Land and the Challenge of Sustainable Development in Ethiopia

Conference Proceedings

Edited by

Dessalegn Rahmato
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Preface

The papers collected in this volume were first presented for public discussion in June 2005 at a conference jointly organized by the Forum for Social Studies (FSS), the Ethiopian Economic Association (EEA), and the Agricultural Economics Society of Ethiopia (AESE). FSS, which was behind the initiative for the Conference, has long recognized that broad public debate on social and economic issues is not only a basic requirement of democratic practice but also provides valuable inputs to the formulation of sound and sustainable development policies and their implementation. The issue of land rights and rights to security of holdings continues to be a significant concern to the rural population, civil society, the business community and other social sectors. The lack of progress in the last three decades in addressing some of the serious impediments to secure access rights and an efficient and dynamic land system remains a serious challenge to the development effort of the country and has been responsible, at least in part, for the agrarian crises that have been a regular feature of the 1980s and 90s. Policies for securing rights of access to land have important implications for agricultural growth and the rural economy in general as well as for environmental resource management, poverty reduction, and even human rights. While the government has shown an unwillingness to be drawn into a discussion of the land question, there has been a growing demand for broad and informed public debate on the subject from civil society and many other concerned groups. This has been accompanied by an increasing, though by no means adequate, research output from academia and independent research institutions such as the ones which organized the June Conference. A look at the references at the end of each of the papers published here gives an indication of the scope and content of the research undertaken and the choice of subjects presented for public discussion.

There were two main aims behind FSS’ initiative to organize a public dialogue on the subject. The first was the need to keep the debate on the land question alive. Keeping the debate going serves many purposes, of which the following two are important from the standpoint of civil society: a) it serves as a tool of agrarian advocacy. In our circumstances, there are very few opportunities available to
civil society to undertake advocacy work in the rural areas, and thus, sustaining the debate offers an opening and a chance for weighing the options. b) it provides a useful educational platform in which knowledge and expertise relevant for policy and social reform are exchanged and made available to decision makers and the public at large. In sharp contrast to the government's effort to close the debate, a small but growing number of civil society organizations are keen to broaden the debate, seeing the land issue not only as an economic issue but also as an important rights issue. This is a welcome development because, in this country, there has been very little advocacy work done on agrarian justice, and mobilizing peasants to claim their rights and voice their grievances is unheard of. Moreover, not only is the land issue a cross-cutting issue bearing on a wide range of development and policy problems, as noted above, but in a predominantly agrarian society such as Ethiopia, land is a critical asset and any discussion of socio-economic development will not be complete without a discussion of the nature and dynamics of the land system.

On the other hand, it was becoming increasingly apparent that the quality of the existing debate is quite unsatisfactory and that the issues often presented for public dialogue or selected for research purposes are narrowly framed. Much of the debate reflects a singular concern over the subject of tenure regimes leading to a polarized argument around the issue of state versus private ownership. The government and its supporters are adamant that there is no alternative to state ownership, while some of its critics are equally convinced that private ownership is the best option available. In the process, both protagonists and opponents have ignored a wide range of subjects that are central to the land question and have more significance both for advocacy work and the development effort. This single-issue focus and uncompromising stand has not served any useful purpose; on the contrary, it has helped to impoverish the debate. It was therefore felt that there is a need to try to shift the focus and scope of the debate if civil society and the public at large are to benefit by it. This was the second aim of the initiative behind the Conference.

The papers in this volume do not cover the full range of issues pertinent to the debate on the land question; they are the result of
research findings on a limited number of selected subjects. The volume is not meant to be taken as a comprehensive work setting a new standard for the debate, but is made available to the reading public because the works are based on current research and some of them cover subjects that tend to be neglected. There are on the other hand glaring omissions: readers will not fail to notice that there is no discussion of the recent initiative of the government to address the problems of tenure insecurity, namely, land certification and registration. Be that as it may, and despite the limitations, we believe the volume will be useful to civil society organizations, researchers, graduate students and the donor community, and will contribute to the extension and improvement of the existing debate.

Dessalegn Rahmato
Part I

Access to Land and Agrarian Class Differentiation
From Heterogeneity to Homogeneity: Agrarian Class Structure in Ethiopia since the 1950s

Dessalegn Rahmato

Introduction

Many have argued that the land system that evolved after the Derg's radical reforms and that is still in place in the main today has a number of fundamental deficiencies. These are:

a) it promotes insecurity of tenure because it allows, among other things, periodic redistribution (or at least the threat of redistribution hangs over many peasants);

b) it is inefficient because it constrains land transactions and has inhibited the emergence of a dynamic land market;

c) it promotes fragmentation of land and growing pressure on land resources because it discourages rural people from leaving their farms for other employment opportunities;

d) it inhibits dynamic differentiation within the peasantry and the emergence of an enterprising class; and

e) it gives the state immense power over the farming population because land is state property.

Critics have also noted that the existing policy does not encourage the modernization of the land system (Dessalegn 1994; Bruce, Hoben and Dessalegn 1994; Tekie 2000a,b; EEA 2002).

This paper is an attempt to argue, in broad terms, that the social homogeneity in rural Ethiopia today, which is in large measure a consequence of the land system, is an inhibiting factor for agrarian development. The underlying assumption behind the present land and agricultural policy is that agrarian transformation will be achieved through the instrumentality of the state but the experiences of the last fifty years and of other countries which have attempted this approach show that this has been very unsuccessful. On the contrary, the historical record in those countries where agrarian
transformation was successfully undertaken indicates that the spearhead of modernization and development have been enterprising rural classes. It is my contention that the existing land system has closed all avenues for the emergence of dynamic social forces in the countryside capable of modernizing the productive process and of producing a market surplus on a sustainable basis. The conditions for market-oriented rural classes were favourable during the last decade of the Imperial regime but the incipient classes that were emerging at the time were subsequently destroyed by the Derg (see Essay 2 in Dessalegn forthcoming).

**Heterogeneity: From the 1950s to the Early 70s**

The structure of land ownership during the imperial period was quite complicated. There were on the one hand small-scale owner-cultivators, and on the other large landholders who in many instances obtained their possessions through political means. Such landholders were members of the nobility and the local gentry. The nobility were absentee landlords while the gentry resided close to their property. Furthermore, there was what was known as the *rist* system of tenure in the north of the county. This was a form of customary rights held by a corporate community or descent group in which individuals had only use rights to their allotments. Moreover, the state itself was a landlord and had extensive land possessions in many parts of the country. Both the nobility and gentry on the one hand, and, to some extent, the government on the other, had their land worked by tenant farmers who had to give up from one-third to two-thirds of their harvest in the form of rent. Tenancy was widespread in the country, and the available evidence indicates that more than 50 percent of peasant households were tenants. From the late 1960s onwards, large-scale, mechanized farms began to emerge in the southern and eastern parts of the country. Commercial agriculture attracted considerable investment, but while a good deal of this investment was made by the state, the large as well as the small “yeoman” investors were also an important driving force.

Agriculture is a lonely occupation in this country, because, unlike industry where the final output is the combined product of the management, the technical expert and the laborer, the peasant is his/her own manager, technician and laborer, and responsible for the
totality of the farm product and for marketing it too. This is obviously a consequence in large measure of the existing level of farm technology and the limited nature of the division of labor. The typical Ethiopian peasant farm is a family operation, and while it relies on the division of labor within the family, efficiency depends on combining the whole operation and putting it under one person or family rather than on distributing it among many persons. In this circumstance, other social groups that may exist are superfluous to the production process (we may leave out the rural artisan who plays a marginal role in peasant production).

Agrarian social structure here takes on a distinct meaning. It relates first of all to the social classes “surrounding” the peasantry, all of which played no part in the production process but placed demands and imposed obligations on it. In the Imperial regime, both the landed nobility and the local gentry were such classes. Wolf’s point that peasants are defined in terms of the field of power that surrounds them may be understood in this sense. The only class that may be said to have stood “parallel” to the peasant at this time was the commercial farmer who, like the peasant, was engaged in agricultural production. This incipient class appeared briefly in the last quarter of the regime but was eliminated along with the landed classes following the radical reforms of the Derg. Secondly, the relationship between the peasantry and the classes that surrounded it is one centered on the expropriation of the rural surplus. The rural reforms of the Derg radically restructured rural society leaving the peasant as the only class in it, a change that remains true to this day. In brief, the main point is that all through the period under discussion, the agrarian system remained predominantly pre-capitalist, and hence the concept of social structure we have used here, particularly during the Imperial regime, has as its reference point the peasant and peasant surplus. In what follows we shall discuss the class structure during Haile Selassie’s reign first and then examine the effects of social restructuring following the Revolution and at present.

We have already noted that the dominant classes under the Imperial system were the landed nobility and local gentry. The former were typically absentee landlords controlling huge tracts of land along with innumerable tenant farmers predominantly in the southern
provinces. It would not be an exaggeration to say that they owed their relative opulence and privileged status in large measure to the income they derived from their tenancies and to a limited extent from their urban real estate. The surplus from the tenant cultivator was quite a substantial income even for the lowly member of the class: tenancy rents frequently were a proportion of the harvest and ranged from one-third to as high as two-thirds. As was noted earlier, there was stiff opposition from the landed interests in the 1960s and early 70s to any proposal to change the share tenancy system (which was the main form of tenancy at the time) into one with fixed rents and to introduce rent control. The lands of the nobility were often managed by stewards but these were scattered in many distant localities and thus neither the landlords nor the stewards had effective input in the production process. Indeed, the landlords rarely visited their possessions and were chiefly interested in the regular flow of the rent from their tenants without bothering too much what the latter produced and how they produced it. Until the last quarter of Imperial rule, few members of the nobility were willing to invest in new enterprises (such as mechanized farms), new ventures or even new crops. In fact, the evidence shows that the nobility in general showed little concern, historically as well as in more modern times, for economic entrepreneurship or technological progress. They were mostly eager to skim off as much of the peasant surplus as quickly as possible, a behavior that may be explained in part by the fact that many of them were not secure in their holdings which they owed to the benefice of office or Imperial land grants which could be taken away at any time. Similarly, their tenants were not keen on new farm techniques because improved production would mean increased levels of rent for the landlord. Share tenancy thus had the added disadvantage of discouraging progress in agricultural production and farm technology.

The local gentry, the second important landed class in the agrarian economy, were different in quite a few respects. I have discussed the characteristics of this class elsewhere and I shall merely add a few points here. Made up for the most part of a diverse mix of local notables, whose possessions were often much less extensive than the nobility, they had closer contact with their tenants and some input in the production process. In sharp contrast to the nobility, local gentry took a more active interest in the operation of their holdings and
were quite familiar with farming conditions and the economy of the locality in question. Moreover, some of them took the initiative to invest in farm improvements such as, for example, small-scale irrigation schemes, land rehabilitation measures, and modern cattle ranching methods. They were more open to new technology if such technology was seen to be economically beneficial to them. Many local notables in the southwest of the country were quick to turn their land into mechanized farms in the latter half of the 1960s when such enterprises were found to be profitable. At the same time, because of their relative proximity to their possessions and knowledge of local conditions, they were liable to be much more exacting and more exploitive of their tenant farmers.

Both classes were an integral part of the power structure of the Imperial regime, serving as important officials in the administrative apparatus from center to periphery. The old administrative structure was cumbersome and bureaucratic, and the twin purpose for which it was originally established, namely maintaining law and order and tax collection, remained important though in modern form all through the life of the regime. It was from the latter part of the 1950s that the apparatus began to shoulder responsibilities for service delivery. The country was divided for administrative purposes into provinces, each made up of awrajas (sub-provinces), woredas (district) and mikitil woredas (sub-district); this last unit was abolished in 1973. Each unit was administered by a governor appointed by the emperor, except in the case of two provinces that had special status. I have argued in the essay noted above that governors and senior officials in the awraja and below, many of whom carried feudal titles corresponding to their rank in the administration, constituted the local gentry. On the other hand, the post of provincial governor was in many instances occupied by the landed nobility. In contrast, senior offices in the central government were filled by what Levine and others have described as the “modern educated elite”, or what Bahru calls the “nobility of service” as opposed to the nobility of birth or hereditary aristocracy. The latter did occupy some ministerial and ambassadorial posts, had strong representation in the Senate, the lower house of Parliament, and served as the Emperor’s advisors in the Crown Council. It may appear from this that the nobility were marginalized at the center where power was concentrated but I concur with Bahru’s argument that the distribution of senior posts in
the central government “should not suggest ... that the hereditary aristocracy had been consigned to complete political oblivion”. On the contrary, various aristocratic personalities and members of the royal family together did exercise considerable influence over the Emperor and the country’s politics (1991: 206; see 201-206). According to my informant noted above, it was prominent figures from the nobility in the Senate who were instrumental in convincing the Emperor to abort the tenancy reform bill in Parliament discussed earlier.

