have to import food while the area may be producing a surplus in a normal year. The fact that all in the same geographical area are affected by the shock at the same time make them less able to insure each other. If many also had obtained credit for purchase of farm inputs in such a year the consequence can be widespread default on the loans which again may affect the availability of credit.

case of Ethiopia where the poorly function markets for traction power (oxen) and unequal distribution of oxen causes those without oxen to rent out their land to households with oxen. Likewise, the presence of risk in production and missing insurance markets may contribute to explain the dominance of sharecropping as a contractual arrangement that shares the risk between the landlord and the tenant. On the other hand, limited access to credit and limited cash availability may cause a preference for sharecropping because the tenant does not have to pay the rent for the land until after harvest. In this way, land rental arrangements can contribute to redistribute factors of production in a more optimal way that is welfare enhancing.

We illustrate the factors that affect the land rental market (assuming land sales are prohibited) in Figure 1 (Holden et al. 2008)

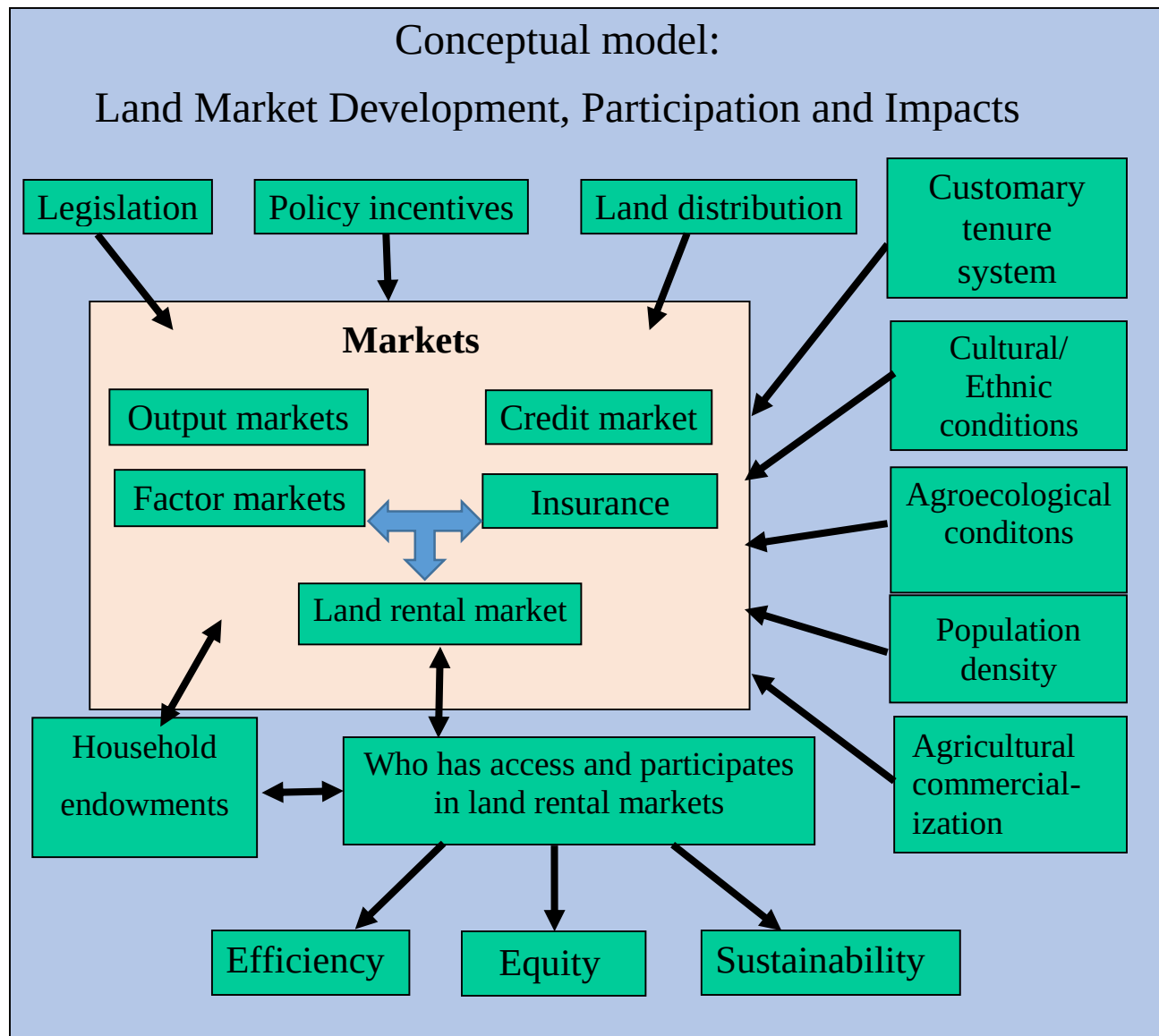


Figure 1. Factors associated with the land rental market in an agrarian economy. Source: Holden et al. (2008).

Figure 2 illustrates in more detail factors associated with household participation on each side of the land rental market as well as factors influencing contract choice in the rental market. Potential tenants may have surplus non-land resources such as labor and oxen but very limited land and therefore will search for additional land to rent in. Potential landlords may lack non-land resources such as labor and oxen that are important for them to utilize their land efficiently. They may therefore consider searching for a tenant they trust to rent out the land. They may prefer to have a more productive tenant if they choose a sharecropping tenant because they will receive a share of the output. They may also prefer a fixed rent contract with payment up-front if they are in urgent

need of cash. Alternatively, if they have a relative that is in need of additional land they may prefer or be obliged to rent the land to him. The need for cash or credit to buy inputs such as seeds and fertilizer for production on rented land may also affect contract choice and can be associated with cost-sharing contracts.

The perception of tenure insecurity may also affect the willingness of potential landlords to rent out their land. Tenure insecurity may result in them being unwilling to rent out or only to rent out to an inner circle of trusted persons such as relatives and trusted neighbors. Figure 3 illustrates how land registration and certification in Ethiopia has enhanced tenure security and this has increased both the probability and intensity of land renting. This has increased the access to land for more productive farmers, and increased the return to rented land for poor landlord households.

Some of the important questions are;

- a) whether more can be done to improve the functioning of the land rental market by reducing transaction costs and information asymmetries
- b) whether new land law restrictions cause a contraction of the land rental market and new tenure insecurity among poor landlord households
- c) what the local perceptions and opinions are on these issues
- d) whether a win-win-win policy intervention can be designed. The aim is to test this in the follow up work to this study.

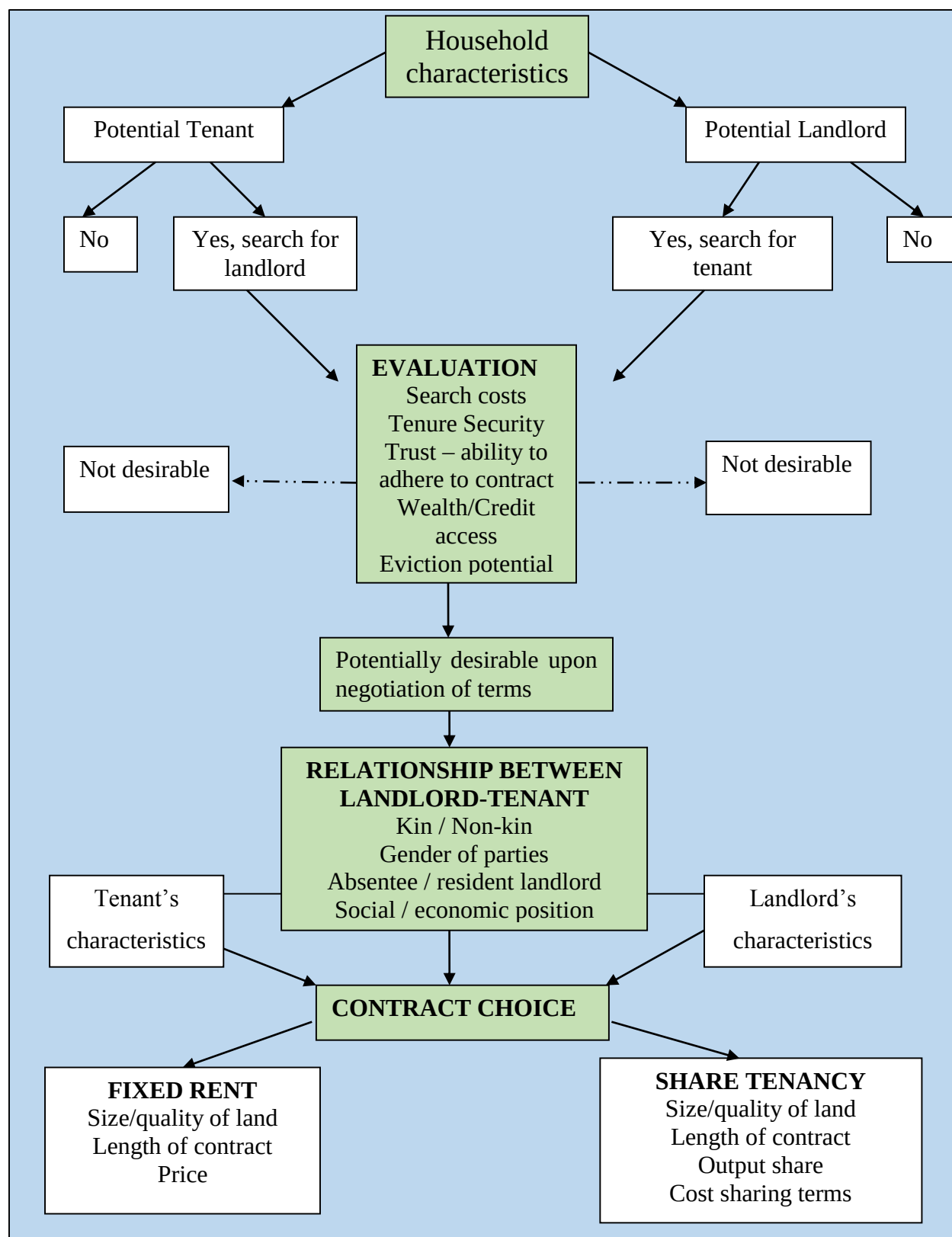


Figure 2. Participation and matching in the land rental market. Source: Holden et al. (2008).

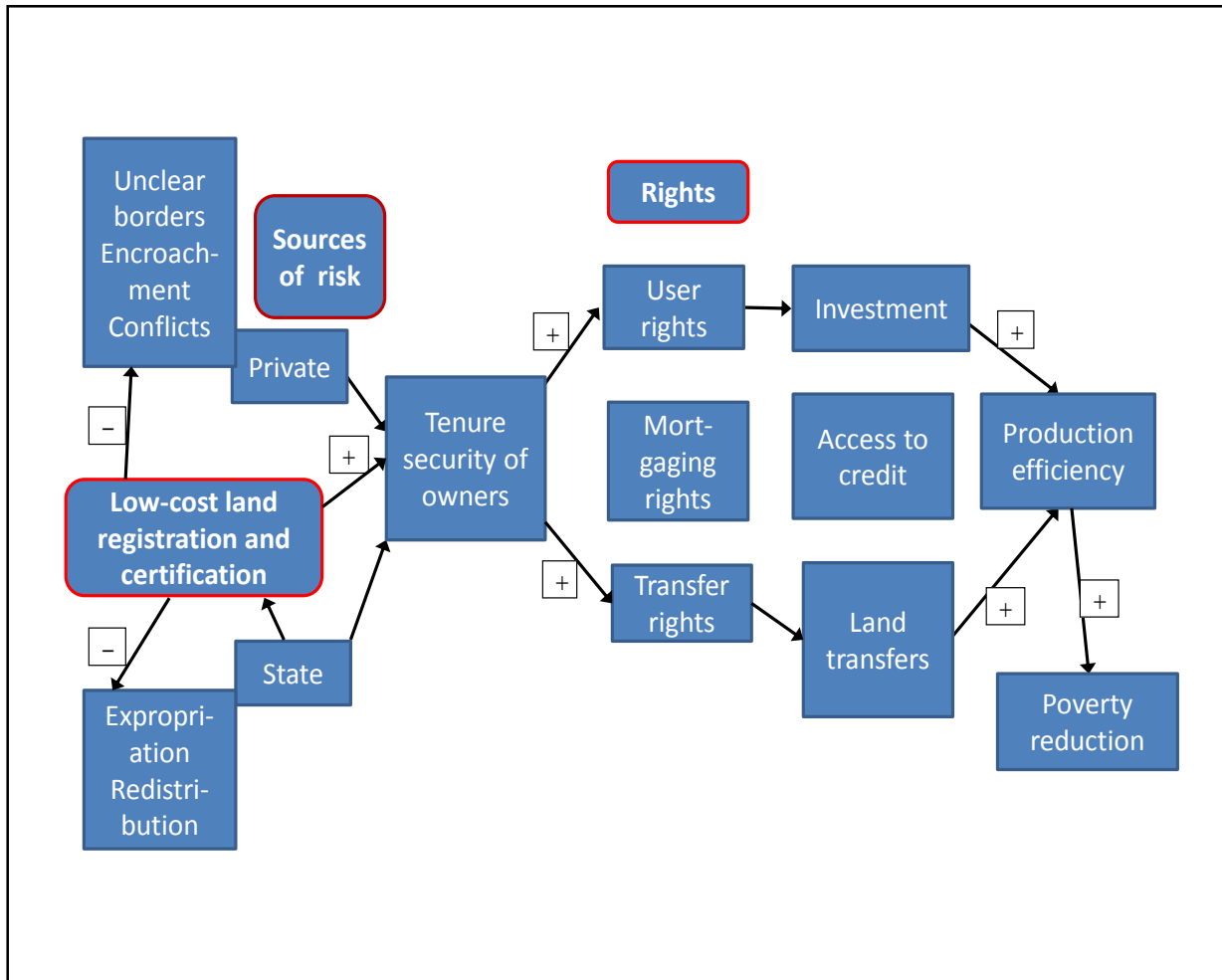


Figure 3. Impacts of low-cost land certification on tenure security, production efficiency and welfare (Source: Holden et al. 2013).

4. DATA

4.1. Source of Data: Tigray

4.1.1. Household survey data

The household survey data from Tigray come from a panel household study where the baseline survey that was carried out in 1998 by Norwegian University of Life Sciences (former Agricultural University of Norway). The survey covered 400 households in 16 communities that were strategically sampled to cover areas with high and low population density, poor and good market access, communities with and without irrigation access, and with this variation distributed across the four zones of the highlands of Tigray. Later, one of the communities was dropped while two

other communities were added. Studies of the land rental market also involved identifying and interviewing the land rental market partners of the main sample in some survey rounds and thus creating a larger sample of matched landlords and tenants that we also draw on in some of the analysis in this report. We restrict our analysis and data presentation to the last two survey rounds in 2006 and 2010. Table 4.1.1 provides average household characteristics for the main sample in 2006 and the extended sample with two additional communities in 2010. It can be seen that about 20% of the sample is either landlords or tenants, leaving about 60% of the sample as autarky households.

Table 4.1.1. Basic socio-economic characteristics of household samples from Tigray region

	2006 (n=316)		2010 (n=435)	
	Mean	St. Error	Mean	St. Error
Age of household head	54.044	0.809	54.848	0.696
Literacy rate of hh head	0.307	0.026	0.260	0.021
Adult females in hh	1.367	0.047	1.368	0.044
Adult males in household	1.364	0.064	1.340	0.056
Household size	5.364	0.138	5.060	0.111
Adult equivalents	4.471	0.118	4.027	0.096
Sex of household head, 1=female	0.294	0.026	0.283	0.022
Oxen (TLU)	0.693	0.037	0.694	0.034
Total livestock (TLU)	2.411	0.119	2.334	0.105
Farm size in ha	1.313	0.155	1.196	0.104
Landlord households, share	0.225	0.024	0.182	0.019
Tenant households, share	0.206	0.023	0.189	0.019
Rented in area by tenants, ha	1.601	0.166	1.747	0.210
Rented out area by landlords, ha	0.836	0.108	1.078	0.145

Source: Own survey data

4.1.2. Data from Conflict mediators and LAC members

The first survey of conflict mediators took place in 2007 and covered 400 conflict mediators in 90 villages (*kushets*) in 27 communities (*tabias*) in nine districts in the five zones in Tigray. This survey therefore had a broader coverage than the household survey. The survey was repeated in 2011 in the same communities. Conflict mediators are typically respected men in the communities and tend to come from wealthier households. Table 4.1.2 gives the average socio-economic characteristics of the conflict mediators (CMs) in 2007 and 2011. Table 4.1.3 gives the distribution of conflict resolution experience for all conflicts and land-related conflicts in the sample of CMs by year.

Table 4.1.2. Conflict mediators in Tigray, basic socio-economic characteristics

	2007 (n=403)		2011 (n=395)	
	Mean	St. Error	Mean	St. Error
Started conflict mediation in year, EC	1977.3	0.561	1989.0	0.404
LAC member, share of CM	0.337	0.024	0.145	0.018
Priest/religious leader, share of CM	0.176	0.019	0.056	0.012
Party member, share of CM	0.270	0.022	0.737	0.022
Previous tabia leader, share of CM	0.109	0.016	0.018	0.007
Previous tabia secretary, share of CM	0.045	0.010	0.038	0.010
Previous social court judge, share of CM	0.079	0.013	0.089	0.014
Age	56.633	0.513	56.182	0.524
Household size	7.102	0.114	6.372	0.096
Number of children	5.695	0.110	4.440	0.097
Bicycle, dummy	0.065	0.022	0.062	0.012
Other transport equipment, dummy	0.133	0.018	0.036	0.011
Radio, dummy	0.579	0.027	0.694	0.023
Number of oxen	1.753	0.049	2.010	0.042
Number of cows	1.427	0.063	1.317	0.036
Farm size, ha	0.997	0.033	1.017	0.020
Land certificate, share of CM	0.906	0.015	0.985	0.006
Landlord household, share of CM	0.084	0.014	0.046	0.011
Tenant household, share of CM	0.489	0.025	0.542	0.025
Number of rented in plots	1.208	0.090	0.879	0.046
Number of rented out plots	0.155	0.029	0.043	0.014
Were meetings held related to the land registration and certification in your community? Share yes	0.956	0.008		
Did you attend any of these meetings? Share yes	0.728	0.016		
How many meetings did you attend?	5.191	0.242		
Did you receive any written material related to the land registration and certification? Share yes	0.201	0.014		
Were you involved in the land registration? Share yes	0.392	0.024		
Were you present during the land registration? Share yes	0.916	0.014		

Source: Own survey data.