On the other hand, from the standpoint of the lowly peasant, the relative power position of the landed nobility and the so-called modern educated elite was hardly significant. First, the power of the nobility vis-à-vis the peasant was still immense despite Haile Selassie’s land tax reforms and the abolition of the gult system. Powerful lords of the land continued to expropriate peasants’ property at will and to evict tenants arbitrarily even on the eve of the Revolution. Secondly, the educated elite was no less predatory than its hereditary competitor. The term “educated elite” actually hides more than it reveals: it is a “technicist” concept defining a social group on the basis of formal schooling and bureaucratic aspirations rather than property ownership or political ideology. Over the years, this group took on many of the trappings of the landed nobility and was the beneficiary of large tracts of land through imperial grants; the numerous tenants on its estates were just as severely exploited as those of other landlords.

We now turn to the other rural social elements that were part of the agrarian system, especially those that came to play a fairly significant role in the last years of the 1960s and the beginning of the 1970s. We have discussed the condition of the peasantry in this essay and the others that have preceded it, and there is very little to add on this aspect here. Of particular interest were two emergent social groups (or classes-in-formation) that were economically active at this time. One was the mechanized farmer and the other what I wish to call the Ethiopian “yeoman”. There is relatively more information about the first than the second, but both made a fleeting appearance round about the same time (though the genesis of the latter goes a long way back), only to disappear under the hammer of
radical reforms and agrarian socialization in the second half of the 1970s^3.

Mechanized farmers were a disparate mix of people from many walks of life: they were businessmen, urban professionals, civil servants, local gentry and, later, members of the landed nobility. What drove this group was the promise of quick profits and enrichment that mechanized farming and the production of export crops appeared to hold at the time. I have discussed commercial agriculture in great detail in the essay noted above and I shall only offer a few summary points here. These were favorable times for mechanized farming. Government development policy placed strong emphasis on agricultural mechanization, offering tax and financial incentives to those who wished to invest on such enterprises. The government itself was the first to embark on the venture, and by the end of the 1960s it was the largest commercial farmer. Many of the major donor agencies were, at least initially, quite enthusiastic about the prospects of mechanization both as a source of foreign earnings as well as a catalyst for the modernization of agriculture. The Stanford Research Institute commissioned by USAID to study Ethiopia's agricultural economy and its prospects in the late 60s recommended the expansion of commercial agriculture and greater investment in agro-industries. There was strong demand for pulses (especially horse and haricot beans) and sesame seed from the international market at the end of the 1960s and early 70s, and world prices were buoyant as a result. The combination of a favorable policy environment and a robust export market provided good justification for enterprising landlords, small and large alike, to turn to mechanization and to evict their tenants in large numbers for that purpose. In some cases, men (and a few women) who lived off the rent from peasants or who did not have any farming experience became commercial farmers almost overnight. By the beginning of the 70s, mechanization was coming under critical scrutiny, and the enthusiasm of the earlier years was beginning to be replaced with disaffection. The World Bank, which had been a strong advocate of commercial agriculture in the 1960s, became concerned about the inefficiencies of many of the enterprises and saw instead considerable potential in peasant agriculture by the end of the decade. Insisting that land reform was essential for a rapid increase
in agricultural productivity, it recommended that policy makers provide strong support to the peasant sector (1973, Vol. I).

There was no love lost between the peasant and the large modern farmer. To the humble peasant such farmers were “outsiders”, and represented a threat and unfair competition, privileged by the state and the dominant classes. Wherever the large farmer appeared there were evictions from the land, or the threat of evictions, or, as in the case of the pastoralist groups in the Awash Valley, the expropriation of their grazing land and water sources. The mere presence of a mechanized farm in a locality was a cause of considerable insecurity to the surrounding peasantry because many believed that the farm would eventually displace them from their land by physical expansion or by setting an example that would persuade their own landlords to turn to mechanization. To many a modern farmer, the peasant farm was an antiquated enterprise and the sooner it was replaced with mechanization the better the chances for the transformation of the country’s agricultural economy. Indeed, to most such farmers, and the majority of the urban elite as well, modernization of agriculture was unthinkable without high capital equipment and large-scale farm operations.

What I have called “yeomen” were farmers of peasant background who were enterprising enough to pursue market-based agriculture often using the ox-drawn plough. They were frequently owner-cultivators, sometimes renting in additional land for such pursuits; occasionally they were tenants who managed to get access to sufficient land to undertake farming for the market. A good percentage of such farmers operated land measuring below twenty hectares, but the majority managed from five to ten. In all cases, they were a product of the differentiation of the peasantry in which those who were fortunate enough to be better endowed were willing to try ventures outside subsistence farming. The spread of commercial agriculture in the 1960s opened up considerable opportunities for these farmers. In the Setit Humera and Rift Valley areas, commercial agriculture was undertaken not only with tractors and modern machinery but also with the ox-drawn plough, the latter by enterprising small farmers who were eager to take advantage of the market opportunities that was opened up. On occasions, a number of these farmers here were able to rent tractors on a group
basis for land clearing and ploughing purposes. In order to get access to institutional credit, these small farmers were organized into cooperatives, and a few of the cooperatives were able to get loans from the Agriculture and Industrial Bank, the main institution responsible for credit services to the agricultural sector. According to available data, ox-plough farmers operated some 42 percent of the land under cultivation in the Humera area at the time. While a small percentage of “yeomen” farmers, both here and elsewhere, operated their farms by themselves with family support, many employed hired laborers especially during land preparation, weeding and harvesting.

Another enterprising group that may be included in the “yeomanry”, though with slightly different endowments, were small farmers who took up the opportunities opened up by contract farming and outgrowing in the Awash Valley that was attracting huge investment for mechanized agriculture and agro-industries at this time. The farmers in question were small cultivators from the adjoining highlands that migrated to the Valley, rented irrigated land and produced crops (cotton and sugar, for the most part but also maize, fruit and wheat) that they sold to the large plantations and agro-industries located there. Data from the Awash Valley Authority shows that contract farmers and out-growers cultivated nearly one-third of the irrigated land in the area. Harbeson (1975, in Dessalegn forthcoming) suggests that the total population of contract farmers and out-growers in the Valley by the beginning of the 1970s may have reached some 20,000. It is interesting to note that the verdict of most foreign observers and donor agencies in the country was that the Valley was being developed rapidly and intensely by the “most economically advanced agricultural system to be introduced in the country” (Harbeson), and small farmers from the highlands were an important part of the force that was driving this development.

Clearly these two social groups, the modern farmer and the enterprising “yeoman” were a new and dynamic force in the agrarian economy of the country. As I have argued elsewhere, of the two, the latter held the greater potential and represented the seeds of agrarian development with much less cost to the nation. The peasant turned market-oriented farmer would have managed the land under his control with greater care, would have been more environment friendly, and would have had better rapport with the peasant
community in which he may even still be living than the urban-based mechanized farmer. Agrarian change spearheaded by small farmers of the kind that were beginning to emerge at this time would have involved much less peasant evictions, less environmental damage, and less class inequalities. Moreover, such change would have been more acceptable to the rural population than the options provided by mechanization. The small farms operated by the new farmers were not in all respects as efficient as the mechanized ones, though in some areas and in a few crops they were quite competitive; nevertheless, the reason was not due to the inherent inferiority of small operations but because of constraints arising from the existing land tenure system, and policy favors and greater incentives to larger operations.

To round off the discussion, I should say a few words about agricultural wage labor during the Imperial period. We may start by noting that the agricultural proletariat, properly so called, was hardly visible at this time (and virtually disappeared subsequently, in the post-Revolution period). Despite the growing investment in capitalist farming and agro-industries, and despite considerable landlessness and unemployment in the rural areas, the rural proletariat - that is, the class of people dependent for their livelihood on agricultural wage labor - virtually did not exist. The one area where large numbers of long-term farm laborers were needed was in the plantations and the agro-industries in the Awash Valley, and Harbeson has estimated that in the early 70s about 75,000 people benefited from seasonal work while some 50,000 were employed as permanent labor there. This latter figure must be taken with caution as it includes managerial, technical and other white-collar workers as well. Nevertheless, for all practical purposes that was the extent of the agricultural proletariat in the country.

On the other hand, there was a large population of highland peasants that every year flocked to the large mechanized farms and agro-industrial enterprises in the Awash Valley, Setit Humera, the Rift Valley and other locations in search of seasonal employment. If we add to this the thousands of poor peasants that travelled to the coffee growing areas to looking for work during the harvest season, the number of seasonal workers could add up to a quarter of a million annually. The work in question was for a month or two, and
all but a few returned to their home areas once it was over, expecting to return a year later for a similar stint. Sometimes some peasants stayed longer with their seasonal jobs, and occasionally a few might settle there because they had found a chance to get access to farmland. Whatever the case, few peasants were willing to remain as agricultural laborers longer than necessary, and many returned to their homes as soon as they thought they had earned enough. Several reasons may be offered to explain why the rise of the rural proletariat was thwarted. One is the strength of the pre-capitalist agrarian ethos holding peasants to the land. Landlessness caused hardship on individuals and families but it was often considered a temporary misfortune and that in time there would be land available for farming in one form or another (inheritance, endowment, tenancy, borrowing, etc.). On the other hand, agricultural wage labor was insecure for all but the few with skills in demand: the capitalist sector was too undeveloped to be an attractive source of income and to entice peasants out of the farming. Another is that there was no compelling pressure for cash income for peasant households above and beyond what was needed to meet their annual tax obligations; hence the urge for wage employment was not overwhelming. One is reminded here of the draconian measures employed by colonial authorities in Africa to force peasants to seek employment in white-owned farms or the modern sector. No such compulsion was attempted by Ethiopian authorities.

**Homogeneity: The Derg Period and After**

The class structure of rural Ethiopia was profoundly altered by the land reform of 1975 and by subsequent legislations and radical programs pursued by the Derg. The outcome of these measures was the complete expropriation of the estates of the landed classes, the nationalization of landed property, the transformation of all rights of holdings of peasant cultivators into use rights, and the abolition of private ownership in land. The immediate impact of agrarian change was to remove all classes from the countryside, except the laboring peasant, and to create a homogenous social structure consisting only of a mass of poverty-stricken micro-holders. This structure is still with us today. At one stroke, land reform eliminated the power and privilege of the landed classes along with some members of these classes themselves. Through summary executions, assassinations,
imprisonment, and involuntary exile, the Derg purged the country of landlordism and swept away an agrarian system built over centuries on the bleeding backs of peasants and at immense social, political and environmental cost to the country. I have discussed the unsuccessful resistance of some landed elements to the Derg’s reforms elsewhere (Essay 4 in Dessalegn forthcoming), but by and large, the landed classes, particularly the nobility, the most feared class at the time, were eliminated without posing any serious threat to the new authorities. It is my opinion that the complete and irreversible defeat of landlordism was the greatest achievement of the military dictatorship.

Both emergent classes, the commercial farmer and the “yeoman”, were also victims of the radical reforms of the Derg in the 1970s. This was perhaps one of the worst legacies of the Derg. All mechanized farms were confiscated by the new government, of which some were distributed to the surrounding peasantry but most, particularly the larger ones, were turned into state farms. Land reform destroyed the inchoate “yeomanry” reducing the farmers to the level of small peasants with little opportunity for employing their enterprising skills. Periodic redistribution and the ban on the renting of land and the hiring of labor, on the one hand, and, on the other, grain requisitioning, forced villagization and cooperativization, which were in force all through the Derg period but which have now been abandoned, ensured that class differentiation emerging from within the peasantry would be a thing of the past.

At present, as a result of pervasive tenure insecurity and a host of damaging rural policies pursued by both the Derg and the present government, the overwhelming majority of the peasant population is sunk in grinding poverty. As I have argued elsewhere, the rural economy has undergone a shift towards what I have called micro-agriculture in the last three decades (Dessalegn forthcoming). Today the peasant farm is growing smaller, producing less, and increasingly losing its fertility. The average household has fewer farm assets and is much more vulnerable. Matters have been made worse by high rates of population growth and severe demographic pressure on the land leading to what one might call the “saturation of rural space”.

Since the policy shift initiated under the present government in the mid-1990s, large-scale commercial agriculture is attempting to make a comeback, however, conditions today are much more difficult, and world commodity markets less open to Third World countries than they were four decades ago. What is more, the agrarian system that has evolved since the Revolution, under the Derg and the present regime, has stifled the initiative and resourcefulness of peasants in general and the enterprising elements among them in particular. Under these circumstances, the chances for dynamic elements emerging from within the peasantry to be an active force in the modernization of the agrarian system are few and getting fewer. In other words, social uniformity and the suppression of rural class differentiation continues to rob the rural economy an important force that I believe would have played a critical role in rural transformation.

There are two forms of rural differentiation that are pertinent here. The first may be described as income or asset differentiation, which consists of unequal status based on differences in income, assets and savings. In many instances this is basically nothing more than “wealth ranking”. The household that owns a few more cattle, or is endowed with a little more land or labor, brings home a bigger harvest, and receives a little more annual income than the neighboring household, all due to fortuitous circumstances, is considered better-off or even rich. On these criteria, one may distinguish between the poor and non-poor, or identify gradations of inequality in the form of the poor, the middle and the rich peasant. Such gradations are to be found in most rural communities. Landlessness is a growing problem and the landless must be included in the category of the poor. One of the original goals of the land reform was to solve the problem of landlessness, and the current government continues to argue in favor of state ownership of land because it believes this will address the problem. However, landlessness refuses to disappear.

The debate in this country on peasant differentiation (including my own work) has focused largely on asset differentiation, but in terms of the dynamics of agrarian change we have been discussing in this essay, such differentiation is not significant. Class differentiation on the other hand, which arises from differences in production
techniques, such as for example the use of better technology, the hiring of labor, and production for the market, is of critical importance. Class differentiation often subsumes economic differentiation but is qualitatively different from it. Both the Derg and post-Derg periods were either not stable enough or have had a short-life span for significant class differentiation to emerge. In the 1980s, the astute observer could discern the makings of a new rural power elite: the privileged peasant embraced within the Derg’s Leninist party framework and acting as the leadership of the mass organizations that were formed in the countryside. But the process of formation was cut short when the military government collapsed not long after. At present growing poverty and destitution, pervasive death and hunger, and the frequent occurrence of mass starvation has eroded the chances for any form of differentiation to take its normal course in the rural areas.

I do not agree with the Neo-Marxist argument that rural class differentiation in Africa is necessarily evil. That argument is based on a superficial understanding of the reality of rural livelihoods, especially, as McCann has noted, of the day-to-day and season-to-season adjustments of peasants to economic, environmental and political constraints. It is based on a tendentious reading of the facts, and African peasancies have been used as a proxy for a criticism of world capitalism or of the development of capitalist agriculture. Robert Brenner (1985), in his otherwise stimulating analysis of agrarian class structure pays scant attention to the differentiation of the English peasantry, the rise of the yeomanry and capitalist tenant farmers, for which he was justifiably criticized. In the same work, Croot and Parker show that the key difference between England and France in the pre-modern period, and the reason why agrarian development took place in the former much earlier than in the latter was that differentiation within the peasantry in England gave rise to capitalist-oriented farmers (the yeomen and tenant farmers), while in France the absence of such differentiation, and the depression of the peasantry “into a uniform, poverty-stricken mass whose holdings grew ever smaller” contributed to agricultural stagnation (p.86). It is not far fetched to say that the condition of the French peasantry at the time is quite similar in this respect to that of Ethiopian peasants today.
I should note here that peasants themselves do not disapprove of social differentiation and inequality, and this is expressed in various forms in popular culture. In parts of Wello where I did my fieldwork, peasants often say in response to questions about inequality: “look at our hands, are our fingers equal?” Inequality arising from specialization, innate ability or honest effort is considered natural. This form of inequality does not carry with it the notion of unequal power, of domination and subordination.

Notes

1. For an extended discussion of the Imperial land system, see Dessalegn 1984 and the references in it.

2. For both groups see references in Dessalegn forthcoming. The discussion that follows is also based on same sources.

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Rural Women’s Access to Land in Ethiopia

Yigremew Adal

Introduction

In Rural Ethiopia women constitute almost half of the population. Their contribution to the country’s agriculture is significant. The latest agricultural census results (Central Agricultural Census Commission, 2003), show that out of the estimated 54,548,079 total population in agricultural households, 27,014,361 (49.5%) are women. Among those members of the agricultural households who were engaged in economic/productive activities women constitute almost half (49.6%) of the total population. Despite this significant contribution to the economy and social development, women do not enjoy the fruits of development equally as their male counterparts.

Recently, there has been a growing concern about women’s conditions in the development process. Important government development policies and strategies have acknowledged women’s disadvantage and some measures have been initiated to support them. National Policy of Ethiopian Women (1993), Development Social Welfare Policy (1996), Food Security Strategy (2002), and the Ethiopian Women’s Development Fund (2001) put emphasis on advancing women’s causes. The 1995 Federal Constitution provides that women have equal rights with men. The Ethiopian Sustainable Development and Poverty Reduction Program/SDPRP (2002) takes gender as a cross-cutting issue. It underscores that “inclusion of gender in any effort to alleviate poverty is non-negotiable”.

Still, women in general and female-headed households in particular are identified as disadvantaged. Studies and government policy documents (for instance, ESDPRP 2002; Food Security Strategy 2002) identify women in general and female-headed households in particular as belonging to the most vulnerable groups of the society. ESDPRP shows that for the 1999/00 survey year, poverty index (in %) for national female-headed households was 43. It was indicated that in terms of determinants of poverty in rural areas, female-headed households face 8.9% higher probability of being poor as compared
to male-headed households. There is also a trend that female headship is increasing. The ESDPRP document indicates that female-headed households constitute 26% of the total households.

The food security situation assessment also shows the same trend (Food Security Strategy 2002). Food insecurity is taken as one of the defining features of rural poverty. Both chronic and transitory problems of food insecurity are widespread and severe in Ethiopia. The incidence of food poverty was found high, estimated at 50% of the population (52% rural and 37% urban). The gender dimension of food insecurity is again critical in Ethiopia. Female-headed households are identified as belonging to those groups of households with chronic food insecurity. The National Coalition for Food Security (2003) notes the significant proportion of the 5 million most chronically food insecure people in the country are women and specifically female-headed households. The Coalition also cites a destitution study in the northern highlands of the country that found 35% of those destitute households were female-headed ones. This shows over-representation of female-headed households among people living in severe poverty situation.

Among those causes of rural women’s poverty is their inadequate access to resources and to rural land in particular. In such agrarian and subsistence economy, access to land is considered as an important element of such development programs as ESDPRP. Here again, important government documents note the problem and suggest some measures.

The 1995 Federal Constitution provides that women should have equal rights with men with respect to use, transfer, administration and control of land. It also provides that women shall enjoy equal treatment in the inheritance of property. In addition, women’s access to resources has also been provided in some legislation. The Federal Rural Land Administration Law (1997) has provisions regarding women’s equal access to such critical resource. It states that the land administration law of a Region shall confirm the equal rights of women in response of the use, administration and control of land as well as in respect of transferring and bequeathing holding rights (Part Two, Art. 5 (4)). A land administration law enacted by each Regional Council shall (Part Two, Art.6) ensure free assignment of
holding rights ..., without differentiation of the sexes... (Sub-Art. 1), and lay down a system based on transparency, fairness as well as the participation of peasants, especially of women, for purposes of assigning holding rights and carrying out distribution of holdings (sub-Art. 10).

This chapter aims to assess the situation of rural women’s access to land. It is based on a review of literature and the author’s experiences. It highlights mechanisms of access to land (both the theory and the Ethiopian experience), presents a brief review of the situation of rural women’s access to land, and raises some important areas of policy and research on the issue.

Significance and Mechanisms of Access to Land – A Theoretical Perspective

Land is considered as the primary means for generating the livelihood for most of the poor living in rural areas. It is generally argued that access to land will affect not only productive outcomes but also the ability of the poor to access credits, make investments, and benefit from the law in general (WBI 2003).

According to the WBI (2003), the way in which access to land is determined and secured determines:

a) a household’s ability to produce its subsistence and generate market surplus;

b) its socio-economic status;

c) its incentive to exert non-observable efforts, make investments, use resources sustainably; and

d) its ability to self-insure and/or access financial markets.

It is also argued that among the situations that create and perpetuate rural poverty are ill-defined property rights or unfair enforcement of rights to agricultural land and other natural resources. The right to adequate land and water is a key element in reducing rural poverty (Khan 2000; IFAD 2001). Empirical studies also indicate that owner-occupied farming is an important source of livelihood for rural people, especially the poor. The idea is that for the rural poor, secure
access to land is not just an issue of farming but also asset formation. It is found that poverty incidence rises as the amount of land owned or operated by poor rural households declines. The poor who operate land can benefit a lot: they can combine it with labor, skills and other inputs, eating or selling the product and reaping a higher share of net income (IFAD 2001).

Maxwell and Weib (1998, 1) argue that in any rural and agrarian economy, access to and rights in land and natural resources are central to an analysis of livelihood strategies and livelihood security. Meimed-Sanjak and Lastaria-Cornheil (1988) also stated that understanding the linkages between access to land (size and ownership structures) and access to other sources of income and capital is an essential element in the policy dialogue about food security and poverty reduction. Access to land and other natural resources is also considered as one of the indicators of food security.

Access to land is mainly mediated through property rights systems and land tenure in place. Tenure institutions directly affect food access at the household level in a primarily agrarian society by governing access to resources (Maxwell and Weib 1998). Ogolla and Mugabe (1996) note that land tenure defines the methods by which individuals or groups acquire, hold, transfer or transmit property rights in land.

De Janvry and Sadoulet (2001) indicate that most of the land in use has been accessed through private transfers, community membership, direct appropriation, and market transactions. The different paths of access to land in formal or informal, or in collective or individualized ownership include:

a) intra-family transfers such as inheritance, inter-vivo transfer, and allocation of plots to specific family members,

b) access through community membership,

c) access through land sales and rental markets and,

d) access through specific non-coercive policy interventions such as collectivisation schemes, decollectivisation and devolution, and land market-assisted land reform.
The authors discuss these mechanisms as follows:

**Intra-family transfers** such as inheritances, inter-vivo transfers, and allocation of plots to specific family members have fundamental importance particularly where land frontiers are closed, land redistribution programs not implemented, and land markets are yet poorly developed. Intra-household transfers can be inter-vivo, for instance as grants of land to sons when they get married, or post-mortem through inheritance. The questions here are: (i) who gains access to land and who is excluded, and hence, what are the poverty and equity implications of these transfers? (ii) under what terms and conditions is the land received, and will it be possible for the new users to cultivate the land efficiently? The authors specified that categories that tend to be excluded from access to land are the weaker household members: girls in general, divorced women, illegitimate children, orphans, returnee migrants, and women who were married without bride price and are prevented by brothers when they return to their parent’s home. Understanding intra-household power-plays toward inheritance is thus fundamental to put into place safety nets for the weaker categories.

It is also indicated that in Sub-Saharan Africa, as land markets tend to develop with the individualisation of property rights, access to land via inheritance is also altered. Land that has been acquired by parents through the market, instead of having been inherited through lineage relationships, is not subjected to traditional inheritance rules. This gives freedom and discretion to parents in transmitting land to some and excluding others potentially leading to inter-generational and intra-family conflicts.

**Land markets** are also important mechanisms of land transfer. It is pointed out that land markets have a number of important functions that affect livelihood and food security. Transfer of land from less to more productive producers, an adjustment to shocks, and the optimum use of scarce land resources with the emergence of the off-farm sector are among such functions. However, it is also indicated that access through land sales and rental markets work well if some conditions are fulfilled. If all markets work perfectly, land sales and land rental markets would be equally effective in providing access to land to the rural poor. However, in a context of market failure and
missing institutions, land sales markets may not be effective for this purpose. In such situations, land sales markets tend to play regressively on smallholders leading to the concentration of land ownership. The reasons are: land is overpriced for agricultural use because it has other side benefits, the poor do not get long-term loans, land sales markets tend to be segmented by farm size benefiting large farmers, land sales markets have high transaction costs and low participation, land prices correlate with agricultural profits and make it difficult for poor farmers. In this regard, it is underlined that “the market, left to itself, is generally hostile to the poor” (De Janvry and Sadoulet 2001, 17).

Though formalization of land rights is generally assumed to facilitate land transactions, there are also situations in which this is not the case. De Janvry and Sadoulet indicated that in some situations, formal titling may in fact worsen the security of access to land and constrain land market transactions: titling may increase transaction costs in the circulation of land, create new sources of conflict, and not add anything to efficiency in resource use.

Given legal restrictions in land sales in many countries, rental markets are most important in many cases. And access to land through personalized contracts can serve to mitigate many market failures and institutional gaps. Via land rental, poor households can eventually progress toward the desirable goal of land ownership. De Janvry and Sadoulet also noted that rental markets have many advantages over sales markets:

a) they allow flexibility in adjusting land area used with low transaction costs,
b) require limited capital outlay, thus leaving the limited available liquidity for productive investments rather than locking it up in land,
c) facilitate easy reallocation of land toward more efficient users than current owners (elderly, non-cultivating heirs, or urban beneficiaries),
d) provide entry points for the landless as a stepping stone toward land ownership, and
e) help overcome, through sharecropping arrangements, market failures in labour, insurance, credit, management and supervision.

Weakness of property rights, however, either because titles are insecure or because rights are not enforced in case of conflict is a major factor in reducing supply of land in rental. Government interventions affecting rental markets are often motivated by perceived social justice considerations. But it is noted that those interventions had also implications for productivity and in general it could make both parties worse off. Legal and other restrictions on the functioning of rental markets would have a negative impact on agricultural productivity and household’s welfare, discourage investment, off-farm employment and migration and could increase the insecurity of land rights. In light of such cautions, it was suggested that restoring the dynamics of land rental markets to help poor rural households gain access to land remains a potentially effective area of intervention in the struggle against rural poverty.

Another mechanism is access through community membership. It was underlined that access to land via membership in communities that have control over resources remains very important. In corporate communities, land is accessed through community membership and is allocated to individuals through the community governance structures (mostly grazing and forest lands). If open access, it leads to the tragedy of the commons and lastly leading to exhaustion of resources. So sustainability of resource use is one important concern within this mechanism of access to land. It is argued that given limited government capacity to regulate the use of such resources, it is important to improve the efficiency of accessing land in community property resources by identifying and promoting adoption of best practices for community management.