Table 4.1.2 shows that conflict mediators on average are slightly older than the rural household heads. They do not have more land on average but have more livestock and especially oxen. This causes about 50% of them to be tenants in the land rental market while less than 10% are landlord households. About 40% of them were involved in organizing the land registration, many of them have had other leadership or influential positions in their community and many of them have become party members from 2007 to 2011. The latter may indicate a process towards formalization

of conflict mediation. Table 4.1.3 indicates that a large share of the conflicts mediated by the CMs are land-related disputes.

Table 4.1.3. Conflict mediators' conflict resolution experience in Tigray

Conflict mediation	2007	2011
Total disputes mediated	% of CM	% of CM
1. Less than 5	4.3	3.1
2. 5-10	12.9	3.3
3. 11-20	17.2	5.6
4. 21-40	21.7	9.6
5. 40-60	12.9	20.6
6. 60-100	12.4	40.4
7. More than 100	18.7	17.5
Total land related dispute mediated		
1. Less than 5	3.9	0.3
2. 5-10	19.0	5.1
3. 11-20	22.6	8.1
4. 21-40	18.0	18.8
5. 40-60	14.9	40.1
6. 60-100	9.5	15.5
7. More than 100	5.1	12.2

Source: Own survey data.

The survey of Land Administration Committee (LAC) members in Tigray took place in the same communities as the household survey was undertaken and this survey was done only once, in 2010. We see from Table 4.1.4 that the average age of LAC members is much lower (40 years) and 24% of them were female, unlike for the CMs who all were male. They are on average more land-poor than the household sample. This indicates they are over-represented by younger more land-poor households. However, they have significantly more oxen and as much as 60% of them are tenants. Fewer of them have experience from other leadership or other influential positions in their community and fewer are also party members.

Table 4.1.4. Socio-economic characteristics of LAC members in Tigray

	2010 (n=157)	
	mean	se(mean)
Sex of LAC member, female=1	0.239	0.036
LAC member is household head	0.884	0.027
Year started as LAC member, EC	1999.5	0.383
Age of LAC member	40.65	0.887
Household size	6.477	0.414
Education in years	3.805	0.230
LAC member is ex-tabia leader	0.051	0.018
LAC member is ex-tabia secretary	0.057	0.019
LAC member is priest/religious leader	0.064	0.020
LAC member is party member	0.255	0.035
LAC member is ex-social court judge	0.057	0.019
LAC member is conflict mediator	0.032	0.014
LAC member is women's group leader	0.057	0.019
Number of children	4.191	0.178
Has bicycle	0.013	0.009
Has other transport equipment	0.234	0.034
Has radio	0.532	0.043
Number of oxen	1.441	0.087
Number of cows	1.179	0.094
Has land certificate	0.748	0.052
Farm size, ha	0.610	0.043
Number of plots	2.353	0.144
LAC member is landlord	0.051	0.018
LAC member is tenant	0.599	0.039
Rented in area, ha	0.367	0.033
Rented out area, ha	0.019	0.007
Rented in area of LAC tenants (n=94), ha	0.614	0.038
Rented out area of LAC landlords (n=8), ha	0.375	0.053

Source: Own survey data.

4.2. Source of data: Surveys in Oromia and SNNP

4.2.1. Household survey data

The household level data from Oromia and SNNP is a panel from surveys in 2007 and 2012. A stratified random sample of 620 households was surveyed in 2007 in five districts in Oromia and SNNP regions. We did the second survey in 2012 on 580 of these households with additional 40 new households to maintain the 620 sample size. The three districts in Oromia (Shashemene, Arsi Negelle, and Wondo Oromia) are dominated by traditional plough agriculture while the SNNP areas are from the perennial zone. Wollaita, one of the two areas from SNNP, is dominated by rain fed subsistence oriented production, while the other one (Wondo Genet in Sidama zone) is dominated by perennial cash crop production with supplementary irrigation. The degree of market integration varies across locations, with villages in Shashemene district located in close proximity to the town of Shashemene. Sashemene and Wondo Genet districts are located very close to Awassa, the largest town in this part of Ethiopia and the administrative centre of SNNP Region. Arsi Negelle and Sashemene districts are located along the main road between Awassa and Addis Ababa and therefore have very good market access. The cash crop producing area, Wondo Genet, is also located near Sashemene town and has good roads facilitating market oriented cash crop production. Wollaita, which is located in a more remote rural setting and has poorer market access, is characterised by more traditional subsistence oriented production, with *enset* (false banana) as the main staple crop, and extremely high population densities, implying very small farm sizes and high levels of poverty. We selected 17 communities (*kebelles* or “Peasant Associations”) across the five districts. The communities were strategically sampled within each district to obtain additional within district variation in distance to market. Within each community, households were sampled randomly from lists of households obtained from the community administrations.

The two surveys in 2007 and 2012 focused explicitly on the initial effects of joint certification on husbands and wives in the two regions. The surveys covered detailed data collection for all land parcels of households and separate interviews with husbands and wives on their knowledge of the land laws, perceptions of their land rights, and the division of labour within households and their opinions and expectations regarding the effects of joint land certification. Table 4.2.1 summarizes the main characteristics of the samples from SNNP and Oromia regions in 2007 and 2012. Farm sizes are smaller in SNNP than in Oromia. Households in Oromia also have more livestock

holdings than in SNNP mainly due to plough agriculture in Oromia that demands draught animals. More than 10% of households are female-headed in both regions in both years. While polygamy is common in both SNNP and Oromia, it is more widespread in Oromia. The overwhelming majority of households have their land registered in both regions but proportionately more households received land certificate in Oromia than in SNNP. This is partly explained by a more modern land registration and certification implemented in Wondo Genet under the USAID funded ELTAP and ELAB projects. This approach required more training of staff and took therefore longer to implement but provides Second-stage plot level land certificates with maps that has delayed the issuing of certificates there (Bezu and Holden, 2014).

At least half of the households in SNNP participated in the land rental market in both 2007 and 2012, with a decline from 2007 to 2012. The rate of participation in the land rental market was lower in Oromia (less than 50%) although it had increased from 2007 to 2012.

4.2.2. Data from Conflict mediators and LAC members

In Oromia and SNNP the conflict mediators and LAC members come from the same communities as the household survey sample. In 2012, all members of LAC and the most experienced local Conflict mediators (CMs) were interviewed in each community. The data collected include LAC and CM members' knowledge of land related laws and their perception on farmers' land rights and obligations; conflict mediators' experience in negotiating and solving land related disputes among farmers; and LAC members' experience in land registration and certification processes. Tables 4.2.2 and 4.2.3 summarize the socio-economic characteristics and experience of CMs and LAC members.

Table 4.2.1. Basic socio-economic characteristics of household samples from Oromia and SNNP regions

	Oromia				SNNP			
	2007 (n=292)		2012 (n=280)		2007 (n=316)		2012 (n= 342)	
	Mean	Std.Err	Mean	Std.Err	Mean	Std.Err	Mean	Std.Err
Age of household head	40.69	0.908	45.96	0.919	45.17	0.858	50.41	0.769
Education-household head (yrs)	3.36	0.197	3.92	0.230	2.91	0.201	3.20	0.211
Farm size in hectares	1.43	0.107	1.19	0.048	0.40	0.020	0.53	0.024
Total household size	7.64	0.228	7.62	0.218	7.27	0.176	6.56	0.148
Per capita farm size	0.21	0.012	0.19	0.011	0.06	0.004	0.10	0.006
Male members-working age	2.46	0.104	1.97	0.083	2.60	0.100	1.79	0.075
Female members -working age	2.69	0.118	1.97	0.083	2.38	0.087	1.79	0.061
Livestock (in TLU)	4.41	0.392	3.65	0.278	1.74	0.069	2.68	0.241
Number of oxen	1.18	0.080	1.02	0.063	0.41	0.036	0.35	0.033
Value of non-farm tools owned (in EB)			107	16.167			75	19.359
Value of farm tools owned (in EB)			363	31.533			239	13.080
Value of other non-productive assets (in EB)			3426	750.891			3768	834.935
Household head is female (dummy, yes=1)	0.12	0.019	0.13	0.021	0.14	0.020	0.11	0.017
Household is polygamous	0.19	0.023	0.23	0.025	0.12	0.018	0.11	0.017
The household land is registered	0.96	0.012	0.97	0.010	0.86	0.022	0.91	0.015
Household has a certificate	0.81	0.023	0.87	0.021	0.55	0.030	0.63	0.026
Household participate in land rental market over the past 12 months	0.34	0.028	0.40	0.029	0.66	0.027	0.51	0.027

Source: Own survey data

Table 4.2.2. Summary of socio-economic characteristics and experience of Conflict mediators

	Oromia (n=35)			SNNP (n=30)		
	Mean	Std.Err	Median	Mean	Std.Err	Median
Socio-economic characteristics						
Age of mediator	52.76	1.702	52	58.92	1.587	60
Household size	12.96	0.825	11	9.37	0.419	9
Head's education (years of schooling)	3.96	0.497	4	3.02	0.337	2.5
Married-monogamous (dummy: yes=1)	0.56	0.067	1	0.74	0.046	1
Married-polygamous (dummy: yes=1)	0.44	0.067	0	0.26	0.046	0
Have Off-farm employment (dummy: yes=1)	0.04	0.025	0	0.07	0.026	0
Household size	12.96	0.825	11	9.37	0.419	9
No. of children	10.69	0.701	9	9.72	0.420	9
Have a land certificate, share of CM	0.96	0.025	1	0.74	0.046	1
Farm size (own land), ha	1.53	0.400	1.5	0.77.5	0.550	0.5
Landlord household, share of CM	0.09	0.039	0	0.14	0.037	0
Tenant household, share of CM	0.16	0.050	0	0.25	0.045	0
Number of rented in plots	0.22	0.072	0	0.65	0.143	1
Number of rented out plots	0.09	0.039	0	0.38	0.110	0
Training received and participation in land registration program						
Did you attend any public information meetings held before the land registration program started, % yes	0.80	0.056	1	0.67	0.050	1
How many meetings did you attend?	2.41	0.322	2	3.46	0.436	2
Receive written material on this programme	0.06	0.032	0	0.18	0.041	0
Are you or a member of your family a member of LAC	0.17	0.051	0	0.02	0.015	0
Were you involved in work organised by LAC	0.33	0.064	0	0.60	0.051	1
Conflict mediation						
Years of conflict mediation experience	23.1	1.867	24	27.1	1.501	24.5
Total disputes mediated	% of CM			% of CM		
1. Less than 5	0.0			1.1		
2. 5-10	5.5			8.7		
3. 11-20	10.9			20.7		
4. 21-40	12.7			9.8		
5. 40-60	30.9			18.5		
6. 60-100	7.3			14.1		
7. More than 100	32.7			27.2		
Total land-related disputes mediated						
0. None	3.6			5.5		
1. Less than 5	7.3			13.2		
2. 5-10	27.3			22.0		
3. 11-20	29.1			23.1		
4. 21-40	20.0			16.5		
5. 40-60	9.1			9.9		
6. 60-100	1.8			8.8		
7. More than 100	1.8			1.1		

Source: Own survey data

Table 4.2.3. Summary of socio-economic characteristics and experience of LAC members

	Oromia (n=55)			SNNP (n=92)		
	Mean	Std. Error	Median	Mean	Std. Error	Median
Socio-economic characteristics of LAC member						
Sex (dummy: female==1)	0.00	0.000	0	0.1	0.046	0
Age	40.64	1.628	40	44.2	1.670	45
Head of household (dummy: yes=1)	0.97	0.029	1	0.9	0.046	1
Married-monogamous (dummy: yes=1)	0.76	0.074	1	0.9	0.056	1
Married-polygamous (dummy: yes=1)	0.18	0.066	0	0.1	0.056	0
Have Off-farm employment (dummy: yes=1)	0.06	0.040	0	0.13	0.063	0
Household size	9.80	0.874	9	9.7	0.578	10
No. of children	8.20	0.797	8	8.3	0.608	8.5
Farm size (own land), ha	2.66	0.990	1.7	0.88	0.142	0.75
Have a land certificate, share of LAC	0.91	0.048	1	0.6	0.089	1
Landlord household, share of LAC	0.06	0.040	0	0.10	0.056	0
Tenant household, share of LAC	0.26	0.075	0	0.30	0.085	0
Rented in area, ha	0.20	0.087	0	0.37	0.134	0
Rented out area, ha	0.02	0.011	0	0.07	0.036	0
Rented in area of LAC tenants, ha	0.75	0.243		0.78	0.203	
Rented out area of LAC landlords, ha	0.25	0.000		0.29	0.110	
Training received and contacts with local land administrative offices						
No. of LAC workshops attended since 2007	1.06	0.201	1	1.3	0.239	1
Total no. of days spent on training	2.52	0.590	2	3.2	0.858	1
Visits to woreda desk of EPLAUA since 2007	24.56	7.081	5	5.0	2.415	1
Visits from woreda desk of EPLAUA since 2007	14.94	4.161	3	11.8	3.241	5
Have (individual or committee) a copy of most recent land proclamation/regulation	0.74	0.075	1	0.57	0.092	1
Received other docs from woreda/EPLAUA	0.03	0.029	0	0.1	0.065	0
Meetings you have arranged since 2007	6.43	2.306	3	14.6	5.478	2

Source: Own Survey data

5. EMPIRICAL ANALYSES

5.1. Perceptions about land renting and impacts of land certification among local conflict mediators

Table 5.1.1 looks at the responses of local conflict mediators in Tigray in 2007 and 2011. We see that the conflict mediators perceive that the land registration and certification has stimulated the land rental market activity and this is consistent with other studies (Holden et al., 2011; Holden and Ghebru, 2011). They also perceive that land rental disputes are common but that there has been a reduction of such disputes after land registration and certification took place.

They see the strengthening of the positions of landlords through improved tenure security as the most important effect of land certification in relation to land renting. This has strengthened landlords' bargaining power and may have resulted in renegotiation of land rental contracts or change in contract partner.

Unlike in Tigray, a larger share of the conflict mediators in Oromia and SNNP (see Table 5.1.2) think that land registration and certification has reduced land renting than the share that thinks it has stimulated land renting

The majority of CMs in all three regions think that disputes are uncommon in relation to land renting. In addition, most CMs perceive that such disputes have declined over time, partly due to increase in the bargaining power of the landlord. Still, more than 90% of the CMs in all three regions perceive that there is a need to use more written rental contracts in their communities.

Table 5.1.1. Conflict mediator perceptions of land reform impacts on land renting in Tigray in 2007 and 2011

Questions	Responses, answers in %	CM 2007 (n=403)	CM 2011 (n=396)
Has the land registration and certification had any effect on the land rental activity (including sharecropping) in your community?	More land renting No change Less land renting	43 41 14	
If more land renting, why?	Landlords have become more willing to rent out (rent out more of their land More households rent out and in More long-term rental contracts have become common	18 18 3	
If less land renting, why?	Permission is required from family members to rent out Need to register land contracts Cannot rent out more than half of the land	5 4 2	
Are disputes related to land rental contracts common in your tabia?	No Yes	60 39	53 45
Has there been a change in number of disputes related to land rental contracts in your community during the last 10-20 years?	No Yes	43 53	54 43
If yes, how?	More rental contract disputes Less rental contract disputes	17 47	4 44
If yes, why?	Landlords have a stronger bargaining position Tenants are more likely to violate the contract	36 6	40 4
Is there a need to use more written rental contracts in your community?	No Yes, it will reduce the number of disputes	5 94	5 95
Has the establishment of Land Administration Committees had any effect on the land rental activity (including sharecropping) in your community?	More land renting, No change Less land renting		21 72 5
If more land renting, why?	Landlords have become more willing to rent out More households rent out and in More long-term rental contracts have become common		4 17 9
If less land renting, why?	Permission is required from family members to rent out Need to register land contracts Cannot rent out more than half of the land		4 3 1

Source: Own survey data

Table 5.1.2. Conflict mediator perceptions of land reform impacts on land renting in SNNP and Oromia

Questions	Responses, answers in %	Oromia (n=55)	SNNP (n=92)
Has the land registration and certification had any effect on the land rental activity (including sharecropping) in your community?	More land renting No change Less land renting	20.4 25.9 53.7	14.1 54.4 31.5
If more land renting, why?	Landlords have become more willing to rent out (rent out more of their land More households rent out and in More long-term rental contracts have become common Other	1.8 3.6 3.6 9.1	3.3 5.4 1.1 3.3
If less land renting, why?	Permission is required from family members to rent out Need to register land contracts Cannot rent out more than half of the land Other	3.6 0.0 1.8 49.1	3.3 5.4 2.2 15.2
Are disputes related to land rental contracts common in your Got/Village?	No Yes	70.4 29.6	83.5 16.5
Has there been a change in number of disputes related to land rental contracts in your community during the last 10-20 years?	No Yes	5.6 94.4	40.0 60.0
If yes, how?	More rental contract disputes Less rental contract disputes	21.8 72.7	5.4 54.4
If yes, why?	Landlords have a stronger bargaining position Tenants are more likely to violate the contract Other	30.9 0.0 52.7	13.0 12.0 19.6
Is there a need to use more written rental contracts in your community?	No Yes, it will reduce the number of disputes	3.7 96.3	7.9 92.1

Source: Own survey data.

5.2. Knowledge of and perceptions regarding land rental related laws

We assess the knowledge of the law among men and women in rural households, local conflict mediators and Land Administration Committee members. Afterwards we assess the perceptions and opinions about these laws among the same stakeholder groups.

5.2.1. Knowledge of land rental law restrictions

We review the knowledge of important elements of the new land laws (proclamations) in the three regions by compiling the responses from local conflict mediators, Land Administration Committee (LAC) members, and men and women in farm households in the three regions. The data were collected in the period 2006-2012 in the three regions and are repeated for some of the stakeholder groups. This helps to see if there has been a change in awareness over this period. It also indicates whether the knowledge is very different for conflict mediators, LAC members, and farmers, including whether there are gender differences in the knowledge within farm households. The responses are presented in separate tables for each of the three regions, with Tigray in Table 5.2.1, Oromia in Table 5.2.2 and 5.2.4, and SNNP in Table 5.2.3 and 5.2.5.