Another mechanism of access to land by the poor is facilitated through direct government intervention. This includes access through specific non-coercive policy interventions such as collectivisation schemes, decollectivisation and devolution, and land market-assisted land reform. For instance, in many countries collective farms were given back to former owners, distributed to workers, distributed in individual farms.
Land market-assisted land reform is sought in such a situation that since the market, left to itself, is generally hostile to the poor, the state can devise a set of interventions to alter the performance of the land market in favour of the rural poor. This is the land market-assisted land reform approach that has been sponsored by the WB in Colombia, Brazil, and South Africa.

Mechanisms of Access to Land in Rural Ethiopia

Though administrative redistribution of land is the most commonly mentioned transfer of land since the 1975 rural land reform, and despite legal restrictions of many transfer mechanisms, diverse mechanisms of access to land have been active in the country. These include both the formal administrative and informal and customary ways (land redistribution, inheritance and gifts, land markets, land access through community membership, resettlement and squatter settlements).

Administrative redistribution

The 1975 land reform was considered successful in terms of granting access to land to Ethiopian farmers. In the literature, one commonly finds that since then continuous, frequent, or persistent land redistributions had been the major characteristics of the rural land tenure system. The literature also shows that this has been the most important mechanism of access to land by those peasants. In the process, it was argued that plots have changed hands frequently and peasants lost a sense of tenure security over those holdings and it has also led to diminution of holdings.

However, it seems that this subject has remained less understood. In the literature and in the minds of many people outside the farmers themselves, redistribution is depicted as a very negative practice with all damaging consequences. This also informs policymaking resulting in policy decisions that banned redistribution practices since the mixed economy policy announcement of the Derg (except the 1997 Amhara case). However, closer observations suggest that no adequate efforts have been made to understand the meanings, causes, scope, frequency and results/impact of redistribution (see Yigremew 2000).
It is with such a situation that redistribution, which could have plaid important role in reallocating land, both in terms of equity and production, is cursed and somewhat ruled out at least in policy intentions (but there are still forms of land redistribution in federal and some regional land laws). There are now intentions to certify landholdings in regions while there are, as seen above, serious inequalities and high expectations of redistribution among communities in different parts of the country. Moreover, it is not clear, in the absence of conditions for supporting the poor to benefit from and lack of proper functioning land markets, as to what will replace the practice of redistribution in the absence of other mechanisms of official land allocations and lack of adequate off-farm activities.

**Inheritance and other forms of family transfers**

As mentioned above, intra-household land transfers are important means of land allocations particularly when government reallocations are non-existing or not effective enough. This could take the form of inheritance, gifts, and others.

Aklilu and Tadesse (1994) noted that under the policy that ended redistribution (since 1990), peasant households and particularly those new ones formed after 1990 relied heavily on four venues of access to land: a) land inherited from their parents or other relatives, b) land rented from relatives or non-relatives, c) land available from people without heirs and who have either left the area or passed away, and d) land obtained from complex socio-economic arrangements.

These are important mechanisms of access to land to new generations particularly in cultures that respect the right of sons and daughters to get access to family land. This is what happens in the northern part of Ethiopia where parents used to give land to their sons in the form of *gulima* (land given from parents to sons at the time when the latter establish their own households).

A case study in Gojjam, northwest Ethiopia (Yigremew 2000) shows the significance of such a transfer mechanism. Forty-two young male household heads that established their households after the 1975 land reform were interviewed about the sources of the land they cultivate.
It was found that as per the tradition of the community, they had generally been working with their parents after they were married and started living in their separate homes with their wives until they gained the status of an economically independent and separate household. During such a period, the son does not generally own land and is not a taxpaying adult. Then comes the time when the sons start their independent household lives. Culturally, the sons have to stay with parents with *siso* (one-third) share of produce, and when they start to have their independent household and farm, they are theoretically given *siso* (one-third) of the family’s land. After the land reform, and in theory, however, such young married people were entitled to have access to land through the peasant association. In the Gojjam, however, it was found that the source of their land was largely the family holding and the mechanism was mainly traditional intra-household transfer rather than redistribution by officials. In the area, the tradition of the *gulima* land is still considered as a moral obligation. It was found that, out of those 42 young household heads, 33 (78.6%) got land exclusively from their families’ possessions at the time of establishing their independent households. The respondents indicated that parents gave such plots to them willingly. However, this is not to generalize that this happens in every household, to everybody and everywhere.

Another administrative impact on such transfers is that during the Derg time land was allocated according to household size, giving recognition to the right of a child to claim land whenever required. But there are instances that such a system could be disturbed by an administrative intervention of governments. A case in point is the 1996 Amhara land redistribution that was based more on political criteria than family size and this might have weakened the claim-making power of children. Now as well, what will happen after the intended land certifications in different regions is another area of concern in terms of land access to young people.

There are intra-household and inter-generation conflicts on access to land. There are cultures different from the above case study. There are policy and administrative issues affecting such forms of access, to mention a few. There is gender difference in the issue. While the patrilocal residence affects women’s access in the north in general, in
the other parts of the country there are cultures that may not allow girls to inherit.

**Land markets**

Though it was not known to what extent legal restrictions have affected land transfer mechanisms (such as rental, swapping, sharecropping, mortgaging, sales, etc.), it was claimed in the literature that the 1975 land reform has significantly restricted land transfers.

It is, however, important to note that those legal restrictions of governments have not been effective enough in restricting land transfers. Sharecropping, fixed rentals, and limited mortgage and sales have continued to be important means of access to land and efficient resource allocation even under the Derg’s prohibitive policy. Some empirical micro-level studies conducted after the Derg (see Yigremew 2001) also suggest that many of those land transfer mechanisms were functioning “informally”. Of these, sharecropping is the commonest type. Specific case studies in farming communities show that up to 65% of sample farming households participate in land transactions and up to one-fourth of plots are cultivated under such arrangements. However, it does not seem that women benefit much from such land markets. First, it is found that land is transferred from poor to better-off farmers. Women landholders are in general found renting out their small holdings. However, those women complain that their sharecropped lands are not ploughed properly and cannot be important sources of livelihood (Yigremew 1999).

**Land access through community membership**

It was mentioned above that access to land via membership in communities that have control over resources remains very important particularly in Africa. In Ethiopia, this is the case in terms of access to community grazing and other communal lands in crop production, agro-pastoralist and pastoralist areas. In such cases, land is accessed by way of community membership and through the community governance structures. This is again a grey area where not enough empirical studies have been conducted. A few studies conducted in
such areas (Ayalew 2001, Yigremew 1997 & 2003, Getachew 1999) indicate that there are problems in resource administration and use in such areas. One important concern is that such community institutions that govern access to land are being weakened for different reasons.

Moreover, a very loose legal definition of rights in such resources has made them somewhat an open access without proper legal ownership. In many cases they are viewed as either no-man’s-land or government possessions. Land plots identified as vacant and to be used for investment are largely those belonging to communities who largely depend on such resources. In some cases, small grazing land amidst farm plots deliberately allocated for grazing by villagers is given to investors without any compensation and consent of the communities. This has sometimes encouraged peasants to encroach on such communal areas and change them to private farm plots.

This is what is happening to the communal land of pastoralists in many places. Moreover, there are conflicts over such resources leading to loss of secondary or primary rights of the weaker party. Therefore, it is important to study the dynamism of this access mechanism in order to understand how it affects access to resources particularly by those disadvantaged groups of the society in general and rural women in particular.

**Resettlement**

Both government-sponsored large-scale, planned as well as self-initiated spontaneous, resettlements have been practised as a means of better access to land. While there have been some studies on the state-sponsored large-scale resettlements, the spontaneous movements of people seem to be neglected in general. Government-sponsored resettlement has always been a controversial issue in this country (see, Dessalegn 2003). Currently, however, resettlement has been considered one important policy option in terms of food security in particular.

Done in one way or another, resettlement has long been one mechanism of access to land by needy people, including urban ones. For instance, despite the legal restrictions and political risks of inter-
regional resettlement after the Derg, people have been moving from region to region in search of land for livelihoods. But, given the complexity and sensitivity of the issue, it seems that few studies have been conducted on the subject. Given the importance attached to resettlement by the government particularly in terms of food security, what happens to those resettlers and people in the host areas in terms of their adequate and secure access to land is an important research area. The situation of women in the resettlement process will be an interesting subject for investigation.

Disadvantages of Rural Women

Problems of Access

Although largely mitigated by the 1975 land reform, access problems have not been resolved sustainably. Total landlessness, small holdings, and inequity could be taken as some indicators of land access problems at present. In some communities landless peasants reach up to 50% of the total households in the area. Rural women and young people are also indicated as the most disadvantaged groups in terms of access to land.

In addition, there are many peasants with minuscule holdings (near landlessness). Diminution of holdings to the extent that they could not enable households to feed themselves is another problem. As it could be observed from CSA national reports landholdings are ever diminishing. For instance, the CSA (2000) agricultural sample survey report shows that 40.61% of farming households have 0.5 or less hectares of farmland and 64.47% possess 1.0 or less hectares of land. The average national farm holdings are estimated at less than one hectare while the minimum size even for subsistence is suggested well above that. It can be noted that under the existing level of farm productivity, all those households who could not produce sufficient food for their own families are understood to be facing a serious problem of access to land. Rural female-headed households are generally found to have smaller holdings and hence are more affected by the existing landholding system.
Inequity in holding distribution is also part of the land access problem. Although increasing demographic pressure is commonly mentioned as one of the causes of the problem of landlessness and smaller holdings, it is also observable that there is some degree of inequity in landholding across regions and localities. For instance, a survey by Central Statistical Authority (CSA 2000) shows that 64% of the total households cultivated only 27% of the total land under cultivation or 73% of the total cultivated land was held by only 36% of households. In those areas where there had not been many land redistributions or other forms of active land transfer mechanisms, there is a kind of skewed landholding pattern that might have contributed to the problem of growing landlessness. Interestingly, area-specific studies show that landlessness is more acute in areas of higher average holdings but with less instances of land transfers (see Yigremew 2004). This shows that the administrative reallocation system could not meet equity requirements to the level at which the rural land policies were justified by governments. It is also expected that rural women are more affected in such system of land access.

**Rural Women’s Situations**

It is important to note that data on women’s situations are not readily available. It is known that there is lack of sex-disaggregated data to show women’s economic situations in the country. The case of rural women in terms of access to productive resources has not been studied to the extent that it deserves. Studies available are also more on female-headed households than women in general. This may partly be because the household has been the main unit of analysis in the socio-economic studies of rural Ethiopia. But it is believed that a household as a unit may not properly show, because of intra-household relations, the real situation of individual women (see Zenebework and Yared 2000). Moreover, surveys target households and the situation of women and girls within a household is not studied adequately.

Some studies and government documents show that rural women in general and female-headed households in particular have less access to and less control over land and other productive resources. Review of the literature (Yigremew 2001) shows evidence from case studies.
Here are some instances: Aspen's (1993) study in North Shewa showed that, regardless of their smaller proportion, female-headed households accounted for 50 percent of the total landless peasant households. Another study conducted in Ada wereda, central Ethiopia, shows that the average farm size of male and female-headed households was 2.35 and 1.6 hectares, respectively (Etenesh 1999). Dejene's (1994) findings in his study in east and west Shewa shows that among 1,415 rural households where 22% were women, the average size of holdings was 0.7 and 0.55 hectares for male and female-headed households, respectively. In South Wello, in two communities, it was found that 51.7% of female-headed households had holdings of 0.25 to 0.5 hectares while only 10% of male-headed households had this size of holdings. But, in the larger holding category of 1.0 to 1.25 hectare, the proportion was 5% and 30% for female and male-headed households, respectively (Ali 2000). A World Bank (1998) study found out that in the Amhara Region, while 80% of the female heads of household had less than 2 hectares of land and 5% had between 2 and 4 hectares, 57 percent of men had less than 2 hectares and 31% had between 2 and 4 hectares. Fafchamps and Quisumbing (2000) studying households (1027 households - 935 male, 92 female) in different regions regarding their possession of land with full use rights found that female-headed households held nearly half the holdings of male-headed households.

The reasons for such disadvantages experienced by rural women in the past in terms of access to land are varied and complex. These include, among others, the gender division of labour, patriarchal systems working against women, limited membership in local institutions, smaller size of women's households, gender biases of local officials, and lack of access to other critical resources and services (Yigremew 2001).

In general land is allocated to the family jointly (to both spouses) but, at least in the past (and it seems that now some regional land laws have provided registration of the names of both the husband and the wife), land was registered in the name of the household head. But men are household heads in a household of married couples. The common practice of household residential location is also a patrilocal system where wives go to the residential areas of their husbands. But,
Land policies still dictate that access to land depends on one’s residential area.

This situation has many implications for women’s access to land. First, the fact that land is registered in the name of the husband and not the wife weakens women’s claim in general and in the event of divorce in particular. Second, as access to rural land by peasants depends on one’s residence in a given territorial jurisdiction (kebele), women forfeit their chances of having access to land whenever they go to their husbands’ locations or leave their previous residence after they divorce or become widow.