Overall, it can be seen that the knowledge of the land laws regarding land renting is limited in the population in all three regions. This applies not only to farmers but also to local conflict mediators, who handle most of the local land disputes, and to LAC members, who are supposed to manage the land administration issues at local level, and ensure that the land laws are followed. It seems that responses are more in line with what they think the law should state, or they have no strong opinion and give random answers in other cases.

More specifically, the knowledge about the **maximum length of rental contracts when modern technology is used** was particularly poor. One reason could be that what is meant by “modern technology” has also not been clarified in the law and follow-up regulations. However, the knowledge regarding the maximum length of rental contracts was also poor in the case of traditional technology. We see that this knowledge is a bit better among LAC members and conflict mediators but also among these a large share of them (more than 50% in most cases) do not know.

As far as the law that **prohibits renting out more than 50% of the land on a farm**, we see that less than 50% of all the stakeholder groups know this and this was the case as late as 2012 in Oromia and SNNP, quite some time after the law restriction was introduced. One reason could be

that central land administrations have not given priority to enforce this part of the law (Holden and Ghebru 2015).

Another question is **whether sharecropping is considered a form of land renting** and whether the same law restrictions are perceived to apply to sharecropping rental arrangements as to fixed rental contracts. The majority of stakeholders do not perceive that the land rental restriction equally applies to share cropping. This is an issue that has not been stated explicitly in the laws. However, given that sharecropping is the dominant form of land renting in Ethiopia, it does not make sense to have laws that apply only to fixed rental contracts as one of the purposes of the law is to prevent absent landlordism. It appears that the Ethiopian land lawmakers are not aware that many do not consider sharecropping to be a form of land renting. It is also interesting to note that LAC members are of the same opinion as conflict mediators and farmers in this case. The large majority of both types of respondents think that female-headed households who stay in the community are allowed to sharecrop out all their land as long as they stay in the community. We return to this issue in the next section where we have asked more questions regarding the perceptions and opinions about the land market law restrictions.

The question to conflict mediators and LAC members regarding **whether it is legal to have an 8-year fixed rent contract with a tenant who uses modern seeds and fertilizer** gave very different answers by conflict mediators in Tigray than in the two other southern regions and a dramatic change for conflict mediators in Tigray from 2007 to 2011. It appears that such contracts have become accepted as legal there because modern seeds and fertilizer are recognized as “modern technology” according to the law. This is not the case yet in the other two regions except for a minority of conflict mediators and LAC members.

When it comes to whether **a wife can deny her husband to rent out family land** we see that the majority of conflict mediators and LAC members know this. On this issue, we see also a substantial awareness increase from 2007 to 2012 among men and women in rural households in Oromia and SNNP while the awareness is also very high among the conflict mediators and LAC members in 2012 in these regions. This is likely to be an effect of the joint land certification that appears to have contributed substantially to women’s empowerment within households (Holden and Bezu 2014). The awareness that an 18 year old son can do the same as the wife in such a case is not quite as strong as for the wife but also here the majority of all stakeholder groups appear to be

aware of this law restriction in Oromia and SNNP. A bit less than half of the conflict mediators and LAC members in Tigray were aware of it in 2010/11.

The awareness that **land can be taken without compensation from a household that has been away from the community for more than two years** was limited among rural household members in Tigray in 2010 while the majority of LAC members and conflict mediators were aware by 2010/11. The share of the conflict mediators that was aware of this increased from 35% to 64% from 2007 to 2011.

Table 5.2.6 presents the knowledge responses regarding **who is responsible for conservation of rented land**. The new regional land laws make it clear that this is the responsibility of the tenant. We see from the table that this awareness has increased among men and women in rural households from 2006/07 to 2010/12 in all regions. Surprisingly, the awareness of conflict mediators and LAC members on this vary across regions and over time. The awareness was high among LAC members in Tigray in 2010 but fairly low among LAC members in Oromia and SNNP in 2012. The awareness was low among conflict mediators in Tigray both in 2007 and 2011 and in Oromia in 2012 while it was higher among conflict mediators in SNNP in 2012.

One may reflect whether this law is wise in combination with restricting land rental contracts under traditional technology to a very short duration. This may give the tenants insufficient incentives to conserve the land they are renting in unless landlords have mechanisms to enforce that tenants properly conserve the rented land. Such enforcement could be through monitoring and/or use of threats of eviction in combination with contract renewal depending on performance. We later assess the extent to which such mechanisms are in place to ensure more sustainable land use.

Table 5.2.1. Knowledge of the land law among conflict mediators, Land Administration Committee members and men and women in rural households in Tigray region, by year.

Questions, answers in % after code		CM 2007 (n=403)	CM 2011 (n=396)	LAC 2010 (n=157)	Men 2010 (n=327)	Women 2010 (n=453)
Are you familiar with the new land proclamation for your region and its content?	Yes Some of it	31.0 10.2	60.5 29.2	52.9 22.9		
What is the maximum number of years for which households can lease/rent (or sharecrop) their land to others who will use modern technology?	10 years is the correct answer, % correct	4.9	8.0	1.3	2.2	3.8
What is the maximum number of years for which households can lease/rent (or sharecrop) their land to others who will use traditional technology?	2 years is the correct answer, % correct	28.2	45.8	30.6	22.4	
Do the same restrictions apply to sharecropped out land as to rented out land (fixed cash rent)?	Yes=correct answer, % correct	30.1	37.7	46.5	54.9	47.7
How large share of the farm holding can be rented out maximum?	Half (correct answer) Depends on family needs for food All	19.4 41.2 31.9	32.1 60.7 0.5	31.9 36.3 18.5	47.3 31.2 6.7	41.2 33.3 9.8
A female-headed household sharecrops out all her land but will still stay in the village. Is this allowed?	No =correct answer, % correct Yes	11.8 74.8	7.1 92.6			
A household has an 8-year fixed-rent rental contract with a neighbour who uses fertilizer and improved seed (may be interpreted as modern technology that opens for longer-term contracts) on the land. Is this allowed?	Yes=correct answer, % correct	39.9	95.1			
Can a wife deny her husband to rent out family land?	Yes=correct answer, % correct	95.5	77.5	75.2	83.9	71.0
Can an 18 year old son deny his father to rent out the family land if he wants to farm on the land and is still living in the household	Yes=correct answer, % correct	58.4	44.6	47.8	65.0	53.6
Can the land be taken from a household (without compensation) that has been out of the community for 3 years but does not have a permanent job?	Yes=correct answer, % correct	34.9	63.9	63.1	33.2	21.9

Source: Holden and Ghebru (2015).

Table 5.2.2. Knowledge of the land laws among conflict mediators (CM), Land Administration Committee (LAC) members and male and female rural household members in Oromia, by year (% of sample by answer, bold figures are % correct responses)

Oromia Questions		CM 2012 n=55	LAC 2012 n=35	Men		Women	
	Responses (correct answer in bold)			2007 n=275	2012 n=244	2007 n=280	2012 n=321
Are you familiar with the new land proclamation for your region and its content?	Yes			57.3	48.2	46.9	21.8
	Some of it			26.8	30.0	26.2	32.2
	No			16.0	21.8	27.0	46.1
What is the maximum number of years for which households can lease/rent (or sharecrop) their land to others who will use modern technology?	Correct response=15, % correct	21.2	29.4	1.9	3.0	6.1	0.0
	Median value reported	3.0	6.5	3.0	3.0	2.0	2.0
What is the maximum number of years for which households can lease/rent (or sharecrop) their land to others who will use traditional technology?	Correct response=3, % correct	47.2	63.6	13.8	24.9	9.3	16.2
	Median value reported	3.0	3.0	2.0	2.0	1.0	2.0
Do the same restrictions apply to sharecropped out land as to rented out land (fixed cash rent)?	Yes (correct)	16.4	25.0	25.0	24.2	15.9	15.9
	No restriction	72.7	56.3	66.7	63.8	61.9	61.9
	other restriction	10.9	18.8	8.3	12.1	21.6	21.6
How large share of the farm holding can be rented out maximum?	One quarter	0.3	0.4	19.0	24.0	13.0	20.0
	Half (correct)	0.4	0.4	31.2	40.9	29.6	22.2
	Three quarter	0.0	0.0	5.5	5.0	4.1	4.1
	Depends on family needs for food	0.3	0.2	29.6	14.1	35.6	6.7
	All	0.0	0.0	8.7	1.7	7.8	0.6

Source: Own survey data

Table 5.2.3. Knowledge of the land laws among conflict mediators (CM), Land Administration Committee (LAC) members and male and female rural household members in SNNP, by year (% of sample by answer, bold figures are % correct responses)

SNNP Questions	Responses (correct/expected answer in bold)	CM 2012 (n=92)	LAC 2012 (n=30)	Men 2007 (n=265)	Men 2012 (n=283)	Women 2007 (n=285)	Women 2012 (n=362)
Are you familiar with the new land proclamation for your region and its content?	Yes			49.6	43.8	32.0	25.6
	Some of it			7.3	26.5	6.8	28.2
	No			43.1	29.7	61.2	46.2
What is the maximum number of years for which households can lease/rent (or sharecrop) their land to others who will use modern technology?	Correct response=10, % correct	6.0	10.3	5.4	3.9	4.5	5.7
	Median value reported	3.0	5.0	3.0	4.0	2.0	3.0
What is the maximum number of years for which households can lease/rent (or sharecrop) their land to others who will use traditional technology?	Correct response=5, % correct	28.6	36.7	4.5	13.1	4.6	10.0
	Median value reported	3.0	3.0	2.0	3.0	1.0	3.0
Do the same restrictions apply to sharecropped out land as to rented out land (fixed cash rent)?	Yes (correct)	14.1	26.7	12.3	11.5	7.4	9.7
	No restriction	83.7	70.0	83.9	83.2	82.9	73.1
	other restriction	2.2	3.3	3.9	5.3	9.7	17.2
How large share of the farm holding can be rented out maximum?	One quarter	0.2	0.1	17.0	25.8	13.6	24.5
	Half (correct)	0.5	0.4	21.3	29.4	23.7	23.4
	Three quarter	0.1	0.1	14.6	6.1	12.5	5.0
	Depends on family needs for food	0.1	0.2	23.3	16.5	25.5	10.6
	All	0.0	0.1	3.6	8.2	4.3	3.9

Source: Own survey data

Table 5.2.4. Knowledge of the land law regarding land renting in Oromia, by stakeholder group and year.

Oromia Questions	Responses (correct answer in bold)	CM 2012 (n=55)	LAC 2012 (n=35)	Men 2007 (n=275)	Men 2012 (n=244)	Women 2007 (n=280)	Women 2012 (n=321)
A female-headed household sharecrops out all her land but will still stay in the village. Is this allowed?	Yes	63.6	80.0				
	No	34.6	20.0				
	Don't know	0.0					
A household has an 8-year fixed-rent rental contract with a neighbour who uses fertilizer and improved seed (may be interpreted as modern technology that opens for longer-term contracts) on the land. Is this allowed?	Yes	10.9	11.4				
	No	89.1	82.9				
	Don't know	0.0	5.7				
Can a wife deny her husband to rent out family land?	Yes	100.0	94.3	57.4	93.7	61.9	84.0
	No	0.0	5.7	35.3	6.3	13.0	15.0
	Don't know	0.0	0.0	7.2	0.0	25.2	1.0
Can an 18 year old son deny his father to rent out the family land if he wants to farm on the land and is still living in the household?	Yes	74.6	80.0	58.6	83.9		76.0
	No	25.5	20.0	40.2	15.7		20.8
	Don't know	0.0	0.0	1.2	0.4		3.2
Can the land be taken from a household (without compensation) that has been out of the community for 3 years but does not have a permanent job?	Yes	33.3	17.1				
	No	64.8	77.1				
	Don't know	1.9	5.7				

Source: Own survey data

Table 5.2.5. Knowledge of the land law regarding land renting in SNNP, by stakeholder group and year.

SNNP Questions	Responses (correct answer in bold)	CM	LAC	Men		Women	
		2012 (n=92)	2012 (n=30)	2007 (n=265)	2012 (n=283)	2007 (n=285)	2012 (n=362)
A female-headed household sharecrops out all her land but will still stay in the village. Is this allowed?	Yes	71.7	66.7				
	No	25.0	33.3				
	Don't know	3.3					
A household has an 8-year fixed-rent rental contract with a neighbour who uses fertilizer and improved seed (may be interpreted as modern technology that opens for longer-term contracts) on the land. Is this allowed?	Yes	23.3	20.7				
	No	73.3	72.4				
	Don't know	3.3	6.9				
Can a wife deny her husband to rent out family land?	Yes	100.0	100.0	52.1	84.6	44.0	83.1
	No	0.0	0.0	41.7	14.3	5.0	14.7
	Don't know	0.0	0.0	6.2	1.1	51.1	2.2
Can an 18 year old son deny his father to rent out the family land if he wants to farm on the land and is still living in the household?	Yes	88.0	90.0	61.9	64.6		64.9
	No	10.9	10.0	33.5	34.6		34.0
	Don't know	1.1		4.7	0.7		0.8
Can the land be taken from a household (without compensation) that has been out of the community for 3 years but does not have a permanent job?	Yes	18.5	10.0				
	No	80.4	83.3				
	Don't know	1.1	6.7				

Source: Own survey data

Table 5.2.6. Knowledge of the law: Who is responsible for conservation of rented land? Responses by region, type of respondent and year (percentage of each sample).

		Year	The certificate holder	The tenant	Joint responsibility	Free to decide	N
Tigray	Men	2007	24.1	43.7	32.2	0.0	270
	Men	2010	14.3	69.7	15.0	1.1	379
	Women	2007	28.6	32.4	38.4	0.5	367
	Women	2010	12.7	68.6	17.6	1.1	528
	LAC	2010	10.3	77.4	12.3	0.0	155
	CM	2007	41.3	34.8	18.5	4.8	400
	CM	2011	22.5	36.0	40.1	1.3	392
Oromia	Men	2007	40.2	21.5	24.5	0.0	275
	Men	2012	23.8	63.1	11.5	0.0	244
	Women	2007	37.0	23.6	27.5	1.5	280
	Women	2012	21.9	63.6	10.0	0.0	321
	LAC	2012	54.3	42.9	0.0	0.0	35
	CM	2012	59.6	34.6	5.8	0.0	55
SNNP	Men	2007	34.9	31.0	30.2	1.6	265
	Men	2012	35.7	53.0	11.0	0.0	283
	Women	2007	31.4	33.6	27.9	1.1	285
	Women	2012	37.0	44.5	15.8	0.0	362
	LAC	2012	41.4	41.4	17.2		30
	CM	2012	29.7	62.6	7.7		92

Source: Own survey data. Correct answer: The tenant is responsible according the new land laws. LAC is Land Administration Committee members in the community, CM is Conflict mediators in the communities.

5.2.2. Perceptions regarding land rental market law restrictions

In this section, the perceptions and opinions of rural household members, conflict mediators and LAC members in the three regions are assessed. The responses are summarized in Table 5.2.7 for Tigray, Table 5.2.8 for Oromia and Table 5.2.9 for SNNP. Perceptions of LAC members on the extent of implementation of registration of land rental contracts and opinions regarding the compliance and benefits of such registration is summarized in Table 5.2.10 for the three regions.

The first question is whether they agree with the **prohibition of land sales**. We see for all stakeholder groups that were asked, that the overwhelming majority agreed with this prohibition. It is evident that the fear of the land market is still strong in Ethiopia. It even appears to have grown stronger among farm households in the period from 2007 to 2012 in Oromia and SNNP regions.

The question **whether mortgaging of land should be illegal** has less and more varying support, however, with the majority of stakeholders in favor of mortgaging of land being illegal. Also on this question, we see an increase in the share of male and female household members supporting that mortgaging should be illegal. The share of conflict mediators and LAC members that support prohibition of land mortgaging was substantially lower in Oromia than in SNNP and Tigray.

Regarding whether the respondents agreed with the **restriction that only half of the land can be rented out**, there was significant support among conflict mediators and LAC members (67-80%) in all regions but not as much among farm households. There was an increase in the support for this restriction among conflict mediators in Tigray from 2007 to 2011 and among household members in Oromia and SNNP from 2007 to 2012 but the support has barely moved above 50% among farmers.

To scrutinize further the perceptions on land renting versus sharecropping, all stakeholder groups were asked **whether they perceived sharecropping and land renting to be the same and to be subject to the same regulations**. The responses indicate that there was confusion on this in all three regions and conflict mediators and LAC members were not clearer on this than household members. In Tigray all stakeholder groups were divided quite equally between those who perceived land renting and sharecropping to be the same thing and subject to the same regulations, and those who did not. In the two other regions, most groups had a large majority agreeing that land renting and sharecropping were not the same and were not under the same law restrictions.

The next question was closely related. It asked **whether they considered it legal for a household to sharecrop out all its land**. A small majority considered that to be the case in Tigray for all stakeholder groups while the majority of all stakeholder groups in Oromia and SNNP considered it not to be legal. The follow-up question asks whether they thought that households should be allowed to sharecrop out all their land and the majority of all stakeholder groups agreed in Tigray while the majority disagreed in Oromia and SNNP.

When we then asked **whether they thought that female-headed households, orphan households and other poor households should be allowed to sharecrop out all their land when they lack the resources to cultivate it themselves**, the overwhelming majority of all stakeholder groups in all three regions agreed. This implied the most dramatic willingness to make an exception in Oromia and SNNP and this was equally the case for LAC members and conflict mediators as well as men and women from rural households.

We also asked the reason for their response, the most common response was that it was important to secure the livelihood of these poor households but many also responded that it was preferable because they could not farm the land efficiently themselves. A smaller share of the respondents favoring this emphasized that the land could be made available to more productive farmers. Among those who disagreed, the most common reason for this was that they thought it was important that these poor households farm their land themselves.

Regarding **land rental contract registration at the local administrative level**, the Regional Land Administration in Tigray informed us in 2010 that they had left this to the local authorities to handle it according to local bylaws. Table 5.2.10 summarizes responses from LAC members regarding the degree of implementation of land rental contract registration and their perceptions on the benefits and compliance. The table shows that the *kebele* leader was the one in charge of this in most cases in Oromia and SNNP but most households appear not to bother to report their contracts. Only warning was given in some cases if they did not report their contracts. Most LAC members thought it was beneficial to have reporting of such contracts for reasons such as reducing the amount of disputes and reducing the risk of having exploitative contracts. The majority of LAC members also thought it was ok to restrict formal legal support to registered contracts in cases of disputes.

Table 5.2.7. Perceptions of Conflict mediators, LAC members, men, and women in rural households in Tigray regarding elements of the current land laws, by year

Questions	Responses	CM	CM	LAC	Men	Women
		2007 (n=403)	2011 (n=396)	2010 (n=157)	2010 (n=327)	2010 (n=453)
Do you think that selling of land should be illegal?	Yes	94.0	98.2	82.2	94.0	
Do you think that mortgaging of land should be illegal?	Yes	86.8	42.3	70.7	86.8	
Do you agree that only half of the farm holding should be allowed rented out?	No				40.9	39.1
	Yes	50.8	77.3	70.1	54.4	47.4
Do you perceive sharecropping as land renting and to be subject to the same regulations as land renting?	Yes	46.5	44.1	53.5	66.3	59.6
Do you consider it legal for a household to sharecrop out all its land?	No	29.2	47.6	40.8	32.7	19.7
	Yes	56.9	49.6	52.3	64.0	74.2
Do you think that households should be allowed to sharecrop out all their land?	No	27.4	46.8	43.3	32.3	22.6
	Yes	72.3	52.9	52.3	67.7	74.0
Do you think that female-headed households, orphan households and other poor households should be allowed to sharecrop out all their land when they lack resources to cultivate it themselves?	No	8.7	3.1	8.3	6.1	5.4
	Yes	91.1	95.4	87.9	93.9	89.9
If yes, why?	Responses:					
	It secures livelihood	52.3	58.0	42.7	33.4	37.5
	Cannot use the land efficiently themselves	39.4	52.5	49.7	36.9	41.3
	The land can be made available for more productive farmers	5.1	18.0*	36.9*	27.0	21.1
If no, why?	They should farm it themselves,	4.3	2.3	5.1		
	They should follow the law	3.0	2.3	2.6		
	They should give away the land to others if they fail to farm it			2.6		

Source: Holden and Ghebru (2015). Note: *: Multiple responses allowed.

Table 5.2.8. Perceptions of Conflict mediators, LAC members, men, and women in rural households in Oromia regarding elements of the current land laws, by year

Questions		CM	LAC	Men		Women	
		2012 (n=55)	2012 (n=35)	2007 (n=275)	2012 (n=244)	2007 (n=280)	2012 (n=321)
Responses							
Do you think that selling of land should be illegal?	Yes	92.7	97.14	65.2	91.77	73.83	90.25
Do you think that mortgaging of land should be illegal?	Yes	43.6	22.9	51.5	67.9	55.1	69.2
Do you agree that only half of the farm holding should be allowed rented out?	No	23.64	27.3	72.2	43.0	74.4	52.7
	Yes	76.36	69.7	27.8	57.0	25.6	47.3
Do you perceive sharecropping as land renting and to be subject to the same regulations as land renting?	No	90.9	97.1	91.5	74.6	91.9	74.7
	Yes	9.1	2.9	8.5	25.4	8.1	25.3
Do you consider it legal for a household to sharecrop out all its land?	No	57.4	64.7	72.2	60.5	75.1	69.1
	Yes	42.6	35.3	20.0	37.0	21.0	21.5
	Don't know	0.0	0.0	7.8	2.5	3.9	9.5
Do you think that households should be allowed to sharecrop out all their land?	No	57.4	64.7	78.4	46.9	81.6	58.1
	Yes	42.6	35.3	21.6	53.1	18.3	41.9
Do you think that female-headed households, orphan households and other poor households should be allowed to sharecrop out all their land when they lack resources to cultivate it themselves?	No	11.1	9.1	24.7	10.3	21.3	13.4
	Yes	88.9	90.9	75.3	89.7	78.7	86.6
If yes, why? Responses:							
	It secures livelihood	81.8	88.6	40.4	29.5	43.6	22.4
	Cannot use the land efficiently themselves	5.5	2.9	29.1	49.2	23.6	53.6
If no, why?	The land can be made available for more productive farmers	0.0	0.0	4.7	10.3	3.9	6.2
	They should farm it themselves,	0.0	0.0	15.6	7.4	14.3	10.9
	They should follow the law	0.0	0.0	2.2	0.0	0.7	0.6
	They should give away the land to others if they fail to farm it	0.0	0.0	6.2	1.6	3.6	1.9

Source: Own survey data

Table 5.2.9. Perceptions of Conflict mediators, LAC members, men, and women in rural households in SNNP regarding elements of the current land laws, by year

Questions	Responses	CM	LAC	Men		Women	
		2012 (n=55)	2012 (n=35)	2007 (n=275)	2012 (n=244)	2007 (n=280)	2012 (n=321)
Do you think that selling of land should be illegal?	Yes	98.9	96.7	74.7	86.2	73.8	89.7
Do you think that mortgaging of land should be illegal?	Yes	74.4	93.3	54.3	65.0	50.9	68.3
Do you agree that only half of the farm holding should be allowed rented out?	No	18.9	30.0	66.9	41.0	65.7	43.4
	Yes	80	66.7	33.1	59.0	34.3	56.7
Do you perceive sharecropping as land renting and to be subject to the same regulations as land renting?	No	95.6	90.0	86.2	92.9	88.9	94.9
	Yes	4.4	10.0	13.9	7.1	11.1	5.1
Do you consider it legal for a household to sharecrop out all its land?	No	71.4	60.0	73.0	74.4	74.5	70.0
	Yes	27.5	40.0	22.8	25.3	20.1	27.5
	Don't know	1.1	0.0	4.3	0.4	5.5	2.5
Do you think that households should be allowed to sharecrop out all their land?	No	79.1	70.0	82.1	77.4	83.2	76.3
	Yes	20.9	30.0	17.9	22.6	16.8	23.7
Do you think that female-headed households, orphan households and other poor households should be allowed to sharecrop out all their land when they lack resources to cultivate it themselves?	No	18.7	26.7	33.0	24.4	38.7	27.7
	Yes	81.3	73.3	67.1	75.6	61.3	72.4
If yes, why?	Responses:						
	It secures livelihood	59.8	56.7	22.6	47.7	22.1	47.8
	Cannot use the land efficiently themselves	19.6	10.0	24.9	23.7	22.8	22.7
	The land can be made available for more productive farmers	0.0	6.7	15.5	5.3	16.5	3.6
If no, why?	They should farm it themselves,	4.4	10.0	10.2	14.1	13.0	18.8
	They should follow the law	1.1	3.3	17.4	2.5	19.3	0.8
	They should give away the land to others if they fail to farm it	4.4	3.3	4.2	5.0	4.6	4.4

Source: Own survey dat

Table 5.2.10. Land rental registration: Implementation of the law and perceptions of LAC committee members

Question	Response	Tigray	Oromia (n=35)	SNNP (30)
Application of the law				
Has Land rental contract registration been implemented in the kebele/tabia or sub-kebele/kushet?	No	Low	31.4	63.3
	Yes	response	51.4	36.7
	Partially	rate	17.1	0.0
If yes, who is responsible for the Contract Registry?	LAC at kebele/tabia level,	Low	2.9	6.7
	Kebelle/tabia leader	response	34.3	36.7
	Development agent	rate	2.9	0.0
	Other		22.9	0.0
Are there many households that do not care about reporting their rental and sharecropping contracts?	No	Low	0.0	27.6
	Yes	response	100.0	62.1
	Few only	rate	0.0	10.3
What happens if someone is caught not reporting a contract?	Given a warning and are asked to report it	Low	12.1	57.1
	Nothing	response	87.9	42.9
How long-term must land rental contracts minimum be to have to be reported to the kebele and approved?	Three months	26.8	11.4	12.0
	One year	31.2	14.3	32.0
	Three years	3.2	20.0	24.0
	Ten years	0		
	Do not have to report	9.6	5.7	12.0
	Don't know	7.6	22.9	4.0
	Other		28.6	16.0
Perception and attitude towards the law				
Do you agree that all land rental contracts should be written and reported to the kebele?	No	1.9	3.0	0.0
	Yes	92.4	81.8	76.7
	Only contracts longer than 3 years	1.9	15.2	23.3
If yes, why?	Good to have registration of such transactions	31.9	17.6	34.3
	Will make the land rental market work better	31.9	5.9	0.0
	Help avoid exploitative contracts	33.8	2.9	34.3
	Ensures that food needs of household is considered	11.5	2.9	0.0
	Strengthens bargaining power of landlords	20.4	0.0	0.0
	Reduces land disputes	27.4	70.6	28.6
	Other		0.0	2.9
Legal support for land conflict resolution related to land renting should only be provided if contracts have been reported and registered at the kebele level?	No	30.6	23.5	37.9
	Yes	64.3	76.5	62.1

Source: Own survey data.

5.3. Participation in the land rental market

We assess the extent of participation in the land rental market in the three regions and the extent to which there is rationing in the market and a potential to increase market participation. A lot of work on this has already been done in Tigray region (Ghebru and Holden 2008; 2014; Holden and Ghebru 2005; Holden, Deininger and Ghebru 2011) and Amhara region (Holden and Bezabih 2008; Deininger, Ali and Alemu 2011) as reviewed in the literature review. We therefore spend more space on this based on our data from the Oromia and SNNP regions while we make relevant comparisons with data from Tigray and Amhara. We also assess whether there has been a change in the market over the period studied and what future implications this may have.

5.3.1. Overall land market participation, by region, year and gender

Ghebru and Holden (2008), using a household sample from 2002-03 in Tigray, found that 24% and 29% of the households were landlords and tenants respectively, leaving 47% as non-participants in the land rental market. We can compare this with the figures below for Oromia and SNNP.

Table 5.3.1 gives an overview of the participation in Oromia and SNNP in 2007 and 2012. We see that the level of participation is higher in the SNNP sample than in the Oromia sample but there has been a decline in the level of participation in SNNP from 2007 to 2012 while the trend is in the other direction in Oromia. The participation level in Tigray was closer to that in SNNP.

Table 5.3.1. Overall land rental market participation by region (% of households)

	-----Oromia-----			-----SNNP-----			All
	2007	2012	Total	2007	2012	Total	
Rent-in	22	27	24	35	28	32	28
Rent-out	15	14	15	38	25	31	24
No land market participation	66	60	63	34	49	42	52

Source: Own survey data.

Female-headed households account for 12% of the households in this sample. Table 5.3.2 reports land market participation by male-headed and female-headed households. Female-headed households were more likely to rent out land and less likely to rent-in. The difference between

male-headed and female-headed land market participation is significant (in magnitude and statistical significance) in SNNP.

Table 5.3.2. Share of female-headed versus male-headed households renting in and out land, by region

	Oromia			SNNP			All households	
	Male-head	Female-headed	Sign. test	Male-head	Female-headed	Sign. test	Male-head	Female-headed
Rent-in	26	16	*	36	6	***	31	11
Rent-out	14	22	*	29	44	***	22	34
No land market participation	62	65		40	52	**	50	58

Source: Own survey data. . *, **, *** indicate significant difference from autarky households at 10, 5, and 1% levels, respectively.

5.3.2. Rationing in the land rental market

Ghebru and Holden (2008) assessed the extent of rationing in the land rental market in Tigray based on data from 2002/03. They found that few landlord households (5%) faced problems and rented out less than they wanted and that only 5% of the non-participants in the market were potential landlords. On the other hand, they found that a much larger share (33%) would have liked to rent in land, showing that there is rationing on the tenant side. They also found that a large share (56%) of the current tenants were unable to rent in as much land as they wanted and would have liked to rent in more than 50% more than they were currently renting in. We compare these figures with data from the Oromia and SNNP and with a more recent data from Tigray, see below.

We first inspect why landlord households choose to rent out land, how much they rent out and whether they would like to or are able to rent out more land. Table 5.3.3 shows that landlord farmers stated that the most important reasons for renting out land were shortage of oxen and labor and personal illness. The table also shows that only a small share of landlord households in Tigray and SNNP were willing to rent out more land than they already were doing, while the share willing to do so was substantially higher in Oromia. These more recent figures for landlords from Tigray are thus fairly consistent with those found by Ghebru and Holden (2008) based on data from 2002/03.

Table 5.3.3. Reasons for renting out land, responses by landlords, by region and year

		Tigray		Oromia		SNNP	
		2006 n=240	2010 n=135	2007	2012	2007	2012
Why do you rent out land?	Shortage of labor	20.0	60.0		5.3		44.9
	Shortage of oxen	32.1	48.1		34.2		20.5
	Personal problem (illness, aged)	16.3	22.2		29.0		16.7
	Poor/no access to credit	0.1	2.2		5.3		3.9
	Seed/fertilizer problem	0	3.0		15.8		6.4
	Off-farm job	0	1.5				
How much land have you rented/sharecropped out?	Mean, ha			0.57	0.58	0.25	0.33
	Median, ha	0.75	0.5	0.50	0.50	0.25	0.25
Would you like (be able) to rent out some more land?	No	91.7	95.6	79.0	82.1	94.5	95.2
	Yes	4.2	2.2	21.1	18.0	5.5	4.8

Source: Own survey data.

Table 5.3.4 gives an overview of the potential suppliers and demanders for land in the land rental market among those who did not participate in this market in 2007 and 2012. There is additional demand for land among tenants in all regions and across years, showing that the majority of them are rationed in the land rental market, and particularly so in Oromia where the extent of participation in the market is lower than in the two other regions. One reason could be that sharecropping leads to rationing on the tenant side due to the lack of a market-clearing price. We return to this after we have inspected the types of contracts used.

Table 5.3. 4. Questions to tenants on potential additional demand for land, by region and year

		----Tigray----		-----Oromia-----		-----SNNP-----	
		2006 N=265	2010 N=111	2007 N=63	2012 N=75	2007 N=112	2012 N=97
Would you like to rent in some more land?	No	39.6	46.8	11.9	28.0	43.4	36.1
	Yes	60.0	53.2	88.1	72.0	56.6	63.9
If your answer is yes, how much more (hectares)?	Mean			0.63	1.06	0.64	0.68
	Median	0.75	0.75	0.50	0.75	0.50	0.75
Have you attempted to rent in the additional land you wanted?	No	39.6	55.9	31.7	50.7	71.4	72.0
	Yes	26.0	35.1	68.3	49.3	28.6	28.0

Source: Own survey data. Figures represent % of respondents

It is also relevant to inspect the demand for land through the land rental market among the non-participating farm households. Table 5.3.5 gives the situation in Oromia and SNNP.

Table 5.3.5. Potential land rental market participants among non-participants in the market by region and year

		Region=Oromia				Region=SNNP			
Year		No	Yes, rent in	Yes, rent out	Total	No	Yes, rent in	Yes, rent out	Total
2007	N	100	76	5	181	58	27	2	87
	%	55.3	42.0	2.8	100.0	66.7	31.0	2.3	100.0
2012	N	83	64	3	150	103	29	8	140
	%	55.3	42.7	2.0	100.0	73.6	20.7	5.7	100.0
Total	N	183	140	8	331	161	56	10	227
	%	55.3	42.3	2.4	100.0	70.9	24.7	4.4	100.0

Source: Own survey data.

Table 5.3.5 shows that a large share (42% in Oromia and 25% in SNNP) of the pure owner-operators that did not participate in the land rental market in these two years were interested in participating in the land rental market as tenants, similar to in Tigray (33%). There were few who wanted to rent out some of their land among the pure owner-operators. There were relatively more households demanding additional land in Oromia than in SNNP while Oromia was also the region with lowest level of participation in the market as was seen in Table 5.3.1. While the extent of non-participation had increased from 2007 to 2012 in SNNP the number of households demanding additional land had not gone down in the same period. We will investigate further factors that affect land rental market participation and first look at how land certification may affect it.

5.4. Land certification and land renting: perception responses

We see from Table 5.4.1 that many landlords perceive that land registration and certification has improved their tenure security and strengthened their bargaining power towards their tenants and this may also have stimulated their willingness to rent out their land. Tenure insecurity may have resulted in more use of land rental contracts with kin partners that they trust more. Improved tenure security has made many of them more willing to rent out their land to strangers.

Table 5.4.1. Land certification and land rental contracts, responses by landlords, by region and year

Questions	Responses, answers in %	Tigray		Oromia		SNNP	
		2006	2010	2007	2012	2007	2012
		N=240	N=135	N=46	N=40	N=119	N=87
If you have a land certificate, does having the certificate give you any advantages in relation to your contracts with your tenants?	No	17.1	31.9	50.0	30.3	36.4	40.9
	Yes	75.0	56.3	50.0	69.7	63.6	59.2
If yes, how?	Improved bargaining power	19.6	27.4	24.0	8.3	9.1	38.9
	Contract fulfillment	9.2	7.4	12.0	0.0	2.0	2.8
	More tenure security	24.6	21.5	4.0	58.3	22.2	18.5
	More long-term contracts	4.2	1.5	0.0	0.0	3.0	0.0
	Better performance by tenant	16.3	3.0	4.0	2.8	15.2	1.9
	Tenant takes more responsibility for land conservation	0.1	6.7	0.0	2.8	0.0	0.0
Does having a certificate make you more willing to rent out the land to strangers?	No	56.8	57.8	62.5	41.2	54.3	59.6
	Yes	35.8	31.9	37.5	58.8	45.7	40.4
If you do not have a land certificate, what are the disadvantages, if any, in relation to land renting out that you perceive?	No dis-advantages	15.8	34.1	37.5	20.0	73.0	53.1
	Fear land grabbing by tenant	25.0	32.6	25.0	60.0	8.1	12.5
	More land disputes with tenant	35.8	15.6	25.0	20.0	5.4	21.9
	Harder to enforce tenant to work	2.5	1.5	0.0	0.0	2.7	3.1
	Less bargaining power in relation to contract choice	2.1	8.1	2.7	0.0	10.8	9.4
If you face such difficulties, how do you respond?	Rent out less land	4.2	17.8	18.9	19.4	7.8	12.5
	Use one-year contract only (no renewal)	9.2	9.6	18.9	22.6	16.5	8.0
	Use one-year renewable contract	0.0	4.4	0.0	9.7	0.0	18.2
	Rent out to relatives	52.9	29.6	5.4	19.4	20.4	8.0
	Rent out only to tenants you trust	21.3	23.0	0.0	9.7	13.6	13.6

Source: Own survey data

On the other hand, joint land certification has strengthened the position of women in the household in Oromia and SNNP regions and the consent of the wife is required before land is rented out (Holden and Tefera 2008). If wives put more emphasis on household food security, it is possible that they are less willing to rent out land than their husbands. Holden and Bezu (2014) found that the empowerment of wives has resulted in women getting more involved in land-related decisions in the households and crop choice and land renting were the two types of decisions that they found wives to particularly be interested in influencing. Table 5.4.2 shows that a substantial share of the landlords and tenants thought that land certification has affected their participation in the land rental market and among these the majority thought that it has led to more participation in the land rental market. There are some that indicated that land certification may have contributed to more use of fixed rent contracts.