A study of Ethiopian rural households by Fafchamps and Quisumbing (2000) on control and ownership of assets revealed interesting dimensions of asset holdings at the different cycles of the development of the household. Analysis of a sample of 1406 households from different regions (the majority of the sample were from Tigray, Amhara, Oromiya, and Southern Region) shows that women are in a lower economic position even at the beginning of household formation, which affects their claims at the time of divorce and, hence, for the rest of their lives as heads of households.

In the views of the researchers, the effects of such a lower economic position of women in terms of asset possession was reflected in what happens to the disposition of the household assets upon divorce. It could be observed that divorced women in polygamous households were in a more disadvantageous position. Even in monogamous households, the husbands are expected to take the lion’s share of the land despite being at fault in causing divorces. The table below reveals opinions of married couples regarding each one’s share of land at divorce.

In many cases, as girls are expected to go to their husbands’ residence, unlike sons, daughters usually miss out from the allocation of land by the family as well. In general, young women, divorced women and even sometimes widowed women without children are considered as transients and not permanent dwellers of a given area as a result of which they are not given due attention in land allocation.
Table 1. Expectations of currently married couples regarding dispositions of land upon divorce

<table>
<thead>
<tr>
<th>Conditions of divorce and types of couples</th>
<th>Husband</th>
<th>Wife</th>
<th>Divided half/half</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disposition upon no-fault divorce</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Monogamous couples</td>
<td>52.6%</td>
<td>2.2%</td>
<td>41.9%</td>
</tr>
<tr>
<td>• Polygamous couples</td>
<td>68.4%</td>
<td>0.0%</td>
<td>28.1%</td>
</tr>
<tr>
<td>Disposition upon fault-based divorce</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Husband at fault</td>
<td>41.2%</td>
<td>16.5%</td>
<td>31.9%</td>
</tr>
<tr>
<td>• Wife at fault (257 observations)</td>
<td>78.6%</td>
<td>0.00%</td>
<td>11.7%</td>
</tr>
</tbody>
</table>

Source: Figures taken from Fafchamps and Quisumbing (2000).

In many cases, particularly in the southern and eastern parts of the country, customary laws suggest that boys are given primary rights of inheritance while girls in general have secondary inheritance rights. Still in polygamous communities, women have practical problems of land access in the system of allocating land to a family and not to an individual. Here again there are cases where women whose husbands have died are inherited and become part of the families of their deceased husbands.

Ownership of other resources, such as labour and oxen, was also found as a necessary condition for one’s claims to have access to land, to be recognised by officials, and even by family members themselves. It is known that female headed households, in general are found having less access to resources such as oxen and labour. As these are critical assets in farming communities in Ethiopia, women without such critical resources are considered, at best as “weak farmers,” and often as “non-farmers,” and this has resulted in marginalizing women when it comes to community land distribution efforts (Frank 1999, as quoted in Yigremew 2001).

Another disadvantage of rural women occurs for the reason that they had limited membership and power in the local structures that administer land. Since 1975, land policies in Ethiopia have stipulated that access to rural land depends on one’s residence within the territorial jurisdiction of a given peasant association/kebele administration as well as membership in such an association. In practice, the head of a household was registered as a member
representing the household. In such a situation, women become members of peasant associations in their own names only when they become heads of households. As a result, the participation of women in membership and leadership of rural kebeles was weak and this has affected their claim to land.

Concluding Remarks

Given the agrarian and subsistence economy of Ethiopia, access to land is an important component of rural livelihoods. Access to land is also significant in the existing agricultural-led development and poverty reduction strategy of the government. It does not seem, although claimed by the government, that there is plenty idle land and a situation that enables to effectively utilize it.

In rural areas women continue to have less access to and control over land and other resources. It seems that many of the above-mentioned land access mechanisms are not favourable to poor rural women. There are new initiatives in terms of rural land administration. Land certification is underway. It is very important to follow up what happens to women's access to land in the new system of land administration. Administrative allocations do not seem to play important roles hereafter. Traditional intra-household land transfer mechanisms were not favourable to women and it is not known how they will be affected by the new land certification practice. It is well known in Ethiopia and other countries that, unless specific measures are taken, poor farmers in general and poor women in particular are not real beneficiaries of enhanced land markets. We have very poor rural services, including credit, and land markets function regressively - land being accumulated in the hands of better-off farmers. Women are also losers in the scramble for communal resources and it is important to follow up the impact of such demise of communal resource management system taking place in the country on rural women.

It is extremely important to study how all those rural land access mechanisms and the newly initiated rural land administration systems affect women and female-headed households' access to and control over land. For instance, Zenebework and Yared's (2000) review of
literature on women’s land rights indicated that there are many factors that have to be addressed if women are to fully enjoy their land rights: the existing inheritance laws (more broadly a family law), women’s literacy including legal literacy (that is women’s knowledge of their legal rights), the social legitimacy of women’s claims (that is whether the claim is considered a valid one in the community of which the women’s household is a part), women’s access to government officials who administer land related matters, women’s access to economic and social resources, and women’s ability to organize and form coalition with other gender progressive groups. Generally, it could be recommended that serious measures should be taken to address the issues of rural women’s access to land if any meaningful poverty reduction is to take place in the country.

References


Yigremew Adal. 2003. *Land administration and management of common resources in the Post-Derg Period*. A case study in two rural Kebeles in


Part II

Land Transaction
Recent Experiences in Land Rental Markets in Ethiopia
Impact on Equity, Efficiency and Poverty*

Samuel Gebreselassie

1. Introduction

Agricultural land is the major source of income and livelihood in Ethiopia. It is also one of the most controversial issues that have been debated almost in any forum that discusses economic underdevelopment and agricultural stagnation in Ethiopia. The question of rural land first appeared in Ethiopia’s development agenda some 40 years ago with the then students’ slogan of “Land to the Tiller”. The political agenda of this popular slogan – Ending the feudal form of exploitation - was accomplished 30 years ago by the Derg regime. The 1975 land reform nationalized all rural land and abolished tenant-landlord relationship. Land market in the form of sale, mortgaging or exchange was outlawed. This radical measure was cheered at the time as it seemed that the land question had got adequate answer. But, rural land has continued to be one of the dominant political and development agenda items even today. It has remained the most contentious topic in the national agenda for a very long period of time. The following three factors could explain this unusual phenomenon.

First, the level of poverty and food insecurity has worsened and failed to subside despite fundamental and minor policy changes on rural land. For instance, a national survey conducted by the EEA in 2004 shows that an average Ethiopian farm household generates only 59% of the minimum income required to lead a life out of poverty. Based on existing level of productivity and price structure, the average grain producer needs 2.8 hectares of land to lead a life above poverty. Moreover, about 65% of farmers are food/grain deficit (or net buyers

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of food). This situation has forced development experts to revisit the role of the land policy.

Second, the issue of rural land has been exposed to very polarized policy debates that are not supported by empirical evidence. Researches carried out on the issue are limited both in scope and in number. Any genuine attempt to engage in research and dialogue on rural land has also been overshadowed by the enormous political weight and apprehension the issue of rural land has attracted from policy makers. Many people have the impression that rural land in Ethiopia is a political issue, rather than an economic issue that has political and social dimensions. On the other hand, high population pressure, severe land degradation and high poverty incidence have complicated the efforts to get a satisfactory answer to the land question.

Thirdly, knowledge on existing informal land rental market is very limited and the depth of discussion is narrow. Available information on the size of the market, its competitiveness, the role of the market in local economy and on market participants, or the kind of institutional support the market needs is very limited. This study tried to fill some of these gaps in information, and consequently, hoped to inspire an informed policy debate on this controversial issue by generating empirically supported information related to the issue of equity and efficiency of land rental markets.

The land rental market could be considered to have a positive impact on equity if it improves the welfare of both parties involved in the land rental market. This could be considered true if land transactions allow land transfer from the land-rich to the land-poor (including landless) farmers, from labor-poor (that may include female-headed households) to labor-rich households or trigger land transfer from sick to healthy persons. It could also be considered to have a positive impact on equity if it helps the generation of employment and more income to both parties. On the other hand, the positive impact of land transactions on efficiency could be established if it helps land transfer from less productive to more productive farmers. This could be considered true if it helps for better factor reallocation, high use of purchased improved inputs, high labor mobility and participation in non-farm activities and improved participation in market (cash
economy). All these positive impacts should be finally reflected through high land and labor productivities.

2. Land Market, Agriculture and Poverty in Ethiopia

Agricultural stagnation, increased poverty and food insecurity on the one hand and increased population pressure on the other hand have called for an efficient and sustainable utilization of productive land. As formal land sales are prohibited, land rental market could help to bring rural land to its most productive use by facilitating its transfer from less efficient to most efficient farmers. Existing realities in rural Ethiopia that include high population pressure, undeveloped non-farm sectors, and low-input low-output subsistence farming system have called for an enhanced role for land rental market. However, there are also arguments against the role of land rental market to facilitate agricultural growth and the welfare of peasants.

Ethiopia is one of the poorest countries in the world. It is also a country where income inequality is very low. The national consumption Gini coefficient in 1999 was 0.28, and was lower in rural than urban areas. The government interprets this both as a negative indicator of widespread poverty, and as a positive outcome of land redistribution that brought an egalitarian land holding system (FDRE 2000, 6, cited by Devereux, Amdissa and Sabates-Wheele 2005). However, many critics say that the land tenure system has gone too far to create a homogenous social structure that discourages competition and personal incentive required to fight poverty and underdevelopment in rural areas (Rahmato 2005; Devereux, Amdissa and Sabates-Wheele 2005).

The combination of land redistributions and prohibitions against land accumulation, declining access to natural resources and community level assets (including grazing land and social capital), and asset sales for food in response to repeated shocks such as droughts, may have pushed hundreds of thousands of households in highland Ethiopia below the minimum threshold of key productive assets needed for a viable households. According to this view, equalization of assets in rural communities has contributed to agricultural stagnation, and is keeping the majority of Ethiopians trapped in poverty. Fear of future
land redistributions – despite government assurances that none are
planned – has inhibited investment in agriculture, while legal
constraints against buying and selling have prevented the
consolidation of small, ‘sub-subsistence’ plots (Devereux, Amdissa
and Sabates-Wheele 2005). The rural economy has undergone a shift
towards micro-agriculture in the last three decades that sunk the
peasant population in grinding poverty (Rahmato 2005).

One of the underlying causes of poverty and underdevelopment in
Ethiopia is, therefore, the structural problem facing the economy. It is
no longer possible to rely on a traditional, rain-dependant, small-scale
peasant economy to solve the chronic problems of poverty and
economic stagnation. Until recently, the pathway for Ethiopia’s
agriculture was intensification of smallholder agriculture. The
government has tried to intensify smallholder production system
using green-revolution like intervention (mainly using inorganic
fertilizer and improved seeds) in an environment where the supply of
productive land and its sustainable use is constrained by increased
population pressure, its intensive and optimum utilization, and by
lack of sufficient soil moisture. Recognizing the limits of this kind of
intervention, the government has been experimenting with other
interventions such as livelihood diversification (including productive
safety-net), commercialization of peasant agriculture (and/or
specialization), and voluntary resettlement program. If a durable
solution is to be sought for the country’s deep-rooted economic
problems, the government should go beyond these interventions to
change both the structure of the agricultural sector and that of the
whole economy.

A well-functioning competitive land rental market has a positive role
for successful implementation of these new development strategies.
Moreover, land rental markets will facilitate farm investments and
contribute to more efficient and sustainable utilization of agricultural
land. It will also encourage labor mobility which will have a positive
impact on reducing problems that crop up due to rising rural
population pressure and land fragmentation. A well-functioning
competitive land rental market will also improve land consolidation
and create an enabling environment for a more specialized and
intensified farming,
Moreover, in the context of prohibited land sale\textsuperscript{2}, mounting scarcity of productive land, high population pressure, and low land and labor productivity, land rental markets assume a particular importance. Yet, there is insufficient knowledge on the factors that trigger the emergence of informal land markets, their competitiveness and role in local economy and the factors that govern the functioning of these markets. Knowledge of such factors will help Ethiopian policy makers to design policies that can optimize positive outcomes of existing rental markets.

Land market is generally considered as an important instrument to improve agricultural performance and economic growth as it could help land transfer from less productive to more productive farmers. Available theoretical and empirical knowledge indicates that property rights to land that are secure and easily transferable are key elements for smooth and efficient operation of land rental markets.