Only about four percent of the landlords and tenants have experienced conflicts related to their land rental contracts in Tigray while this percentage was a bit higher in Oromia and SNNP in 2012 than in 2007. Still, many seem to prefer to have written contracts reported to the *tabia* in 2010. Enhanced tenure security through land certification appears to have made many landlords more willing to rent out land to strangers. It may be for such cases that the demand for formal registration of contracts is considered more important (we get back to this later). This may signal a change in the dynamics in the rental market away from kinship and trust based contracts within close circles to more open and dynamic rental arrangements.

Table 5.4.2. Land certification and impacts on land renting activity of landlords and tenants, by region and year.

Question	Responses	Tigray		Oromia		SNNP	
		2006 (n=495)	2010 (n=280)	2007 (n=99)	2012 (n=113)	2007 (n=207)	2012 (n=176)
Has land registration and certification had any impact on whether you participate in the land rental market (including sharecropping)?	No	53.9	65.7	83.3	72.9	70.1	62.5
	Yes	46.1	28.2	16.7	27.1	30.0	37.5
If yes, are you more or less willing to rent in or out your land after you received the certificate?	More willing/able	43.0	23.6	56.3	78.3	76.2	74.6
	No difference	0	4.3	37.5	13.0	23.8	7.5
	Less willing/able	3.2	0.1	6.3	8.7	0.0	17.9
If yes, why are you more or less willing?	Feel more tenure secure	16.4	21.1	60.0	77.3	43.8	65.2
	Easier to rent in land	26.5	4.6	20.0	13.6	31.3	20.3
	More difficult to rent in land	0.1	0.1	20.0	9.1	21.9	13.0
Has receiving a land certificate affected the type of land contract you prefer to use?	No	76.4	63.2		65.3	82.0	57.5
	Yes, prefer fixed-rent more	15.8	7.1		19.4	8.0	4.6
	Prefer longer-term contract after I received certificate	5.5	5.4		5.6	3.0	4.6
Have you had any land disputes in relation to some of your land contracts?	No	95.8	90	96.4	85.1	92.3	86.4
	Yes	4	3.6	3.6	14.9	7.7	13.6

Source: Own survey data.

5.5. Relative poverty/wealth of landlords, tenants and pure owner-operators

We made a quite thorough review of studies that had investigated the relative poverty and wealth of landlords, tenants and pure owner-operators in Tigray region in the literature review (e.g. Ghebru and Holden 2008; 2015). We therefore limit our focus in this part of the report to a similar assessment in Oromia and SNNP where there have been few studies of this in the past.

Tables 5.5.1 and 5.5.2 show the basic household characteristics of tenants, landlords, and pure owner-operators in the two regions. We see the same reverse tenancy characteristics that have been found in the Tigray and Amhara regions as well. Tenants have more livestock and other assets than landlords have, while pure owner-operators fall somewhere between for most of the assets. Tenants are also younger on average and have more education and their farm sizes are slightly smaller. They also tend to have larger household size such that owned land per capital is smaller. It is possible that their access to additional land and non-land resources enabled them to keep a larger family on the farm.

Table 5.5.1. Characteristics of tenants, landlords and pure owner-operators in Oromia region

	Tenants		Landlords		Autarky	
	Mean	St.Error	Mean	St.Error	Mean	St.Error
Age of household head	40.00**	1.19	44.37	1.66	43.98	.852
Education-household head (yrs)	4.83***	.30	2.97	.341	3.34	.192
Farm size (hectares)	1.18	.076	1.26	.105	1.36	.085
Total household size	7.99	.324	6.67***	.358	7.68	.203
Per capita farm size	.18	.015	.228*	.019	.198	.011
Male members-working age	2.09	.119	1.88*	.157	2.34	.090
Female members -working age	2.29	.141	2.13	.173	2.41	.099
Livestock (in TLU)	5.71***	.580	1.55***	.188	3.88	.298
Number of oxen	1.47***	.115	.475***	.081	1.08	.062
Value of non-farm tools owned (EB)	138.8	42.97	96.75	31.8	94.26	17.33
Value of farm tools owned (EB)	466.3*	79.4	268.0	51.7	337.9	36.5
Value of other non-productive assets (EB)	4118.6	481.7	1498.5***	178.3	3551.0	1250.4

Source: Own survey data. *, **, *** indicate significant difference from autarky households at 10, 5, and 1% levels, respectively.

Table 5.5.2. Characteristics of tenants, landlords and pure owner-operators in SNNP region

	Tenants		Landlords		Autarky	
	Mean	St. Error	Mean	St. Error	Mean	St. Error
Age of household head	44.69***	.856	50.06	1.118	49.05	.94
Education-household head (yrs)	3.34	.258	2.664	.256	3.04	.227
Farm size (hectares)	.441	.025	.506	.031	.480	.026
Total household size	7.44**	.186	6.75	.262	6.765	.153
Per capita farm size	.068***	.005	.100*	.009	.085	.006
Male members-working age	2.299	.120	2.144	.124	2.230	.095
Female members -working age	2.098	.095	2.175	.116	2.026	.073
Livestock (in TLU)	2.64*	.286	2.01	.287	2.199	.161
Number of oxen	.518***	.047	.312	.040	.328	.037
Value of non-farm tools owned (EB)	70.42	16.85	39.5**	12.35	99.6	38.31
Value of farm tools owned (EB)	348.8***	34.87	170.9**	14.6	209.8	14.07
Value of other non-productive assets (EB)	6299.5	2677.4	1857.2**	359.6	3297.5	687.6

Source: Own survey data. *, **, *** indicate significant difference from autarky households at 10, 5, and 1% levels, respectively.

5.6. Econometric analysis of land rental market participation in Southern Ethiopia

We refer to studies by Gebrehaweria and Holden (2011), Ghebru and Holden (2008; 2014), and Holden et al. (2011), on factors associated with land rental market participation and intensity of participation in Tigray Region. Studies in Southern Ethiopia include Teklu and Lemi (2004) and Tadesse et al. (2008). We here analyze newer data from Oromia and SNNP regions from 2007 and 2012. The first round was when the joint land certification had just been implemented but not completed in many of the communities and the second round was five years later when we also should expect to see some impacts of the reform.

The Oromia sample is dominated by ox-plough cultivation of cereal crops while perennial crops dominate the SNNP sample where oxen play a less significant role. We therefore think oxen ownership is a more important determinant of participation in land rental market in Oromia than in SNNP. Oromia is likely to be similar to Tigray and Amhara where also ox-ploughing is dominant and oxen-ownership is a crucial determinant of land rental market participation. There, landlords are typically female-headed households without oxen who rent out land to male-headed households with a pair of oxen (Ghebru and Holden 2008; Kassie and Holden 2007; Holden and Bezabih 2008).

We therefore separate the analysis of participation in land rental market for Oromia and SNNP and start with the model for the Oromia sample. Dummy variables for whether households are tenants (model 1), autarkic (model 2), or landlords (model 3) are used as dependent variables. We use Linear Probability Models to facilitate easy interpretation of the coefficients. We also use log-transformed asset endowment variables to reduce the heteroskedasticity problem, combined with cluster-robust standard errors with clustering at community (*kebele*) level. We also include *kebele* fixed effects to control for village unobservables. Our **main hypotheses** are:

H1) Landlords are households who lack oxen and labor for cultivation

H2) Landlords are more likely to be female-headed and/or have old household head

H3) Tenants are households with a pair of oxen and good reputation as farmers

H4) Tenants are likely to be younger but not very young unless they rent in land from relatives

H5) Land certification has stimulated land rental market participation as it has strengthened tenure security of landlords who have become less hesitant to rent out

H6) Land certification has reduced land renting as joint land certification has given wives more power within the households and wives put more emphasis on household food self-sufficiency and are therefore less willing to rent out family land.

The first three hypotheses are essentially in line with the reverse tenancy system found in Tigray and Amhara regions of the country. The last hypothesis indicates that there may be effects of land certification that pull in opposite directions in Oromia and SNNP where more emphasis was given to empowering the wives in land-related issues than was the case during the first stage certification in Tigray region.

For SNNP region (perennials farming system) we have alternative hypotheses to hypotheses H1-H3:

H7) Land market participation is driven by household labor availability

H8) Youth have easier access to land as tenants in the perennial system because they do not need a pair of oxen to cultivate the land.

An implication of these hypotheses can be that the reverse tenancy system is less pronounced in SNNP as tenants can be poorer but still it is labor-poor households that are more likely to rent out land to labor-rich households. Otherwise, we retain the same hypotheses with respect to the effect of land certification. Like in Oromia, SNNP had joint certification of husbands and wives but certification can also have strengthened tenure security and thus stimulated renting out of land.

The results of the models are presented in Table 5.6.1 for Oromia and in Table 5.6.2 for SNNP. We see from Table 5.6.1 that households with two or more oxen are 12% more likely to be tenants (significant at 5% level), while households without oxen are 15% more likely to be landlords (significant at 1% level) in line with hypotheses H3 and H1. However, there is no significant correlation between female-head or age and household being a landlord household. Hypothesis H2 can therefore be rejected. **Younger household heads were more likely to be tenant households but youth household heads below 30 were not more likely to be tenants.** More non-oxen livestock and more education were, on the other hand, significantly and positively correlated with being tenant.

Table 5.6.1. Land rental market participation models, Oromia region, Ox-plough/cereal system

	Tenant		Autarky		Landlord	
	B	Se	b	se	b	se
Log(farm size)	-0.122 *	0.061	0.199 **	0.076	-0.041	0.058
Certificate, dummy	-0.064	0.042	0.115 **	0.052	-0.024	0.058
Female head, dummy	-0.017	0.077	0.041	0.079	-0.01	0.040
Age of household head	-0.004 **	0.001	0.002	0.002	0.001	0.002
Young head < 30 years	-0.053	0.081	0.095	0.116	-0.028	0.070
Education of head	0.013 *	0.006	-0.007	0.008	-0.005	0.005
Log(Male work force/ha)	-0.041	0.029	0.115 **	0.048	-0.073	0.046
Log(Female work force/ha)	0.027	0.039	-0.02	0.053	0.021	0.038
Household size	0.007	0.005	-0.008	0.01	-0.002	0.007
Livestock other than oxen:						
Tropical Livestock Units	0.013 **	0.005	-0.007 **	0.003	-0.006	0.005
One ox, dummy	0.027	0.049	0.123 *	0.058	-0.151 ***	0.047
Two or more oxen, dummy	0.121 **	0.05	0.005	0.059	-0.153 ***	0.042
Year dummy, 2012=1	0.082 **	0.033	-0.047	0.035	-0.061 **	0.026
Village FE	Yes		Yes		Yes	
Constant	0.314 **	0.113	0.374 **	0.163	0.327 **	0.132
R-squared	0.103		0.082		0.133	
Number of observations	512		512		512	

Note: Linear probability models with cluster-robust standard errors, clustering at village level. *, **, ***, **** indicate that coefficients are significant at 10, 5, 1, and 0.1% levels, respectively.

This **confirms the reverse tenancy pattern and that land-poor youth face access constraints in the tenancy market unless they have a pair of oxen and other non-land resources**. There is a tendency that more land-poor households are more likely to be tenants while more land-rich households and households relatively richer in male labor tend to be autarkic. Regarding the certification hypotheses the results are more in line with the second hypothesis as having a land certificate is significantly (at 5% level) positively correlated with households being autarkic (non-participants in the land rental market). Households with a land certificate were 12% more likely to be autarkic. This is opposite of what has been found in Tigray (Holden et al. 2011).

Table 5.6.2 shows that the pattern is different in SNNP (perennial system). A pair of oxen is less required in this system but we see that households with one ox were more likely to be tenants. Households with one ox were 17% more likely to be tenants (significant at 0.1% level) than other households. Two oxen households were 14% less likely to be landlord households (significant at 10% level only).

Table 5.6.2. Land rental market participation models, SNNP region, Perennial system.

	Tenant		Autarky		Landlord	
	b	Se	b	se	b	se
Log(farm size)	-0.296 ***	0.086	0.186	0.160	0.145	0.173
Certificate, dummy	0.035	0.046	0.026	0.054	-0.049	0.029
Female head, dummy	-0.255 *****	0.026	0.084 *	0.039	0.151 **	0.055
Age of household head	-0.005 *****	0.001	0.002	0.001	0.005 *****	0.001
Young head < 30 years	-0.073	0.084	0.042	0.087	0.124 **	0.052
Education of head	-0.002	0.007	-0.002	0.007	0.005	0.007
Log(Male work force/ha)	-0.040	0.026	0.087 ***	0.022	-0.038	0.038
Log(Female work force/ha)	-0.015	0.032	0.035	0.04	-0.012	0.029
Household size	0.017 ***	0.005	-0.013 *	0.007	0.000	0.006
Livestock other than oxen:						
Tropical Livestock Units	0.001	0.005	-0.001	0.007	0.007	0.009
One ox, dummy	0.173 *****	0.036	-0.072	0.058	-0.084	0.065
Two or more oxen, dummy	0.040	0.116	0.118	0.123	-0.140 *	0.064
Year dummy, 2012=1	-0.012	0.025	0.116 **	0.038	-0.142 ***	0.040
Village FE	Yes		Yes		Yes	
Constant	0.439 *****	0.073	0.350 *	0.157	0.085	0.140
R-squared	0.128		0.111		0.130	
Number of observations	534		534		534	

Note: Linear probability models with cluster-robust standard errors, clustering at village level. *, **, ***, **** indicate that coefficients are significant at 10, 5, 1, and 0.1% levels, respectively.

Female-headed households were 26% less likely to be tenants and 15% more likely to be landlords and 8% more likely to be autarkic (significant at 0.1%, % and 10% levels respectively) than male-headed households. Landlords were also likely to be older while tenants were younger (both significant at 0.1% level). In the case of SNNP there is therefore strong evidence in support of hypothesis H2 which we rejected in Oromia.

However, younger household heads (below 30) were not more likely to be tenants. On the contrary, they were 12% more likely to be landlord households. This may be related to their lack of experience as farmers and possibly capital constraints. While youth land access constraints are less severe in this system, **farming skills and complementary resources are still important for youth to succeed as farmers**. We see that the land certificate variable was insignificant in all models while the year dummy indicated a trend towards autarky. Land certification therefore appears not to have stimulated land rental market participation in SNNP, like in Oromia, but unlike in Tigray and Amhara regions (Holden et al. 2011; Deininger et al. 2011).

Finally, we see that household size was positively correlated with households being tenants. This could also be due to a reverse causality as households succeeding in renting in more land may be able to keep a larger family (less pressure towards out-migration). SNNP has had strong outmigration of youth in the period 2007-2012 (Bezu and Holden 2014b).

We will now look at the intensity of participation as landlords and tenants in the land rental market, measuring intensity of participation as the area rented out or in. We only have reliable data on areas rented in and out for 2007 based on the farm plot level data that are aggregated to household level. We combine the data from Oromia and SNNP as there are too few observations for the intensity of participation to run separate models and include district fixed effects to capture differences across districts within the two regions. Bliss and Stern (1982) analyzed such market participation with OLS models, Skoufias (1995) used tobit models, Ghebru and Holden (2008) used Heckman selection models to assess the allocative efficiency of the land rental market. They focused on the coefficient on own farm size to assess how area rented in/out was adjusted with change in farm size. The coefficient should be close to 1/-1 with smooth/efficient adjustment.

We combine Linear Probability models for participation and truncated regression models for the intensity of participation as different variables appeared important in the two stages. We inspect the coefficients on own farm size in all models to assess the allocative efficiency. We correct

standard errors for clustering at *kebelle* level. We log-transform the input variables (land, livestock, labor). The land certificate dummy variable was included in the landlord side models only as land certificate may affect the landlords' willingness to rent out but is not likely to be important for whether tenants have access to land in the rental market or how much land they can access. However, a dummy for young household head (<30 years) is included on the tenant side of the market to assess whether the access is different for young heads after (linear) age of household head is included as a separate variable. A dummy for use of sharecropping contract is included in the intensity of participation models to assess whether sharecropping is associated with more rationing or better access to the land rental market. The hypothesis is that sharecropping is associated with rationing on the tenant side because sharecropping implies that there is no market-clearing rental price. An alternative hypothesis could, however, be that sharecropping can facilitate land access for younger and more resource constrained tenants who may benefit from cost sharing with the landlords. Such contracts may more commonly be kinship-based contracts. This is inspected further when we look deeper into partner choice and contract choice. We have not used *kebelle* dummy variables in this analysis due to the limited number of observations in the intensity of participation models. Instead, farm size is replaced by a variable for the mean farm size in the *kebelle* and a variable capturing the deviation from mean farm size in the *kebelle*. Both variables are log-transformed. The first captures whether average farm size matters and the second captures the allocative efficiency. The coefficient should be close to one in the area rented out models and close to minus one in the area rented in models if adjustment is smooth and transaction costs are small or linear in rented area (Holden et al. 2008). This rests on the idea that the markets for non-land factors of production, such as labor, oxen for land preparation, and credit and insurance are imperfect and have high transaction costs such that reallocation of land is a more efficient mechanism of adjustment. The non-land resource endowments are therefore included in the model as a test of their importance and a sign of such related non-land market imperfections.

A peri-urban dummy variable is also included to see whether the land rental market functions significantly differently closer to larger markets. District dummies are included to test the difference between Oromia and SNNP (ox-plough versus perennial system), and the more remote rain-fed perennial system in Wollaita and the cash-crop perennial system with irrigation and better market access in Wondo Genet. The hypotheses stated related to the earlier land rental market participation models also apply to these models although the new specifications are different in

several respects. It is relevant to cross-check the consistency of the results given the differences in the specifications and the fact that these new models only utilize data from one year and instead pool the data for the two regions.

The results are presented in Table 5.6.3. We start by inspecting the average and deviation from average *kebelle* farm size variables. The average farm size variable is insignificant in all models possibly implying that the variation in population pressure per se does not lead to much variation in the activity in the market. The deviation in farm size from the mean in the *kebelle* is, however, highly significant in both models on the landlord side with positive coefficients. The coefficient is not significantly different from +1 in the area rented out models pointing towards efficient adjustment of area rented out on the landlord side.

On the tenant side the coefficient is also highly significant and with a negative sign in the tenant participation model as would be expected; households with more land are less likely to rent in additional land. The coefficient for participation was close to the same size and with an opposite sign of that in the landlord participation model. However, when it comes to area rented in, the situation is very different for tenants and landlords. Rather than having a negative coefficient close to -1 in the tenant area rented in model (smooth adjustment), the coefficient is positive and insignificantly different from zero. **This is a strong sign of the rationing taking place in the market** such that being more land-poor does not make potential tenants more able to rent in additional land.

Furthermore, oxen are important for participation on both sides of the market but not for the intensity of participation. Households are more likely to rent out land in Wollaita and Wondo Genet (SNNP and perennial zone) but areas rented out were not significantly different. However, we should keep in mind that farm sizes are much smaller in these two districts than in the Oromia district. In Wollaita potential tenants were more likely to access land in the land rental market but the amount of land they could access was significantly smaller than in the other districts. This is likely to be due to the smaller farm sizes and more intensive production system with perennial crops. Potential tenants' access was also better in Arsi Negelle than in Sashemene and it is also better in peri-urban areas than in more remote areas. Old age was associated with higher probability of renting out land and renting out more land. More educated household heads were also renting out more land, possibly indicating that they had other off-farm or non-farm income opportunities.

Table 5.6.3. Participation and intensity of participation in the land rental market: Oromia and SNNP 2007

	Landlord, LPM		Area rented out		Tenant, LPM		Area rented in	
	b	se	b	Se	b	se	b	se
Log(mean farm size in kebele)	0.150	0.097	0.396	0.364	-0.090	0.071	-0.711	0.572
Log(deviation from mean farm size)	0.080 ***	0.021	0.825 *****	0.139	-0.079 ***	0.021	0.092	0.170
Age of household head	0.004 ***	0.001	0.006 *	0.003	-0.002	0.002	-0.008	0.012
Education of household head	-0.001	0.003	0.034 **	0.014	0.003	0.006	0.007	0.028
Female head, dummy	0.089	0.066	-0.090	0.091	-0.251 *****	0.049	0.004	0.496
Polygamous, dummy	-0.074 *	0.040	-0.149	0.162	-0.021	0.047	0.294	0.264
Log(TLU without oxen)	-0.032	0.019	-0.046	0.170	0.042	0.028	-0.186	0.141
Log(Male work force)	-0.118 *	0.062	-0.186	0.262	-0.036	0.041	0.311	0.298
Log(Female work force)	0.020	0.043	-0.507 **	0.217	-0.032	0.039	-0.143	0.259
Log(Oxen)	-0.108 **	0.042	-0.031	0.304	0.109 **	0.039	0.689	0.419
Household size	0.003	0.011	0.037	0.041	0.008	0.006	0.043	0.067
Has land certificate, dummy	-0.024	0.067	0.020	0.173				
Peri-urban, dummy	-0.053	0.031	0.229	0.477	0.058 **	0.020	0.019	0.159
Land size variation in kebele, CV	-0.106	0.087	-0.627	1.144	0.006	0.055	0.494	0.409
Sharecropping, dummy			-0.107	0.165			0.155	0.183
Young head(<29), dummy					0.020	0.100	0.230	0.332
District FE: Sashemene=baseline								
Arsi Negelle	0.043	0.042	-0.041	0.422	0.107 ***	0.035	0.152	0.302
Wondo Genet	0.205 **	0.092	-0.390	0.908	0.091	0.089	-0.900	0.738
Wollaita	0.383 *****	0.083	-0.951	0.720	0.207 **	0.073	-1.575 ***	0.485
Constant	0.219 *	0.105	0.045	1.235	0.099	0.078	-1.973 ***	0.633
Sigma constant			0.595 *****	0.025			1.085 *****	0.100
Prob > chi2	0.000		0.000		0.000		0.000	
Log likelihood	-173.024		-82.748		-251.557		-187.551	
R-squared	0.221				0.157			
Number of observations	498		92		521		125	

Source: Own survey data.

5.7. Partner selection in the land rental market

We take one-step back and look at partner selection in the land rental market. It is important for a potential landlord or tenant to identify a suitable or the most suitable partner from the other side of the market. Many considerations may be relevant in the search and identification of the (optimal) partner. The spatial nature of agricultural production and positive search and other transaction costs makes for a difficult optimization problem and there are likely to be a limited number of potential partners to choose from within a neighborhood. The spatial nature of the market due to the immobility of land also limits the extent of competition that is realistic in this type of market. The activity level in the land rental market may also vary from place to place. It may also be the case for the degree of transparency and competition in the market. Reputation and trust are likely to play important roles in such a market and this may explain the dominance of kin contracts and rationing in the market. Tenure insecurity may create fear related to renting out land and frequent disputes related to land rental contracts and cases of land grabbing by tenants are likely to influence market behavior and choice of partner.

Based on this, we investigate the perception and preference information from potential landlords and tenants as a way to diagnose the “socio-economic climate” for land renting.

In Table 5.7.1, we give an overview of the most important characteristic of the tenants that landlords emphasized in their choice of tenant. This is based on the 2010 survey in Tigray and the 2012 survey in Oromia/SNNP.

Table 5.7.1. Primary criteria used by landlord households when selecting their tenants by region

	Tigray 2010 (n=135)	Oromia 2012 (n=40)	SNNP 2012 (n=87)
Trustworthy	23.0	35.9	32.5
Good reputation as farmer	25.2	48.7	42.9
In-law claim for tenancy	1.5	0	1.3
Blood-related relatives	48.1	10.3	15.6
Good neighbors	5.2	0	6.5
The one that offers a better contract	5.9	2.6	0

Note: Own survey data from 2012. The table shows the % of landlords that responded to the question

The most important criterion mentioned most frequently by landlord households in SNNP and Oromia regions was the reputation of the potential tenant as a farmer, while in Tigray blood-relation is the most important criterion. Trustworthiness is the most important criterion for at large share of the respondents in all regions. Claim by in-laws was not an important criterion in any of the three regions. Such in-law claims were found to be common in the Amhara region by Holden and Bezabih (2008). Similarly, hardly any landlords stated that they would give the contract to the one that offered the best contract. This indicates that open competition based on contract characteristics is of limited importance.

We explored this further by assessing the landlord characteristics for those who have emphasized each of the most important tenant preference criteria above; reputation as farmer; trustworthiness; and blood-related relative; by use of linear probability models. Only the models for reputation as a farmer created valid results when the models were run separately for Oromia and SNNP regions. We therefore ran pooled models for the two regions for trust. We also do it for reputation to allow further testing of interaction effects with certificate, see below.

The results for the reputation models by region are presented in Table 5.7.2. More resource rich and female-headed households in SNNP were less likely to emphasize the reputation of the tenant as the most important criterion for tenant selection. Female-headed landlord households were 11% less likely to emphasize this criterion than male-headed landlord households in SNNP. Land scarcity was associated with higher probability of preferring tenant with good reputation as farmer. A 1% decrease in farm size is associated with a 0.53% increase in the probability to choose this reputation as good farmer criterion in Oromia and a 0.32% increase in the probability to choose this criterion in SNNP. These effects were significant at 1% and 10% level. Non-oxen livestock

gave a different result than labor and oxen and was significantly and positively correlated with prioritizing the reputation of the tenant as farmer. Thus, households that are richer in non-oxen livestock and poorer in oxen livestock are more likely to emphasize the reputation of the tenant as a good farmer. These variables were significant at 0.1% and 5% level.

Table 5.7.2. Factors correlated with preference for tenants with good reputation as farmers (=1, =0 otherwise) among landlords, by region

	Oromia		SNNP	
	b	Se	b	se
Female head, dummy	0.210	0.134	-0.110 *	0.051
Age of household head	-0.001	0.004	-0.000	0.002
Young head < 30 years	-0.201	0.150	-0.120	0.138
Education of head	0.015	0.015	0.014	0.011
Log(Male work force/ha)	-0.176	0.121	-0.123 **	0.045
Log(Female work force/ha)	-0.181	0.128	-0.055 *	0.026
Household size	0.012	0.016	0.005	0.006
Livestock other than oxen, TLU	-0.028	0.038	0.020 ****	0.003
Oxen, number	-0.051	0.039	-0.103 **	0.041
Log(farm size)	-0.525 ***	0.164	-0.318 *	0.156
Land certificate, dummy	-0.217 *	0.109	0.107	0.080
Arsi Negelle=1, dummy	0.105	0.080		
Wondo Oromia=1, dummy	0.823 ****	0.140		
Wollaita=1, dummy			-0.088	0.066
Constant	1.050 ***	0.253	0.567 **	0.205
Prob > chi2	0.000		0.000	
Loglikelihood	-29.561		-52.099	
R-squared	0.295		0.203	
Number of observations	76		155	

Note: Linear probability models with cluster-robust standard errors, clustering at village level. *, **, ***, **** indicate that coefficients are significant at 10, 5, 1, and 0.1% levels, respectively.

Land certificate was only significant in the Oromia region and was significant at 10% level with a negative sign while the sign was opposite in SNNP region. In Oromia therefore there is weak evidence that landlord households with certificate are less likely (22% less likely than tenants without certificate) to give highest priority to the tenant's reputation as a good farmer when selecting tenant. We explore further possible interactions (spatial heterogeneity) between certificate ownership and district in the following pooled probit models for the reputation and trustworthiness criteria. The pooled model results are presented in Table 5.7.3.

The results in Table 5.7.3 are similar to those for SNNP in Table 5.7.2 in the case of the reputation of tenant as good farmer model. With the introduction of district (*woreda*) and certificate interactions, the certificate variable becomes significant at 5% level and with a negative sign. Wollaita district is also significant and with a negative sign but the interaction effect for Certificate*Wollaita is highly significant and with a positive sign, showing that households with certificate in this district are more likely to select tenants based on their reputation as farmer. This may be an effect of enhanced tenure security.

Table 5.7.3. Joint models for Oromia and SNNP regions for landlords' tenant selection criteria as reputation as good farmer and trustworthy.

	Reputation=1		Trustworthy=1	
	dy/dx	Std. Err.	dy/dx	Std. Err.
Female head, dummy	-0.019	0.060	0.050	0.059
Age of household head	-0.001	0.002	-0.001	0.002
Young head < 30 years	-0.122	0.089	-0.218 **	0.106
Education of head	0.010	0.007	0.006	0.008
Log(Male work force/ha)	-0.127 ****	0.036	-0.033	0.037
Log(Female work force/ha)	-0.096 **	0.039	-0.050	0.041
Household size	0.006	0.007	0.007	0.009
Livestock other than oxen, TLU	0.015 **	0.006	-0.001	0.004
Oxen, number	-0.092 **	0.043	-0.051	0.036
Log(farm size)	-0.353 ***	0.122	-0.031	0.120
Land certificate, dummy	-0.379 **	0.183	-0.006	0.153
District dummies: Sashemene=baseline				
Arsi Negelle=1	-0.090	0.178	-0.988 ****	0.183
Wondo Genet=1	-0.146	0.161	0.013	0.146
Wollaita=1	-0.453 ***	0.169	-0.037	0.142
Interactions:				
Certificate*Arsi Negelle	0.325	0.211	0.936 ****	0.197
Certificate*Wondo Genet	0.254	0.219	-0.050	0.201
Certificate*Wollaita	0.628 ***	0.203	-0.047	0.166
Constant	2.542 **	1.047	0.140	0.907
Wald chi2	54.616		827.689	
Prob > chi2	0.000		0.000	
Number of observations	229		229	

Note: The table presents marginal effects from probit models based on the delta method. The reason for preferring probit models was that linear probit models did not produce valid results for these specifications. *, **, ***, **** indicate that coefficients are significant at 10, 5, 1, and 0.1% levels, respectively.

The model for emphasis on the trustworthiness of the tenant shows that young household (< 30 years old) heads were 22% less likely to set this as the highest criterion when selecting tenants.

Landlords from Arsi Negelle without a land certificate were significantly less likely to emphasize trustworthiness as tenant selection criterion while landlords from Arsi Negelle with a certificate were more likely to emphasize tenants' trustworthiness (significant at 0.01%). Arsi Negelle was an area with high tenure insecurity in the past (Holden and Yohannes 2002) and had a high demand for land certificates (Holden and Tefera 2008).

5.8. Contract choice in the land rental market

Contract choice refers to a set of land rental contract characteristics. Most commonly this has been understood as the choice between sharecropping and fixed rent contracts and where sharecropping contracts may have been with or without sharing of input costs by the tenant and the landlord. However, contract choice can also include other important contract characteristics such as the duration of contracts, which may be for a specific period of time, or may be open-ended or conditional on the performance of the tenant. Open-ended contracts continue until one of the parties pulls out of the contract for one reason or another. Another aspect of contract choice is whether the contract is oral and between the parties only, whether they have witnesses, whether the contract is written, and possibly reported to a formal authority. Such aspects of the contract may depend on the level of trust among the contract parties and on what the formal requirements such as laws and regulations are for land rental contracts. One may, based on this, distinguish between informal and formal contracts. Many countries have laws and regulations that limit formal contract choice and that may render various forms of informal contracts *de jure* illegal. Such regulations include duration restrictions, requirements to formalize and report contracts, or limits of the size of contracts, or the rent that has to be paid. The laws and/or regulations may also determine the consequences of violations of the laws and regulations.

It is not obvious how contract choice is determined in the land rental market. It may be a result of a matching process, the relative bargaining power of the parties, the extent of competition, cultural norms, trust/extent of moral hazard, tenure insecurity, monitoring and enforcement costs, the extent of legal support or the quality of informal conflict resolution mechanisms. Trust plays an important role in land rental markets and lack of trust can be an important reason for not renting out the land or only renting land to an inner circle of trusted partners such as relatives. Kinship contracts are often common in the land rental market. Below we give an overview of such contract choice issues in the three regions studied in Ethiopia.

We look at contract choice preferences based on separate responses as well as joint responses to sets of questions to tenants and landlords in our surveys in Tigray in 2006 and 2010, and in Oromia and SNNP in 2007 and 2012.

The early theoretical literature aiming to explain the widespread occurrence of sharecropping emphasized sharing of risk as an important advantage as we saw in the literature review, but many empirical studies have not been able to confirm that risk sharing is the explanation of sharecropping as the dominant land rental contract type. Capital and credit constraints have been other reasons but both of these explanations have been questioned in settings with landlords that are poorer than their tenants. The tenants should then both be more willing to take risk, assuming that risk aversion is negatively correlated with wealth, and they should be more able to advance payment for additional input costs than landlords. This should therefore favor fixed rent contracts. Table 5.8.1 provides information about land rental contracts and contract preferences of tenant households in our surveys in the three regions.

We see that sharecropping is the dominant contract type in Tigray and SNNP while fixed-rent contracts are more common in Oromia in 2012. Sharecropping is not only the most dominant but also the most preferred contract by tenants and landlords in Tigray and SNNP across time while the most preferred contract shifted from cost-sharing to fixed rent contract in Oromia from 2007 to 2012.

Tables 5.8.2, 5.8.3 and 5.8.4 cross-tabulate contract choice preferences with stated advantages of contracts in Tigray, Oromia and SNNP. Many tenant respondents stated that one of the advantages of sharecropping is that it gives more food after harvest. One may get puzzled with this statement of the tenants. A possible explanation can be that the reference point is not a fixed-rent contract but an input sharing contract where the tenant gets a lower share than in a pure output-sharing contract. Overall, in all three regions we see that many tenants also have a preference for sharecropping and give risk sharing as an important reason for this and particularly so in Tigray where weather risk is higher due to the more semi-arid climate with lower average rainfall and higher rainfall variability. This indicates that many tenants also are risk averse and prefer sharecropping to fixed rent contracts particularly in more risky environments such as in Tigray. In SNNP a stronger preference for fixed rent contracts was associated with providing incentive to produce more and providing more food after harvest.

Table 5.8.1. Land rental contracts and preferences of tenants, by region and year.

Question	Responses	Tigray		Oromia		SNNP	
		2006 (n=265)	2010 (n=111)	2007 (n=63)	2012 (n=75)	2007 (n=112)	2012 (n=97)
Which land rental arrangement do you currently apply?	Sharecropping	78.9	87.4		31.1		69.1
	Sharecropping with advance payment	4.9	7.2		0.0		3.7
	Fixed-rental contact	3.8	5.4		40.5		12.4
	Input/cost-sharing contract: Landlord pay cash inputs	5.7			5.4		3.7
	Cost-sharing where landlord advance input costs	1.9					
	Cost-sharing with equal sharing of cash inputs				2.7		3.7
	Cost-sharing where tenant advances input costs				2.7		4.9
Which land rental arrangement do you prefer?	Sharecropping	71.7	87.4	27.0	26.7	70.5	50.6
	Sharecropping with advance payment	6	7.2	0.0	1.3	0.0	6.0
	Fixed-rental contact	5.3	5.4	9.5	50.7	22.3	18.1
	Input/cost-sharing contract	11.7	0				
	Input/cost-sharing contract: Landlord pay cash inputs			0.0	2.7	0.0	6.0
	Cost-sharing where landlord advance input costs			49.2	1.3	5.4	4.8
	Cost-sharing with equal sharing of cash inputs			12.7	5.3	1.8	7.2
	Cost-sharing where tenant advances input costs			1.6	4.0	0.0	6.0

Source: Own survey data

Table 5.8.2. Land rental contract choice versus tenants' stated advantages of contracts in 2006 in Tigray

	Preferred contract				Total
	Pure share-cropping	Share-cropping with advance payment	Fixed-rent contract	Input/ cost-sharing contract	
It reduces risk (risk sharing)	59	4	0	5	68
It enables me to share input costs	0	0	0	7	7
It gives me incentive to produce more	11	6	6	15	38
It is the only available contract type	42	1	2	1	46
It gives me more food after harvest	53	3	4	3	63
I do not have to pay cash in advance	4	1	0	0	5
I can ensure optimal input use and yield	14	1	0	0	15
Total	183	16	12	31	242

Source: Own survey data

Table 5.8.3. Land rental contract choice versus tenants' stated advantages of contracts in 2007 in Oromia

Advantage of contract	Pure share-cropping	Fixed-rent contract	Input/cost sharing	Total
It reduce risk (risk sharing)	10	3	14	27
It enables me to share input cost	1	1	1	3
It gives me incentive to produce more	4	1	7	12
It is the only available contract type	0	0	2	2
It gives me more food after harvest	1	1	3	5
Other	1	0	13	14
Total	17	6	40	63

Source: Own survey data

Table 5.8.4. Land rental contract choice versus tenants' stated advantages of contracts in 2007 in SNNP

Advantage of contract	Pure share-cropping	Fixed-rent contract	Input/cost sharing	Total
It reduce risk (risk sharing)	13	2	0	15
enables me to share input cost	8	0	2	10
It gives me incentive to produce more	22	15	2	39
It is the only available contract type	1	0	0	1
It gives me more food after harvest	30	8	0	38
Other	3	0	0	3
Total	77	25	4	106

Source: Own survey data

Table 5.8.5 provides information on land rental contracts and preferences of landlord households in the three regions at two points in time. Most landlords preferred sharecropping contracts in all three regions although a larger share of the landlords also preferred fixed rent contracts in Oromia.