There are also fears that providing full transferability rights to land, along with the institution of formal land markets, will lead to a massive eviction of poor rural households which rapidly aggravates the poverty situation all over the country. For instance, some senior policymakers argue that allowing land to become a tradable commodity would inevitably result in an ‘urbanization of rural poverty’. When the next drought strikes hungry families that have nothing to exchange with for food, they will be forced to sell their land and migrate to cities such as Addis Ababa, where they will live in squalor in squatter camps, with little prospect of securing formal employment. It is such a scenario that is related to “land as a safety net” argument. Even if tiny farms are inadequate for self-sufficiency, the family plot does provide some proportion of subsistence needs, and this safety net would be removed if land can be sold. Ideologically, the EPRDF shares the Derg’s opposition to large landowners, and they believe that commercializing land will inexorably concentrate ownership in the hands of a minority (Devereux, Amdissa and Sabates-Wheele 2005). Since there has been no formal land market in Ethiopia, it would be difficult to empirically test the validity of this fear.\textsuperscript{3} However, there are official statistics that put in doubt the validity of the premise that state ownership of land, prohibition of land sales and government attempt to provide land titles to every peasant\textsuperscript{4} to ensure access to the minimum
productive resource (land) have contributed positively to rural welfare. The safety-net role of rural land has also been increasingly threatened and diminished by other factors such as high population growth, natural resource degradation and agricultural stagnation.

Official statistics on peasants’ vulnerability to drought and the level of food security could easily demonstrate the limitation of the land policy that has been enacted in 1974. The drought of 2002/03 has shown that people in some parts of the country where drought or drought-induced problems were manageable at local or household levels increasingly need food aid to prevent widespread famine. At the same time, people in areas where transitory or weather-induced food insecurity has been the predominant problem increasingly suffer from chronic food insecurity, which is related more to poverty rather than to temporary shocks. This worsening trend is manifested by government statistics on the number of people affected by drought. For example, only about 1.5 million, or not more than 5% of the total population of the country, suffered from drought-induced food insecurity during the imperial regime in the 1960’s or early 1970’s; by mid 1984, the figure increased to 7 million or 17.4% of the total population. In 2003, it increased to 14.5 million or 22% of the total population that was estimated at 69 million. About five million of these people have been suffering from chronic food insecurity (Samuel 2004). A similar trend has been observed in terms of geographic coverage of drought. In Amhara region, the number of Woredas affected by drought increased by over three-fold in less than 20 years and reached 73 in 2003. The DPPC food security profile shows that the expansion of drought affected Woredas as a simple indicator of geographical coverage has been very drastic in Oromia and SNNPS regions where a large proportion of the regional territories became susceptible to drought and famine. Taking the major regions of the country as a whole, vulnerability to drought and famine increased at an alarming rate in the short period of not more than one and half decades (EEA 2004).

All these statistics indicate that guaranteeing peasants to have access to some plots of land is not sufficient to ensure food security or to prevent desperate migration. In addition to actual or perceived tenure insecurity, low non-farm opportunities in urban areas and massive food aid program are major factors that prevent peasants from
migrating to urban centers or what is called the process of ‘the urbanization of rural poverty’. The role of the land policy should be looked from the broader perspective that considers the dynamism of the Ethiopian economy and population. It should not be narrowly defined in terms of its impact on poverty reduction. It is time to consider the role of the land policy in the transformation of the economy, which highlights the need for land markets.

3. Purpose, Data and Methodology

Land rental markets in Ethiopia are informal markets, which seriously undermine the efficiency, the competitiveness and role of the markets. The infancy of the market may be attributed partly to the interest of policy makers to regulate the market by restricting the size of the land farmers are allowed to supply to the rental market and the rental (contract) period. These policy restrictions have the objective of controlling disguised land sales and maintain rural land’s continued safety-net role for vulnerable rural households. Many critics say that such government interventions have failed to realize these objectives because of increased population pressure and agricultural stagnation. This study will try to shade some light on these unresolved issues by investigating equity and efficiency role of land rental markets. The study, therefore, reviews the functioning of recent land rental markets in Ethiopia and analyzes their impact on equity and efficiency.

The research is based on a survey data collected in 2004 from 4585 households sampled from all regions of the country, excluding Gambella National Regional State. The survey was principally conducted to collect information on the performance, efficiency and organization of Ethiopian agricultural extension system. Information on the existing land rental markets – both on fixed fee rental and sharecropping arrangement – was also collected, which has been used to answer the questions raised by the study. Both simple descriptive methods and regression analysis will be used.

Based on this review, the scope for government intervention and mechanisms to improve the functioning of land rental markets and their positive outcomes will be identified. The study will generate
useful information that will help policy makers to design policies that will promote farmers’ interest. This is very important as many critics say that excessive government interventions in rural areas have destroyed personal incentives and any form of rural social stratification that are required to encourage rural development. A competitive land rental market will help to unlock personal incentives and encourage some levels of inequality in rural communities that have been destroyed by the radical land reform and increased vulnerability to drought.

4. Land Rental Markets: Impact on Equity

The current system of land tenure in rural Ethiopia emerged partly as a result of population pressure and land scarcity, and partly as a result of government interventions in land redistribution. Although the current constitution guarantees peasants and pastoralists free access to land, it is not clear how free access can be assured given mounting population pressure (Fafchamps 2000). It is not only high population pressure, but also low migration and employment opportunity in non-farm sectors that create scarcity of farm land in rural Ethiopia. Even though the fundamental solution to this continued problem is to improve the productivity of farmland and labor, land rental market has a very critical role in catalyzing this process. It could also relax the problem of land scarcity which has been created partly by low farm productivity and existing truth in rural Ethiopia that has forced everybody to till land to sustain his/her life. There are two or three ways to realize these positive outcomes of land rental market. First, land rental market could lead to high land and labor productivity by allowing land transfer from less productive to more productive farmers. On the other hand, it could facilitate migration that will help the expansion of non-farm employment. It could also help the development of a cash economy in rural Ethiopia.

Results from this study indicate that the size of land rental markets (both fixed fee rental and sharecropping) in Ethiopia is high. Taken fixed rental and sharecropping together, 22% and 23% of households in Tigray and Amhara regions, respectively, cultivate someone else’s land obtained through land rental market. At the national level, the
The annual fee for land cultivated through sharecropping is not fixed as it varies with the amount of harvest of the tenant. Survey data indicate that it varies between 47% in Oromia and 54% in the Southern Region. On the other hand, annual fee for fixed rental land varies between 384 Birr for a hectare of land in Amhara region and 653 Birr in SNNPR. Land is expensive in Tigray and Southern regions. These differences in rental fee could be explained in terms of variations in land productivity and the competitiveness of the land rental market (supply and demand factors) in the different regions.

In the four major regions, the average size of land per transaction varies between 0.25 and 0.65 ha for fixed rental land (table 1). However, the size of the land that is cultivated by a tenant is a little higher than this and varies between 0.64 and 0.98 hectares. This variation in the size of land per transaction and the average size of land a tenant rented-in could be attributed to the following factors. A tenant could rent-in land from more than one landlord or those who rent-out their land may have underreported the size of land they actually supplied to the market which could be the case in some regions where farmers are not allowed to rent-out all of their land. On the other hand, the size of land per transaction for sharecropping varies between 0.50 and 0.86 hectares.

The average contract period for fixed-term land rental markets was three successive years in Tigray, Amhara and Oromia, while it was four years in SNNPR. The average sharecropping period was for about 2.6 consecutive years in Tigray and SNNPR, for 4 or 5 years in Amhara, while it was for 3.3 consecutive years in Oromia.
The information generated by the study and discussed above has important policy implications for resolving existing unsettled issues, such as the length of contract period and size of land peasants are allowed to supply to the land rental market, which have important implications for the efficiency and equity impacts of land rental markets.

Land administration laws of some regions such as Oromia allow farmers to lease not more than half of their land, and only up to three years (Fafchamps 2000). Even the present draft proclamation on rural land administration and use, which is expected to be ratified by parliament stated in Sub-Article 8 (1) that "peasant farmers who are given holding certificates can lease to other farmers or investors land from their holding of a size sufficient for the intended development in a manner that shall not displace them, for a period of time to be determined by rural land administration laws of regions based on their particular local conditions".

The draft proclamation has indicated that the size of land peasants are allowed to lease out could be a portion of their land as indicated by the phrase ‘land from their holding’. However, experiences from existing land rental markets indicate that the average size of land per transaction nearly the same as the average size of land held by a peasant. This implies that any attempt to restrict the size of land to be rented out may not be in the best interest of farmers. In general, the minimum size of land a given farmer is allowed to supply to the rental market should not either be limited or be less than 1 hectare in Oromia or 0.85 ha in Amhara if one wants to allow current practices of average farmers to continue.

There is no cutoff point in the new draft proclamation for the size of land a given tenant or investor can rent-in. The proclamation may assume that existing realities in rural Ethiopia will not lead to land concentration. However, it would have been better if it limits the maximum size of land to be rented-in rather than restricting the size of land a farmer is allowed to rent-out from his/her existing meager and largely less productive land.
Table 1. Land transactions in Ethiopia: Size of market

<table>
<thead>
<tr>
<th>Market size and transaction type</th>
<th>Tigray</th>
<th>Amhara</th>
<th>Oromia</th>
<th>SNNPR</th>
<th>Other regions (excluding Gambella)</th>
<th>Ethiopia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of market</td>
<td>% of HHs engaged in land markets (HHs who cultivated someone's land)</td>
<td>21.7</td>
<td>23.1</td>
<td>13.3</td>
<td>4.0</td>
<td>7.8</td>
</tr>
<tr>
<td></td>
<td>% of total marketed land as % of total available farm land</td>
<td>19.25</td>
<td>21.79</td>
<td>19.31</td>
<td>4.56</td>
<td>17.18</td>
</tr>
<tr>
<td></td>
<td>As % of non-marketed land</td>
<td>21.22</td>
<td>27.87</td>
<td>23.93</td>
<td>4.78</td>
<td>20.74</td>
</tr>
<tr>
<td>Average size of land per transaction (ha/hh)</td>
<td>Rent-out</td>
<td>0.38</td>
<td>0.65</td>
<td>0.65</td>
<td>0.25</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>Rent-in</td>
<td>0.64</td>
<td>0.91</td>
<td>0.98</td>
<td>0.88</td>
<td>0.98</td>
</tr>
<tr>
<td></td>
<td>Share-out</td>
<td>0.71</td>
<td>0.69</td>
<td>0.86</td>
<td>0.49</td>
<td>0.67</td>
</tr>
<tr>
<td></td>
<td>Share-in</td>
<td>0.76</td>
<td>0.85</td>
<td>1.10</td>
<td>0.45</td>
<td>1.79</td>
</tr>
<tr>
<td>Average payments</td>
<td>Fixed rent (Br/ha)</td>
<td>640.2</td>
<td>383.7</td>
<td>415.8</td>
<td>653.3</td>
<td>421.2</td>
</tr>
<tr>
<td></td>
<td>Sharing (% of total output)</td>
<td>48.9</td>
<td>47.7</td>
<td>47.1</td>
<td>53.6</td>
<td>43.0</td>
</tr>
<tr>
<td>Number of years land rented-in or shared-in consecutively</td>
<td>Fixed rent</td>
<td>2.7</td>
<td>2.7</td>
<td>3.08</td>
<td>4.0</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td>Sharing</td>
<td>2.5</td>
<td>4.5</td>
<td>3.3</td>
<td>2.6</td>
<td>3.2</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>350</td>
<td>994</td>
<td>1889</td>
<td>852</td>
<td>500</td>
</tr>
</tbody>
</table>
There is no cut-off point in the new draft proclamation for the size of land a given tenant or investor can rent-in. The proclamation may assume that existing realities in rural Ethiopia will not lead to land concentration. However, it would have been better if it limits the maximum size of land to be rented-in rather than restricting the size of land a farmer is allowed to rent-out from his/her existing meagre and largely less productive land.

The draft proclamation empowers regional governments to decide the number of years farmers are allowed to lease out their farmland and implement it based on "their particular local conditions". Theoretically, the length of the period should not be lower than peasants' land use-right period. However, the draft proclamation has put no time limit on peasants' land use-right period. It also contained other provisions that could trigger land redistribution any time. These conditions could create uncertainties that undermine market competitiveness and make difficult it difficult for farmers to engage in time-bounded or long-term contract, which is vital to optimize the positive benefits of land rental markets.

Some provisions in the draft proclamation could also create some practical difficulties for regional governments to draft their own decree in terms of specifying the length of the time peasants are allowed to transfer their land use-right to a third party through land rental markets. The proclamation mandates regional governments to decide the upper limit of contract period based on their particular local condition. But it is unrealistic for some regions with large and diversified conditions to have one law for every farmer found in their region. The draft proclamation also declares that land rental market shall not displace landlords (peasant farmers with land use-rights). This makes farmers insecure (landlords) to lease-out their land and migrate to other places in search of non-farm employment opportunities.

If experiences from existing informal land rental markets guide future actions, however, it would be better for policy makers to let farmers decide the number of years they are allowed to rent or share out their land themselves. However, to make this recommendation workable, farmers should first know the minimum use-right period. On the other hand, if policy makers have a reason to limit the
maximum number of years land rental contracts, they should base their judgment on the following two factors. First, they should consider the motives that trigger or force farmers to engage in land transactions both as sellers or buyers of land use-rights. Second, policy makers should consider the experiences from existing informal land rental markets to ensure farmers’ interests. For instance, data from this study indicate that a maximum of 5 years doesn’t seem to contradict the present practices of farmers engaged in informal land rental markets. However, to create sufficient conditions for farmers to make short-term and long-term investments on their land, policy makers should grant a period not less than 15 years\textsuperscript{12} as the long-term land use-right period.