Relatively few landlords perceived there to be a **problem with shirking by tenants** in Tigray, however, this problem seems to have increased from 2006 to 2010 while there appears to be an opposite trend in SNNP. In Oromia there were relatively fewer landlords who believed that tenants do not shirk and this may be a reason that fixed rent contracts were more common there and were also preferred by a larger share of the landlord households. In Tigray shirking was apparently minimized primarily by selecting good tenants in the first place, that are trustworthy, are good farmers, and/or blood relatives. Eviction if performance is poor increased intensity of monitoring, increasing the share to the tenant, and sharing input costs were the most common responses to poor performance while few used threat of eviction. The high level of trust and limited use of eviction threats may contribute to explain the differences in the findings by Ghebru and Holden (2014) in the same sample in Tigray in 2006 and by Kassie and Holden (2007; 2008) in West Gojjam in Amhara region. In the latter case, eviction threats were more common and appeared to reduce inefficiency on non-kin sharecropped plots. A noticeable difference in the West Gojjam sample was that many rental contracts were between landlords and tenants living in different locations and they were therefore not so closely associated.

Table 5.8.6 provides information about the **land rental contract formalization preferences** of landlords and tenants by region and year. The 2006 sample from Tigray includes responses from land rental contract partners of our main sample households in addition to land rental market participants in our main sample. The 2006 sample from Tigray consists of close to 500 land rental market participants in 2006 and about 280 such participants in 2010. In Oromia, the sample contains 99 land market participants in 2007 and 113 in 2012 while the SNNP sample contains 207 participants in 2007 and 176 in 2012.

The majority in Tigray preferred oral rental contracts among the partners only, indicating a high level of trust among the contract partners. However, from 2006 to 2010 there is an increase in the **demand for written contracts** that are reported to the *tabia* and for contracts with witnesses. This may be a sign that the nature of the market is changing, but may also be a response to and consequence of the new land law. The new land law states that land rental contracts should be written and reported to the community administration, although this part of the law had not been enforced yet in the region at the time of the survey (Holden and Ghebru 2015).

In Oromia, we see that oral contracts with witnesses and written and reported contracts were the most preferred while in SNNP written and reported and oral contracts among the partners only were the most preferred in 2007 while fewer preferred written and reported contracts in 2012. However, we see a much more even distribution across the different types on contracts in Oromia and SNNP than in Tigray.

When we look at the explanations for these preferences, we see that there is a strong preference for keeping sharecropping contracts as oral contracts in Tigray and SNNP while many in Oromia and SNNP prefer that longer-term contracts are written. In Oromia, many also prefer fixed rent contracts to be written.

In Table 5.8.7, we have asked tenants about the duration of their land rental contracts and their preferences regarding more long-term land rental contracts. We see that the large majority of tenants in Tigray and SNNP have contracts that are more than one year, while short-term contracts have increased from 36 to 64% of the responses in Oromia from 2007 to 2012. It is possible that fixed rent contracts are more likely to be for one year or one-season only. We see that a substantial share of the contracts in Tigray are longer than for two years which is the limit according to the law when traditional technology is used. We also see that open-ended contracts are quite common there. There were significantly more open-ended contracts in SNNP than in Oromia, but in both places, the majority of the contracts were within the current legal limit (3 years for Oromia and 5 years for SNNP).

When we asked about the preferences for longer-term contracts, many tenants stated that they preferred longer-term contracts and the main reason for that was that they then could invest more on the land. However, in Oromia there appeared to be a shift to preference for short-term contracts among the tenants.

Table 5.8.5. Landlords' contract choice preferences and perceptions of the potential moral hazard problem, by region and year.

Question	Responses	Tigray		Oromia		SNNP	
		2006 (n=240)	2010 (n=135)	2007 (n=46)	2012 (n=40)	2007 (n=119)	2012 (n=87)
What type of land contract do you prefer?	Sharecropping	81.7	72.6	44.4	57.5	67.2	74.1
	Sharecropping with advance payment	5.8	23	0.0	15.0	0.0	8.2
	Fixed-rent contract	5	3.7	31.1	20.0	11.8	4.7
	Input/cost-sharing contract	2.1	0	2.2	5.0	6.7	3.5
	Advance input costs yourself	2.5	0	6.7	0.0	12.6	1.2
	Let tenant advance input costs	0	0	13.3	0.0	0.8	1.2
	Pay input costs yourself without refunding	0	0	2.2	0.0	0.0	7.1
Do you think that the tenant shirks (deliberately avoid to work hard) in sharecropping?	No	72.9	56.3	41.0	45.7	49.1	76.2
	Yes	12.1	25.2	23.1	45.7	31.6	10.7
	Some tenants do	13.3	14.8	23.1	2.9	12.3	9.5
	If I do not monitor them	0	3	10.3	0.0	6.1	3.6
	If I do not use threat of eviction	1.3	0	2.6	0.0	0.0	0.0
If Yes, what mechanisms are you using to motivate the tenant to work hard?	Eviction when performance is poor	1.3	11.1	19.6	7.5	10.9	4.6
	Increase the share to the tenant	2.5	12.6	10.9	5.0	5.0	2.3
	Increase intensity of monitoring and supervision	6.3	10.4	2.2	17.5	17.7	6.9
	Provide inputs for production	2.1	1.5	6.5	5.0	5.9	4.6
	Nothing	4.2	4.4	2.2	0.0	0.0	0.0
	Threat of eviction	1.3	2.2	0.0	2.5	1.7	0.0

Source: Own survey data

Note: The table presents %-s of total responses.

Table 5.8.6. Contract choice formalization preferences of landlords and tenants, by region and year.

Question	Responses	Tigray		Oromia		SNNP	
		2006 (n=495)	2010 (n=280)	2007 (n=99)	2012 (n=113)	2007 (n=207)	2012 (n=176)
Which type of contract do you prefer?	Oral contracts among partners only	87.3	46.8	10.6	20.7	28.3	35.4
	Oral with witnesses	5	21.4	34.0	20.7	21.2	25.2
	Written contract, not reported	1.4	0.1	16.0	29.9	13.7	17.7
	Written and reported to tabia/kebele leaders	5.7	31.4	34.0	28.7	36.3	21.8
If more than one type is preferred, explain when and why.	Long-term contracts preferred to be written	7.9	4.6	26.6	41.7	21.7	34.9
	Fixed-rent contract preferred to be written	3	11.1	24.1	16.7	11.9	9.3
	Sharecropping contracts preferred to be oral	36.4	26.4	20.3	8.3	46.2	29.5
	Prefer oral contracts with relatives	11.9	0.1	12.7	16.7	12.6	0.8
	Prefer written contracts with strangers	3.8	4.3	7.6	4.2	4.2	0.0

Source: Own survey data

Note: The table presents %-s of total responses.

Table 5.8.7. Tenants' responses regarding duration of contracts, by region and year.

Question	Responses	Tigray		Oromia		SNNP	
		2006 (n=265)	2010 (n=111)	2007 (n=63)	2012 (n=75)	2007 (n=112)	2012 (n=97)
Do you have any renting/ sharecropping contracts that are for more than one year?	No	14.0	23.4	36.0	64.4	21.7	22.6
	Yes	85.7	76.6	64.0	35.6	78.3	77.4
Duration of contracts:	1 year	7.9	27.0		60.7		24.6
	2 years	8.3	19.8		21.3		8.7
	3 years	4.5	10.8		9.8		31.9
	4 years	3.4	7.2		0.0		7.3
	5 years	3.0	2.7		4.9		4.4
	More than 5 years	5.3	6.3		1.6		7.3
	Open-ended	4.5	22.5		1.6		15.9
Do you prefer contracts that last for more than one year?	No	12.5	9.0	12.1	43.2	31.5	15.6
	Yes	86.0	91.0	87.9	56.8	68.5	84.4
If yes, why do you prefer longer-term contracts?	I can invest more in the land	66.0	47.7	44.8	31.1	38.7	46.8
	I can apply more inputs	9.1	9.0	10.3	5.4	12.3	13.0
	I do not have to search for other partners so often	11.7	25.2	27.6	16.2	17.0	15.6
If no, why do you not prefer longer-term contracts?	Only need to rent for one year	10.6	3.6	16.2	27.0	9.4	7.9
	Do not know whether I want to rent another year	3.4	9.0	13.5	12.2	17.9	10.5
If yes, what do you do to obtain longer-term contracts?	Work hard on rented land to get contract renewal	67.9	75.7	31.3	28.4	40.6	30.3
	Negotiate long-term contracts from the beginning	12.8	6.3	20.3	17.6	8.5	11.8
	Select landlords that are willing to give long-term contracts	4.9	3.6	0.0	5.4	15.1	15.8
	Identify particularly poor landlords that have weak bargaining power	0.8		3.1	0.0	1.9	9.2
	Offer fixed up-front payment				6.8	2.8	0.0

Table 5.8.7. shows that many tenants thought that the chance of contract renewal was enhanced by them working hard on the rented land. This was particularly the case in Tigray region. Whereas in Oromia it was more common to try to negotiate a longer-term contract from the beginning. We remember that tenants were more likely to be rationed in Oromia and Tigray where ox-cultivation is dominating.

5.9. Welfare indicators and land rental market participation

In Tigray Ghebru and Holden (2013) assessed the food calorie consumption and body mass index (BMI) of children of landlord, tenant and pure owner-operator households in 2006 and 2010. Their findings indicate that the enhancement of the land rental market associated with land certification was good for household calorie production and this showed up in improved BMI among children. The calorie production distribution in the sample of landlords and tenants was more favorable than that of pure owner-operators in Tigray but the distribution improved for all groups over time from 1998 to 2010. It was particularly the landlord households that improved their food availability situation over this period. A large share of these landlord households were female-headed and as a result the food access situation of female-headed households improved more than that of male-headed households. The reverse tenancy picture with poor landlords and wealthier tenants was therefore eliminated over this period when it comes to calorie availability and nutritional status of the children.

With reference to these findings in Tigray, we assess the nutritional status situation of children in our samples in Oromia and SNNP regions. We only have nutritional data from 2012 so we cannot assess the change in nutritional status from 2006 and 2012. However, we benefit from three types of nutritional indicators where one is a short-term measure of the food situation. We use the Weight-for-height z-score⁴ (WHZ) to capture the short-term health situation of children (WHO 2006). As an indicator of the past health situation of the children we use the Height-for-age z-score (HAZ). Children are considered stunted if their HAZ score is below -2. We use the HAZ measure as an indicator of severe poverty in the past. If there is a distinct reverse tenancy system in Southern Ethiopia such that landlords are substantially poorer than tenant households we expect this to show

⁴ $Z = (\text{Observed value} - \text{Median value for reference population}) / \text{Standard deviation for reference population}$

up in the nutritional status of their children. However, if the land certification has improved the tenure security situation of landowners in Southern Ethiopia as has been found in Tigray, it is possible that by 2012 we do not find any difference in the current WHZ nutritional status of children of landlord, tenant and pure owner-operator households. However, if there has been a change over recent years and landlords were worse off a few years back this may be picked up by the HAZ long-term measure of child health. We therefore inspect these measures for tenants, autarky and landlord households by region in Table 5.9.1.

Table 5.9.1. Weight-for-height and Height-for-age z-scored of children by region.

		Tenants		Pure owner-operator		Landlords	
		WHZ	HAZ	WHZ	HAZ	WHZ	HAZ
SNNP	Mean	0.227**	-1.208	0.023	-1.070	-0.158**	-1.290
	St.Error	0.126	0.131	0.103	0.094	0.125	0.180
	N	84	84	101	101	59	62
Oromia	Mean	-0.198	-1.424**	-0.246	-1.655	0.003	-1.931**
	St.Error	0.101	0.112	0.111	0.078	0.206	0.165
	N	85	85	133	134	41	41
Total	Mean	0.013	-1.316**	-0.130	-1.404	-0.092	-1.545**
	St.Error	0.082	0.086	0.078	0.063	0.112	0.130
	N	169	169	234	235	100	103

Note: WHZ=Weight-for-height z-score, HAZ=Height-for-age z-score. Source: Own survey data from 2012.

Table 5.9.1 shows that the short-term measure of nutritional status, WHZ, is significantly worse for landlords than for tenants in the SNNP region, while the long-term measure is not significantly different by tenancy status in this region. On the contrary, in Oromia region the long-term measure of nutritional status of children is significantly different with the landlords' children being worse off than the tenants' children. Overall, for the two regions we also find a significant difference for the long-term HAZ measure indicating that landlords' children are worse off than tenants' children. These findings are in line with the reverse tenancy model where landlords are poorer than tenants and we show that this has implications for child nutrition status in 2012. In Oromia region, we have indications that the children's situation in landlord households has improved from a significant worse situation in the past. In SNNP, tenants' children are relatively better off as shown by the short-term WHZ score. It is possible that this is because access to land for tenants is relatively easier in the perennial system than in the oxen-ploughing system in Oromia region. This is consistent with the finding in Section 5.3, Table 5.3.2.

The land certification program in Oromia and SNNP emphasized issuing joint certificates to husbands and wives and women's empowerment with respect to ownership and control over land. In Tigray, it has been shown that land certification strengthened the tenure security particularly of female-headed households and their bargaining power in the land rental market as landlords. Here we assess whether we see signs of a gender effect in the welfare situation of children in female-headed households and particularly that of female children. By comparing the WHZ and HAZ measures, we may be able to detect a difference in the current situation and in the situation of children in the recent past. We assess the following hypotheses:

G1) Female-headed households' children are better off in WHZ but not in HAZ (indicating a strengthening of their welfare situation and this has recently started to benefit their children)

G2) Female children's nutritional status has improved because of women's empowerment and this shows up as better WHZ for female children while the HAZ is worse relative to male children.

G3) Female children of landlord households have particularly improved their situation because the land certification has strengthened the tenure security of landlord households (many landlord households are female-headed).

We use econometric models to test these hypotheses. Table 5.9.2 presents OLS models for Weight-for-height (WHZ) and Height-for-age (HAZ) z-scores by tenancy category to assess how position in the land rental market may be correlated with the key variables of interest. We first assess hypothesis G1. We see that the children of female-headed households that are landlord or tenant households come out with significantly better (at 0.1% and 5% level of significance for tenants and landlords respectively) WHZ scores. These are 1.29 and 1.28 standard deviations higher for female-headed tenant and landlord households for the short-term WHZ measure. The HAZ score is 1.56 and 2.17 standard deviations better for female-headed tenant and landlord households. This is after we have controlled for observable resources of households. This finding may indicate that female heads put more emphasis on the food intake of their children than male-headed households do. For some reason this is not the case for female-headed autarky households. This may indicate that land rental market participation allows the female-headed households to improve the

household food security and therefore they are able to ensure a better diet for their children⁵. Male-headed households may have other motives for participation in the land rental market. The findings therefore only partially support hypothesis G1 as not only the short-term nutrition measure but also the long-term measure are better for children in female-headed households that participate in the land rental market.

Hypothesis G2 stated that female children are better off after the joint land certification. Table 5.9.2 shows that this is the case for landlord households where the short-term WHZ measure is significantly (at 1% level of significance) better (0.97 standard deviation higher) for girls than for boys while the long-term HAZ measure is significantly (at 10% level of significance) worse (0.79 standard deviation lower) for the same landlord households. This indicates a clear improvement of the nutritional status of girls relative to boys for landlord households. This finding is actually supporting hypothesis G3 which emphasized that land certification in particular is important for landlord households. The fact that the land certificate variable is also significant at 5% level and with a coefficient 0.98 standard deviations better for landlord households with land certificate than for landlord households without land certificate lends further support to this hypothesis. As far as autarky households are concerned, girls have a significantly better short-term as well as long-term nutritional status than boys (significant at 1% and 5% levels with average nutrition levels of 0.48 and 0.32 standard deviations better than for boys). For tenant household there is no significant difference between boys and girls for the WHZ and HAZ nutrition measures.

There are also some other interesting results in Table 5.9.2. Larger household size for tenants is associated with significantly (at 0.1% level of significance) lower WHZ score for children. Children in autarky households are significantly (at 0.1% and 1% level) worse off in Oromia than in SNNP for WHZ and HAZ. The tenants' children are also significantly (at 0.1% level of significance) worse off in Oromia than in SNNP. This may be related to the stronger rationing in the land rental market in Oromia than in SNNP. This points towards possible unrealized gains from improving the functioning of the land rental market in Oromia region. In addition, having many children is negatively affecting child nutrition for tenant households that typically are constrained in their access to land.

⁵ We cannot rule out that there are certain unobservable characteristics of female-headed households that participate in the land rental market that also make them give higher priority to the food intake of their children.

Table 5.9.2. Child nutrition models by tenancy category for Oromia and SNNP regions

	Weight-for-height z-score (WHZ)			Height-for-age z-score (HAZ)		
	Tenants	Autarky	Landlords	Tenants	Autarky	Landlords
	b	b	b	b	b	b
Sex of child, 1=female	-0.103	0.480 ***	0.972 ***	-0.060	0.323 **	-0.792 *
Female head dummy	1.291 *****	-0.143	1.276 **	1.563 **	0.160	2.168 ***
Polygamous hh dummy	0.978 *****	-0.272	0.469	-0.095	-0.025	0.026
Log(farm size in ha)	0.360	1.128 **	-0.525	0.390	0.307	0.039
Land certificate dummy	-0.033	-0.027	0.988 **	0.329	0.195	0.319
Migrated hh members	0.179	-0.019	0.092	-0.113	-0.014	0.168
Age of head of hh	-0.018 **	-0.010	-0.053 *****	-0.015	-0.002	0.004
Young head, < 30 years	0.281	0.159	-0.203	-0.684	-0.151	0.562
Education of head, years	0.026	-0.005	0.047	0.004	-0.013	0.010
Log(male work force/ha)	0.346	-0.245	0.320	0.303	0.070	0.293
Log(female work force/ha)	-0.332	0.259	-0.141	-0.147	-0.017	0.565 *
Household size	-0.105 *****	-0.040	0.096 *	0.004	0.004	0.134 *
Non-oxen livestock (TLU)	-0.002	0.032	-0.010	0.023 *	0.002	0.032 *
One ox hh, dummy	-0.288	0.108	0.014	-0.258	0.035	0.222
Two or more oxen, dummy	-0.056	0.154	-2.023 *****	-0.498 *	-0.120	-0.968
Oromia, dummy	-0.823 *****	-0.800 ***	-0.262	-0.240	-0.745 *****	-0.022
Constant	1.205	-0.520	0.097	0.386	-1.853 **	-6.779 ***
Prob > chi2	0.000	0.004	0.000	0.070	0.000	0.001
Log likelihood	-153.3	-279.3	-91.4	-200.3	-238.0	-113.286
R-squared	0.404	0.241	0.548	0.167	0.255	0.377
Number of observations	141	195	78	142	196	79

Note: OLS models with significance levels identified based on robust standard errors. *, **, ***, **** indicate that coefficients are significant at 10, 5, 1, and 0.1% levels, respectively. Individual controls were included but left out of the table. These controls were age in months, having BCG scar (dummy), measles vaccinated (dummy), illness last two weeks (dummies for malaria, fever, diarrhea, ARI), relation to head (dummies for own child, stepchild).

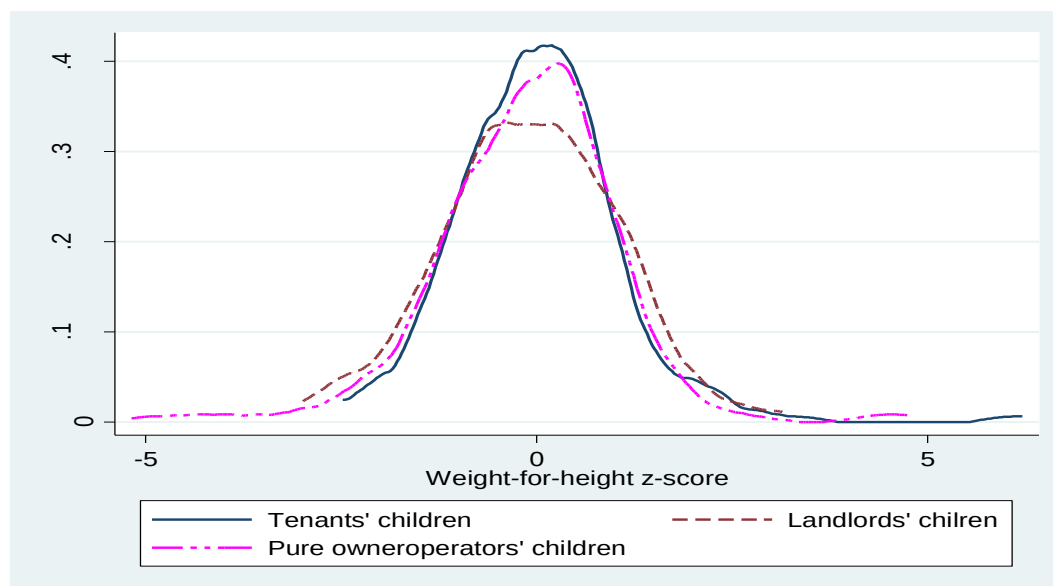


Figure 4. Weight-for-height z-score (WHZ) distribution of children by land rental market participation category.

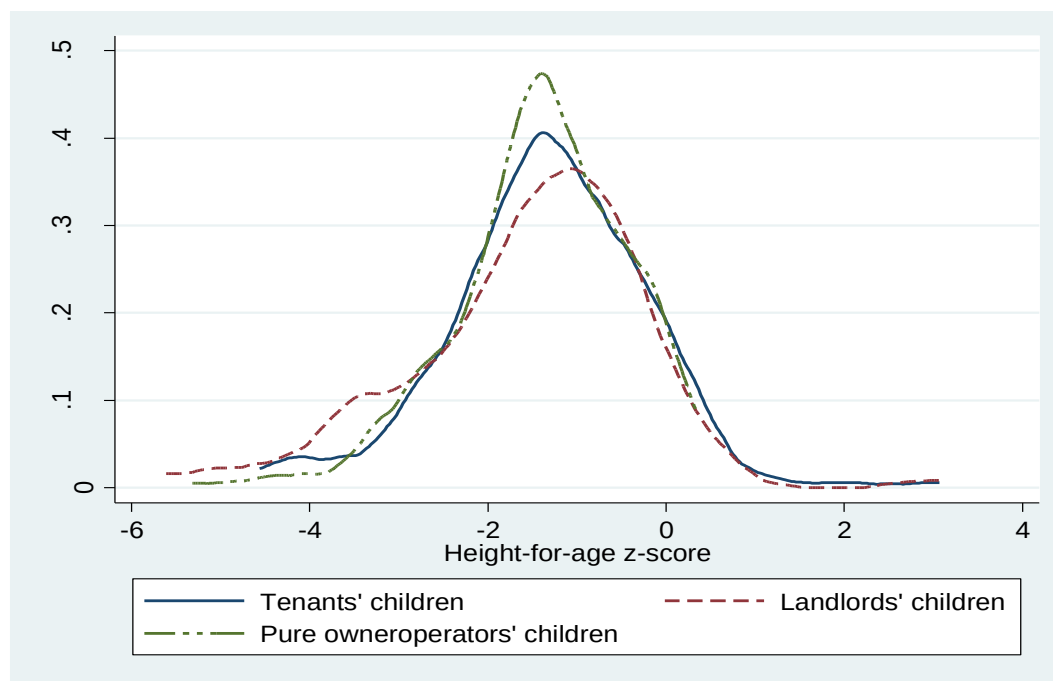


Figure 5. Height-for-age z-score (HAZ) distribution of children by land rental market participation category.

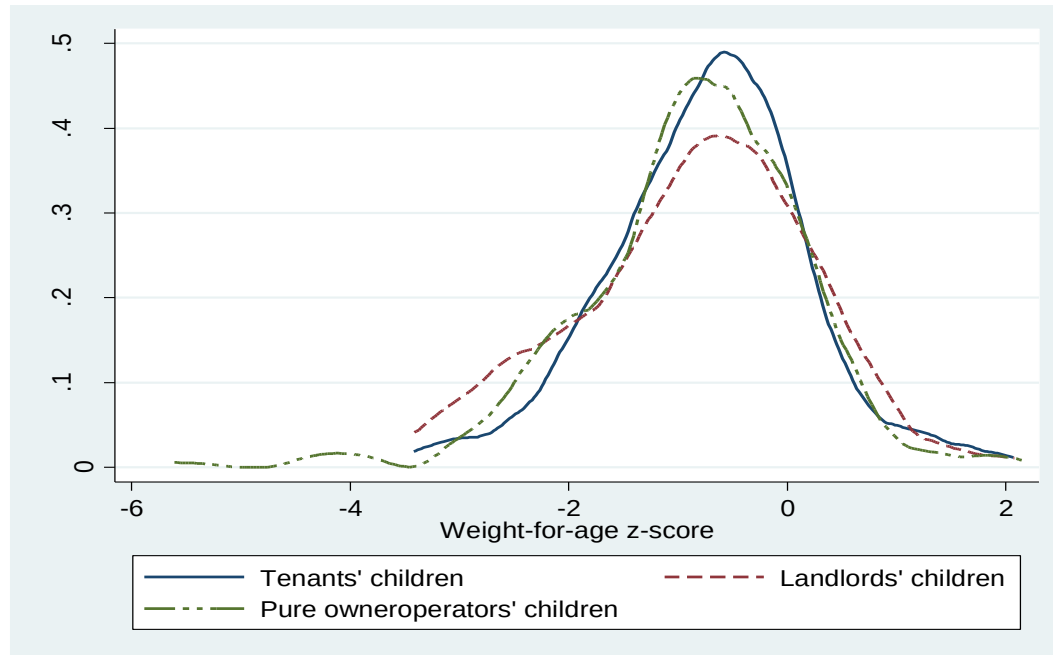


Figure 6. Weight-for-age z-score of children by land rental market participation category.

5.10. A small pilot study on youth access to communal land: a new approach

The rapidly growing number of landless youth is one of the most important challenges that Ethiopia phases (Bezu and Holden 2014b). The increasing population pressure due to rapid population growth has caused shrinking farm sized and increasing pressures on communal lands with severe degradation of the land resources including forests and grazing lands as a result. Two policy responses to this have been to invest in conservation of watersheds through community level mobilization of labor for soil and water conservation efforts and to rehabilitate degraded land by “exclosure” of such degraded lands from interference by humans and animals. The number of such exclosures has increased over time and started in the Tigray region. It is estimated that Ethiopia had 143,000 ha of exclosure in 1996 to over 3 million ha in 2014 (Lemenih and Kassa 2014). 1.54 million ha is estimated to be located in Tigray.

From 2010-11 communities in Tigray started to allocate parts of the rehabilitated area exclosures to youth groups as a new approach to provide land to landless youth. By 2015 this has become a new policy of the region. We implemented a quick informal study in a few locations in Tigray to investigate the potential and modalities of this approach to providing land to youth and how it

could be integrated with our project on using land rental markets as a pro-poor land tool. This is a short summary of our findings that are of high relevance for our development of pro-poor land tools which include land renting.

We visited Adwa district in Tigray where almost all communal lands have been transformed into enclosures. The area was estimated to be about 35,000 ha out of 43,000 ha total area in the district. The total population in the district was about 108,000. They had by 2015 allocated 1,835 ha enclosure area to 4,277 youth that were organized in groups with 10-20 members in each group. This implies that about 5-6% of the enclosure area is allocated to 4.1% of the population. If these youth groups succeed these few figures illustrate that this may be a scalable approach that can provide a livelihood for a huge number of youth in the future.

Different models were used for increasing the benefits to the youth groups from the enclosure areas by defining specific development plans for each youth group's allocated area. The youth group then had to make investments on the area according to this plan. This specific plans included enrichment with more valuable trees such as fruit trees and timber trees, introducing bee hives and bee fodder plants, and grass production for fattening of animals.

One of the challenges the youth faced was that the enclosure areas give limited income and other benefits in the first years and they therefore needed complementary income sources. The interesting finding was that a large share of those groups we visited were renting in land from farmers in the area (sharecropping) while others were construction workers. Those that had oxen were those that were able to become tenants by renting in land in the neighborhood.

One of the interesting aspects of provision of land to these groups was that allocation was conditional on performance and this was monitored regularly over the first two years before the group was allocated a joint legal document for this land. It was stated though that this was not an official land certificate.

We were informed about some attrition in some of the groups and there are a number of issues related to group size, sharing arrangements, replacement of dropped out youth, land rights and obligations that would make a comprehensive study worthwhile, and pilot experiments relevant. This also relates to their access to complementary income, capital, skills and land to can help minimize drop-out from the groups. Financial support and training may be important

complementary interventions that can facilitate e.g. investment in oxen for farming that could help improve access to land in the rental market. There are also issues of choice of production models, sharing of costs, responsibilities and benefits, and specification of rights to land and investments on the land. One may also question what is the optimal group size and area per youth member for the different production models. The successful cooperation within groups can also depend on the individual characteristics and behavior and the local bylaws that are developed to regulate their relations and this can also be an interesting area for experiments. We have therefore proposed this as an area for policy experiments in the next phase of the programme.

6. CONCLUSIONS AND POLICY IMPLICATIONS

Based on our review of relevant literature and the rich data from the three regions Tigray, Oromia and SNNP in Ethiopia we have identified some important policy lessons regarding the functioning of the land rental market and its importance for rural development and the welfare of households. The quality of land registration and certification and the degree of implementation of land law reforms related to land rental markets form important parts of this picture in rural areas where rapid population growth has contributed to increasing land pressure and scarcity. The main findings are the following and refer to the points of focus stated in the introduction:

- a) The **reverse tenancy** pattern with poor landlords and wealthier tenants dominates in all three regions covered in the study.
- b) There is **rationing on the tenant side in the land rental market** due to the **dominance of sharecropping** and the lack of or limited functioning of a market clearing price mechanism. This **rationing is strongest in the oxen-based system** where the capital requirement for tenants is larger as a pair of oxen is needed for land cultivation. Complementary skills, good reputation and trust are very important factors determining access to land for tenants. One implication of limited trust is that many prefer to rent out their land to relatives that they trust more.
- c) The immobility of land and therefore **the spatial nature of the market limits the spatial integration and competition in the market**. Fixed and variable transaction costs therefore contribute to allocative inefficiency but still landlords appear able to rent out close to the preferred amount of land given the going contractual arrangements. The exception may be distress situations when they may be forced to rent out for cash at very unfavorable

conditions. Inefficiency prevails in the market due to the **lack of a market clearing price** under the dominant contractual arrangements and information and transaction costs. The rationing also limits the extent to which the land rental market can be an important step in the ladder out of poverty. There may, however, be ways of reducing these information and transaction costs.

- d) **Access to land for youth** (young farmers with interest in farming) is constrained to their access from parents and relatives who may trust them more and who may give priority to their kin. However, it may also depend on the **ability of such young (potential) farmers to mobilize the necessary complementary inputs, especially oxen for land preparation, labor, skills and purchased inputs** that make them as productive as older tenants that they have to compete with in the market.
- e) Restrictions have been imposed on the land rental market in form **confiscation of land without compensation from those who have rented out their land for two years and migrated elsewhere**. This may, on the one hand have reduced such migration and the availability of land to households more interested in farming, or on the other hand, made such confiscated land available to young households through redistribution of this confiscated land.
- f) The other restriction that households should be **allowed to rent out only 50% of their land** has **not been enforced** but such a restriction if imposed will make poor (often female-headed) households more tenure insecure. It would also further restrict land access in the land rental market and result in less efficient land use on such land because such landlords would have problems farming this land efficiency themselves. **This restriction has limited local support** and this may be one reason it has not been enforced and the way to circumvent it has been to assume that the restriction applies only to fixed rent contracts and not to sharecropping contracts.
- g) The **law restrictions on duration of contracts that vary across regions are also not strictly enforced** and there is a **strong preference particularly among tenants for longer-term contracts**. This is particularly **understandable also given the law restriction that the tenants are responsible for the conservation of rented plots**. Such conservation investments are only profitable if land can be used for a number of years.

- h) There is a tendency towards **stronger preference for fixed-rent contracts in Oromia** but otherwise the strong preference for sharecropping contracts continues to dominate in Tigray and SNNP and is related to the risk-sharing advantage of such contracts.
- i) **Trust-based land rental contracts have typically been oral contracts among the contract partners only** and this has been the dominant contract type. The recent law **restriction that all land rental contracts should be written and reported to the community has not been enforced** and also has limited public support. In Tigray we see an increase in the demand for such written and reported contracts but the majority still prefer oral contracts without or with witnesses. In Oromia and SNNP about one third prefer written and reported contracts and the support for such contracts has gone down from 2007 to 2012. There is therefore **limited motivation for reporting such contracts** to the local land administrations especially if the contract is a sharecropping contract with trusted persons. **The implication is to have a system for voluntary reporting of contracts and/or the formalization of rental contracts must offer some benefits that provide sufficient incentives for contract partners to be willing to report the contracts. A more competitive market involving less well-known partners and longer-duration contracts is where formalization may have a potential and facilitate commercialization in agriculture.**
- j) While it has been found that land certification in Tigray has stimulated the extent of land renting, we found evidence pointing in opposite direction in Oromia and SNNP. One reason for this could be the joint certification of husbands and wives and women's empowerment and the **requirement that land renting requires the consent of the family before land can be rented out**. It is possible that wives give higher priority to food security of the family and therefore are less willing to rent out land than their husbands. We also found that **children in female-headed landlord households had better nutrition standards than children in autarky households** and this **may imply that the land rental market helps them to improve the food provision for their children. Having a land certificate was also positively associated with the weight-for-height z-score for landlords' children in our sample from Oromia and SNNP and this is consistent with the findings in Tigray.** There are also indications that the nutrition status of female children in particular has improved after the joint land certification was introduced in this sample. It

is possible that the empowerment of wives through joint land certification has contributed to land renting playing a stronger role in improving household food security.

- k) Rural population growth has contributed to shrinking farm sizes and land fragmentation with the smallest farms being unable to provide a secure and sustainable livelihood for rural households. Household food security is therefore threatened and chronic poverty a consequence unless the population pressure can be reduced through migration and provision of alternative non-farm sources of income or more productive technologies such as irrigation. We are likely to see an accelerated outmigration from the most densely populated areas as a larger share of the households pass a threshold level of land available per capita. Creation of employment opportunities for the rapidly increasing number of migrated youth is one of the biggest future challenges (Bezu and Holden 2014b).

Based on this study and a workshop with land experts from the regional land administrations we aim for a follow up of this initial study of the land rental market in Ethiopia. This will involve empirical tests of ways to enhance the efficiency the land rental market in ways that can improve access to land for land-poor youth that are motivated to become farmers. Areas for such pilot interventions will be identified in close collaboration with the regional land administrations and so is the case for the design of the pilot interventions. We therefore refrain from going into details about this in this report. We present this in a separate short report on the workshop outcomes.

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