The study had assessed the impact of land rental market on equity. The impact of rental markets on equity as mentioned earlier could be measured in terms of its power to allow land transfer from the land-rich to the land-poor (including landless) farmers, from labor-poor (including female-headed households) to labor-rich farmers, or help land transfer from sick to healthy persons.

The survey data indicates that land rental market allows land transfer from labor-poor to labor-rich farmers (table 2). Access to productive labor (aged between 10 and 49) is very important in land transfer. For instance, the size of adult labor for households which share-in land exceeds almost by 30 percent when compared to households that share-out their land. Similarly, households that rent-in land have on average 20% more adult labor than households that rent-out their land. There is also a similar pattern for ox and livestock ownership. However, the reverse is true for land holding. Despite the egalitarian nature of land holding, households that cultivate someone’s land have on average 15% less land than those households that rent-out or share-out their land. Land rental market, therefore, facilitates the transfer of land from households that own less draft oxen and adult labor to households who own more of these resources. In general, in a country where factor markets don’t exist or operate in an imperfect environment, land rental market has a role in compensating the weakness of factor markets, especially the negative impact of the absence of active rental market in oxen and imperfections in the credit market. It also helps to harmonize the allocation of different
factors of production among different farm households and, consequently, to improve allocative efficiency.

Existing land rental markets have also transferred land from old to younger people. The average person who rented-in land is on average 8 or 9 years younger than those that rented-out. On the other hand, rental market has also allowed land transfer from sick persons to healthy persons. When compared to households that rent-in or share-in land, the percent of household heads who were sick in the past 12 months is on average 20% and 34% more than in those households which share-out and rent-out their land, respectively. Beyond potential gains in efficiency, all these indicate the positive contribution of land rental markets to improving the welfare of both parties that were involved in land rental.

When looked at in terms of gender composition, most land transactions have been carried-out from female-headed households to male-headed households. The number of female-headed households that rent-in or share-in land is on the average 4%, while on average 30% of female-headed households rent-out or share-out their land. This might have created gender disparity in the market but, under the existing market situation, is largely useful for the welfare of both parties involved in the market.

Land rental market has also contributed to employment generation. Households that rent-in or share-in land employed twice more non-family labor (hired labor) than the average households that did not engage in the market. This is expected to improve the social welfare of the community. In general, existing informal land transactions have contributed to the objective of equity by enhancing the welfare of both parties involved in the market and the community at large.

The study has also tried to assess the existence of any relationship between households’ food security and income level and their participation in the land market (table 3). The survey data show that most of the households who supplied land to the rental market are food deficit, while the reverse is found true for households that leased-in land.
Table 2. Characteristics of households who participated in the land rental market

<table>
<thead>
<tr>
<th>Household status</th>
<th>HHs not engaged in land transactions</th>
<th>HHs engaged in land transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rented-in land</td>
<td>Shared-in land</td>
</tr>
<tr>
<td></td>
<td>Land (including pasture land) (ha)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.05</td>
<td>0.99</td>
</tr>
<tr>
<td></td>
<td>Labor (ME)</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>Ox (number)</td>
<td>1.73</td>
</tr>
<tr>
<td></td>
<td>Livestock (TLU)</td>
<td>3.62</td>
</tr>
<tr>
<td>HHs characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex (% of female-headed HHs)</td>
<td>14.1</td>
<td>3.6</td>
</tr>
<tr>
<td>Age</td>
<td>43.4</td>
<td>42.7</td>
</tr>
<tr>
<td>Number of persons</td>
<td>6.15</td>
<td>6.74</td>
</tr>
<tr>
<td>Number of persons between 10 and 49</td>
<td>3.75</td>
<td>3.93</td>
</tr>
<tr>
<td>Health condition of head 12 months prior to the survey (% sick)</td>
<td>30</td>
<td>24</td>
</tr>
<tr>
<td>Use of hired / exchanged labor</td>
<td>% of HHs</td>
<td>19</td>
</tr>
<tr>
<td>N</td>
<td>2122</td>
<td>439</td>
</tr>
</tbody>
</table>
On average 73% of households who leased-out land are food deficit, while the corresponding figure for households who leased-in land is about 47%. The average households who rented-in land produced 600 kg of surplus grain, while the average household who rented-out its land had a deficit of about 320 kg of food. On the other hand, households who did not take part in the market are almost food secure. In general, survey data indicates that the need to become food self-sufficient has a low probability to initiate participation in land rental market. However, being food insecure (for households that leased-out) and/or the need to earn more income and fight poverty (for households that leased-in) could trigger participation in land market.

Despite the aforementioned statistics, which indirectly shows the impact of land rental market on equity, the level of variation between the forgone income by households’ decision to rent-out their land (i.e., the minimum net farm income that could be generated if the land remained in the hand of its owner) and the rental fee is the ultimate indicator of the market impact on the welfare of market participants. The survey data indicates that rental fee for a hectare of land during the survey year varied between 384 and 653 Birr, while net-farm income that could be generated from a hectare of land was in the range of 1434 and 4669 Birr. This implies that the minimum rental fee should be Birr 1434 for a hectare of land. It could, therefore, be concluded that land rental market does not have a positive impact on equity, if it is defined in terms of economic relationship between the two parties. However, if households who leased-out their land had no opportunity to farm their land, the benefit was to both parties. Moreover, if we define equity broadly to include the welfare of all community members, land rental market improves the welfare of the community as it enhances productivity of resource that otherwise could be underutilized, and creates the opportunity to produce more food at the community level.
Table 3. Food security level and income of households participated in the rental market

| Percent of food-secure households (from own production, exclude root crops) | HHs not engaged in land transactions | HHs engaged in land transactions |
|---|---|---|---|---|---|
| | Rented-in land | Shared-in land | Rented-out land | Shared-out land |
| 26% | 56% | 50% | 23% | 29% |

<table>
<thead>
<tr>
<th>Food grain balance (kg/average household)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>-62</td>
<td>599</td>
<td>137</td>
<td>-320</td>
<td>-238</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Household income (Birr)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2957</td>
<td>3382</td>
<td>3222</td>
<td>1741</td>
<td>1470</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Per capita HH income (Birr)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>506</td>
<td>519</td>
<td>523</td>
<td>314</td>
<td>238</td>
</tr>
</tbody>
</table>

| N | 2122 | 439 | 404 | 70 | 90 |
5. Land Rental Market and Economic Efficiency

Currently, close to 11.5 million farmers are said to be engaged in farming and other agricultural activities in Ethiopia. These farming units are quite heterogeneous. There are marked variations in agricultural resource endowments. A considerable portion of farm households do not own oxen for draft power. CSA data indicates that the number of draft oxen per farm household is 1.02 (CSA 2003). There are households with insufficient labor force (inadequate labor supply for lack of energy, health or small number of adult members). Capital in terms of seed, cash to purchase modern inputs and other services are also problems that constrain production.

Under such circumstances, there is no doubt that part of the country's agricultural land is underutilized because of lack of one or more of the essential inputs for production. Many cases of land rentals and sharecropping that take place currently arise from such conditions. Hence, land markets have important resource transfer and reallocation roles that would benefit the development of the agricultural sector and the economy at large (Berhanu 2004).

A recent study by EEA/EEPRI and the World Bank researchers (Deininger et al. 2003) confirmed that improving security of land ownership and transferability of land in Ethiopia can have a significant impact on overall output and household welfare. Econometric analysis indicates that through its impact on investment in terraces for soil conservation alone, abolition of further administrative redistribution of land is estimated to increase annual output by about 1.5%. Adding transferability of land rights would increase output by an additional 4.4%.

The present study had examined some of the factors that enhance the positive impact of land rental markets on agricultural efficiency (table 4). These factors include improved investments on farms, better allocation of production factors to enhance allocative efficiency in resource use, contribution to labor mobility and development of a vibrant off-farm economy. Improved efficiency in the use of agricultural extension services could also be considered as one of the gains from land rental market allowing land transfer from
farmers who use the services of agricultural extension less intensively than those who use more regularly and exhaustively.

The result indicates that land rental markets have positive effects on agricultural efficiency in two ways: it intensifies the use of more modern farm inputs and improves the reallocation of primary factors of production. There is a marked difference in fertilizer use among households that acquire farm lands through rental markets and households that lease out their lands. Among the surveyed 4585 households, on average 78% of farm households that rent-in or share-in land applied inorganic fertilizers, which exceeds by 26% and 21% when compared to households which rent-out land and did not participate in land rental market, respectively. The intensity of fertilizer use is also high among farmers who rent-in or share-in farmlands. Fertilizer application on a hectare of land was about 160 kg and 183 kg for households that rent-in and share-in lands, respectively. However, it is only 71 kg and 47 kg for households that rent-out and share-out, respectively, their farmlands.

There is also a similar trend in the use of improved seeds. On average about 48% of farmers that rent-in or share-in land use improved seeds, while only 28% of farmers that did not engage in land markets use this important technology. Moreover, the intensity of improved seeds use is high in the former case. The intensity of improved seeds use on a hectare of cultivated land is about 148 kg for farmers who rent-in or share-in land, which is higher by 65 kg and 75 kg when compared to farmers that did not participate in land markets and rent-out/share-out their land, respectively. In general, land rental market encourages short-term investments on land. The survey data indicates that households’ leased-in land doubled their investment on land. The result could imply the positive impact of land rental market on long-term investment that could be realized if long-term land rental markets are allowed.

Land rental markets have also a positive impact on improving the reallocation of factors of production. The market seems to contribute for land consolidation and formation of economically viable farm unit that help more efficient use of farm resources.
Table 4. Land transactions and farm efficiency in Ethiopia

<table>
<thead>
<tr>
<th>Household status</th>
<th>HHs not engaged in land transactions</th>
<th>HHs engaged in land transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rented-in land</td>
<td>Shared-in land</td>
</tr>
<tr>
<td>Use of modern farm-inputs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of HH utilized improved seeds</td>
<td>33</td>
<td>50</td>
</tr>
<tr>
<td>Intensity of improved seeds use (Kg/ha)</td>
<td>83</td>
<td>149</td>
</tr>
<tr>
<td>% of HH utilize inorganic fertilizers</td>
<td>57</td>
<td>79</td>
</tr>
<tr>
<td>Intensity of Fertilizer use (Kg/ha)</td>
<td>125</td>
<td>160</td>
</tr>
<tr>
<td>Money spent on land (variable cost) (Br./ha)</td>
<td>258</td>
<td>487</td>
</tr>
<tr>
<td>Intensity of primary factors' use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor-land ratio (amount of potential labor on 1 hectare of land)</td>
<td>3.86</td>
<td>4.21</td>
</tr>
<tr>
<td>Ox-land ratio (amount of potential ox on 1 hectare of land)</td>
<td>2.04</td>
<td>3.14</td>
</tr>
<tr>
<td>Availability of labor and use of hired labor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of persons between 10 and 49</td>
<td>1.91</td>
<td>2.09</td>
</tr>
<tr>
<td>Use of hired/exchanged labor (% of hhs)</td>
<td>19</td>
<td>47</td>
</tr>
<tr>
<td>N (for cases not specified)</td>
<td>2122</td>
<td>439</td>
</tr>
</tbody>
</table>
Although farm households that rent-in or share-in land have not only applied more improved technologies, they have got the opportunity to use labor and ox that otherwise would have been underutilized or unutilized. The ratio of labor to land or draft-oxen to land is high among households that have got land through rental market. For instance, labor-land ratio and oxen-land ratio among households that rent out their land through fixed rental or sharecropping arrangement is only 63% and 56%, respectively, of households that rent-in or share-in lands.

Participation in non-farm activities is slightly higher for households that marketed their land (table 5). The survey data indicates that about 36% of households that rented-out (or shared-out) their land participated in non-farm activities, while the corresponding figure for those who rented-in or shared-in land is only 29% and 33%, respectively, for those who didn’t participate in land rental markets. However, in terms of income from non-farm activities, remittance or relief, it is not households that spent their time more on non-farm activities that earn more. The average household that rented-in (or shared-in) land earned about 1106 Birr from these activities, while those who rented-out (or shared-out) got on average about 510 Birr per annum. In general, the data suggests that households that rent-out (or shared-out) their land have engaged in more diversified income generating activities but earned less while the reverse is true for households that rented-in (or shared-in) land. This suggests that households who got extra land from rental market are not only doing better in their farming activities but also in their non-farm activities probably by concentrating on a few activities that help them to realize the benefit of specialization. The positive relationship between the amount of cash income from non-farm activities and high level participation in land rental markets may depict the fact that the level of non-farm activities in the study areas is too small to affect farming activities negatively.
Table 5. Land transactions and participation in off-farm employment and agricultural extension services in Ethiopia

<table>
<thead>
<tr>
<th>Households participation in non-farm activities and extension programs</th>
<th>HHs not engaged in land transactions</th>
<th>HHs engaged in land transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of HH head that participated</td>
<td>33</td>
<td>Rented-in land</td>
</tr>
<tr>
<td>% of other members that participated</td>
<td>41</td>
<td>Shared-in land</td>
</tr>
<tr>
<td>Cash income from non-farm activities, including remittance and relief (Birr/HH/annum)</td>
<td>674</td>
<td>Rented-out land</td>
</tr>
<tr>
<td>Value of non-farm earnings obtained in kind (Birr/HH/annum)</td>
<td>331</td>
<td>Shared-out land</td>
</tr>
<tr>
<td>% HHs that participated in extension package programs</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>% HH head's that contacted village DAs</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>% HHs that demanded more frequent contact with DA</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>% HHs that participated in trainings</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>N (for cases not specified)</td>
<td>2122</td>
<td>439</td>
</tr>
</tbody>
</table>

Land and the Challenge of Sustainable Development in Ethiopia
Households that rented-in (or shared-in) land participated better in previous extension programs and had more contact with village development agents (DAs). Moreover, they have participated more in extension trainings, listen more to agricultural programs on the radio, and have greater interest in closer contact with DAs in the future. The high use of agricultural extension services among households that rent-in lands may indicate that they opt for specialization in farming than those who rented-out their lands or cultivated their own land.

The survey data (table 6) indicates the importance of land rental market in improving the return to key resources (land and labor). Households that lease-in and cultivate someone’s land have better land and labor productivity. Households that lease-in land produce 24% more from a hectare of land than those who lease-out (especially among participants in the land-sharing market). Similarly, farm labor productivity among households who lease-in lands is 64% higher than households who lease-out their land. As the government claims that Ethiopia’s development strategy is mainly targeted on efficient use of land and labor, the land rental market should be considered by the authorities as one of the instruments to realize the strategy.
Table 6. Land market and productivity

<table>
<thead>
<tr>
<th>Basic characteristics of participants of land market</th>
<th>HHs not engaged in land transactions</th>
<th>HHs engaged in land transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HHs not engaged in land transactions</td>
<td>Rented-in land</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor productivity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Birr per adult labor</td>
<td></td>
<td>971</td>
</tr>
<tr>
<td>Birr per working hour</td>
<td></td>
<td>2.01</td>
</tr>
<tr>
<td>Land productivity</td>
<td></td>
<td>1471</td>
</tr>
<tr>
<td>Gross margin (Br./ha)</td>
<td></td>
<td>1293</td>
</tr>
<tr>
<td>Net farm income (Br./ha)</td>
<td></td>
<td>2122</td>
</tr>
</tbody>
</table>

Land and the Challenge of Sustainable Development in Ethiopia
6. Econometric Evidence

A regression model is estimated to support some of the results obtained through the descriptive analysis and establish whether basic economic relationships that are assumed to initiate farmers to participate in the land rental market are supported by empirical evidence.

Farmers' decision to participate in the land rental market (i.e., the decision to lease-in or lease-out land both in fixed rental and sharecropping markets) is estimated using the probit model which is expressed using the following equation:

\[ I_i = \beta_1 + \beta_2 X_i \]  

where \( I_i \) is the observed decision of a given household whether to take part or not in the land rental market; it is defined as

\[ I_i = 1 \text{ if } I^* > 1 \text{ and } I_i = 0 \text{ if } I^* < 0 \]

where \( I^* \) is the critical or threshold level of the index of personal and non-personal characteristics of a given farmer to separate farmers that leased-in and leased-out farm land in the land rental market, and \( \beta_1 \) represents various exogenous variables that affect farmers' decision whether to take part or not in the extension program.

The threshold \( I^* \), like \( I_i \) is not observable, but if we assume that it is normally distributed with the same mean and variance, it is not only to estimate the parameters of the index given in (i) but also to get some information about the unobservable index itself. The calculation which is given by Gujarati (2003) is as follows:

Given the assumption of normality, the probability that \( I^* \) is less than or equal to \( I_i \) can be computed from the standardized normal cumulative distribution function (CDF) as:

\[ P_i = P(Y=1|X) = P(I^* \leq I_i) = P(Z_i < \beta_1 + \beta_2 X_i) = F(\beta_1 + \beta_2 X_i) \ldots (ii) \]

where \( P(Y=1|X) \) means the probability that an event occurs given the values of the \( X \), or explanatory variables and where \( Z_i \) is the standard
normal variable, i.e., \( Z \sim N(0, \sigma^2) \). \( F \) is the standard normal CDF, which, explicitly written in the present context, is:

\[
F(I_i) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{I_i} e^{-z^2/2} dz \tag{iii}
\]

= \frac{1}{\sqrt{2\pi}} e^{\beta_1 + \beta_2 X_i} \int_{-\infty}^{I_i} e^{-z^2/2}

Since \( P \) represents the probability that a household decides to participate in the land market, it is measured by the area of the standard normal curve from \(-\infty\) to \( I_i \).

Now to obtain information on \( I_i \), the utility index as well as \( \beta_1 \) and \( \beta_2 \), we take the inverse of (ii) to obtain:

\[
I_i = F^{-1}(P_i) = F^{-1}(I_i) \tag{iv}
\]

= \beta_1 + \beta_2 X_i

where \( F^{-1} \) is the inverse of the normal CDF. This equation was estimated using STATA.

Many variables \( (X_i) \) were hypothesized to influence farmers’ decision to participate in the land rental market (table 7). The ability and willingness of farmers to participate in the land rental market is hypothesized to be influenced by household characteristics, resource endowments, productivity, and use of farm technologies, household food security and income level, income from non-farm activities. Details of the variables hypothesized to influence farmers’ participation are listed below. The dependent variable is dummy variable where it is equal to one if farmers participate in the land-rental market (if leased-in or leased-out) and equal to zero, if not.

Despite a high correlation between factors that lead households to participate in a fixed rental market or land-sharing (or crop-sharing) markets, they could not be affected by the same factors. Consequently, two regressions were carried out.
Table 7. Variables considered in the regression model

<table>
<thead>
<tr>
<th>HH characteristics:</th>
<th>Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Age of HH head</td>
<td>Age could be considered as a proxy for experience and could affect decision to participate in either way. But being young could induce households to lease-in someone’s land.</td>
</tr>
<tr>
<td>• Sex of household head (dummy)</td>
<td>As a male-dominated society, participation in land market is assumed to have a gender-divide.</td>
</tr>
<tr>
<td>• Literacy of household head (dummy)</td>
<td>Education could improve access to information on new ideas and inputs provided by extension workers. Therefore, the more the household head is educated, the more likely s/he is to participate in land rental market (lease-in someone’s land) and earn more.</td>
</tr>
<tr>
<td>• had spent 9 or more years in school (dummy)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HH resource ownership:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Household labor availability (Man equivalent)</td>
<td>Participation in land rental market could lead to higher or intensive management of farm activities. Hence, a higher size of labor is expected as a positive element for participation.</td>
</tr>
<tr>
<td>• Household size (adult equivalent)</td>
<td>Household size is hypothesized to affect participation in someway depending on other household characteristics.</td>
</tr>
<tr>
<td>• Own oxen (dummy, none, or one or more)</td>
<td>Having no oxen (draft power) is hypothesized to trigger households to supply their land either in fixed or crop-sharing market. The reverse is true if households have more oxen.</td>
</tr>
<tr>
<td>• Own oxen (dummy, one or less, versus two or more)</td>
<td></td>
</tr>
<tr>
<td>• Total cultivated land (hectare)</td>
<td>Size of land cultivated by peasants is hypothesized to affect participation in someway depending on other household characteristics.</td>
</tr>
<tr>
<td>• Household total income (Birr/household)</td>
<td>Even though farm technologies were disseminated to farmers with credit, they have been required to make partial down-payments. Hence, the level of household income could enhance farmers’ chance to participate in extension.</td>
</tr>
<tr>
<td>• Household non-farm income (Birr/household)</td>
<td>Households’ income from non-farm activities could enhance or hold back participation in the land rental market depending on the level of its competition for labor for farm activities.</td>
</tr>
</tbody>
</table>
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**Extension and resource productivity:**

- **HH had participated in the extension program (dummy)**
  - Participation in extension program and having high return from land and labor could initiate farmers to look for more land. On the other hand, farmers utilizing their land less efficiently could supply land to the rental market (if they have other alternative livelihoods such as non-farm activities).

- **land productivity (net return to farmland) (Birr/hectare of cultivated land)**

- **labor productivity (return to labor) (Birr/man equivalent)**

**Use of improved inputs:**

- **Use of fertilizers (dummy)**
  - Farmers applying improved technologies could look for more land to enhance the scale of economy in technology utilization.

- **Use of improved seeds (dummy)**

### 7. Results of the Econometric Analysis

Table 8 provides a statistical summary of household characteristics and some details on the use of modern farm inputs, participation in non-farm activities and extension package programs. The average household size varies between 4 and 7 persons. Households that share-in or rent-in land have a larger family size and more adult labor. They are also headed by younger and male members than households who rent-out or share-out their land.

As expected, households who rent-in or share-in have a slightly smaller land size but own more draft-oxen, livestock and labor. The average household that rents-in land has 4.21 units of labor and 3.14 units of oxen per one unit of land, while the one who rents-out its land has only 2.91 units of labor and 1.87 units of oxen on the same land. Similarly, the household that shares-in someone's land has 4.5 and 2.5 units of labor and oxen, respectively, on a hectare of land, which unfavorably compares to 2.6 and 1.3 units of labor and oxen, respectively, for the household which shares-out its farm land.

Similar differences are reflected in the use of modern farm inputs and participation in extension package programs and non-farm activities. For instance, 48% of households who share-in or rent-in
reported that the average use of improved seeds was 148 kg on a hectare of land. The corresponding figures for households who rent-out or share-out their land is only 28% and 73 kg/ha. A similar trend is observed in terms of participation in extension programs. About 75% and 86% of households who rent-in or share-in land reported that they had participated in the extension package program and have recently contacted extension agents, respectively, whereas only 45% of households who rent-out or share-out their land had any experience of the package program. However, 61% of them reported that they have met extension agents once or more times in the past 12 months.

All surveyed households have reported that they had participated in non-farm or off-farm activities. On average, 1.5 persons were engaged in non-farm income generating activities on one or more occasions in the past 12 months. Unlike the marginal difference in participation in non-farm activities, average income from such activities varies significantly among households. In general households who rent-out or share-out their land earned less from non-farm activities.

Econometric results from the probit model indicate that households headed by female and old persons have high probability to rent-out their land. The same is found true for households with illiterate heads. On the other hand, the likelihood to rent-in farm land is high among households with a relatively large farm size and headed by male and younger persons. Similarly, participation in the extension package program, use of fertilizers and the level of household income were found statistically significant to influence positively households’ decision to rent-in and cultivate someone’s land. However, there is a significant variation among the different regions.
Table 8. Summary statistics of participants of land rental markets

<table>
<thead>
<tr>
<th>Factors</th>
<th>Fixed rentals</th>
<th>Share-cropped</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rent-out</td>
<td>Rent-in</td>
</tr>
<tr>
<td><strong>Resources and basic characteristics of household head:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Own land (ha)</td>
<td>1.17</td>
<td>0.99</td>
</tr>
<tr>
<td>Number of people less than 10</td>
<td>1.55</td>
<td>2.11</td>
</tr>
<tr>
<td>Number of people between 10 and 49</td>
<td>3.19</td>
<td>3.93</td>
</tr>
<tr>
<td>Number of people above 50</td>
<td>0.68</td>
<td>0.34</td>
</tr>
<tr>
<td>Has male household head</td>
<td>74%</td>
<td>96%</td>
</tr>
<tr>
<td>Age of household head</td>
<td>50.8</td>
<td>40.9</td>
</tr>
<tr>
<td>Has literate household head</td>
<td>38%</td>
<td>59%</td>
</tr>
<tr>
<td>Draft ox ownership (No./HH)</td>
<td>1.5</td>
<td>2.05</td>
</tr>
<tr>
<td>Livestock ownership (TLU/HH)</td>
<td>3.66</td>
<td>5.38</td>
</tr>
<tr>
<td>Labor/land ratio</td>
<td>2.91</td>
<td>4.21</td>
</tr>
<tr>
<td>Ox/land ratio</td>
<td>1.87</td>
<td>3.14</td>
</tr>
<tr>
<td>Health status of household head (% sick in the past 12 months)</td>
<td>34%</td>
<td>24%</td>
</tr>
<tr>
<td><strong>Use of modern farm inputs:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent of households that reported applying improved seeds</td>
<td>34</td>
<td>50.2</td>
</tr>
<tr>
<td>Amount of improved seeds used (kg/ha)</td>
<td>79</td>
<td>149</td>
</tr>
</tbody>
</table>
Table 8. Contd.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Fixed rentals</th>
<th></th>
<th>Share-cropped</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rent-out</td>
<td>Rent-in</td>
<td>Share-out</td>
<td>Share-in</td>
</tr>
<tr>
<td>Percent of households applied fertilizers</td>
<td>51.4</td>
<td>78.8</td>
<td>53.3</td>
<td>77.5</td>
</tr>
<tr>
<td>Amount of inorganic fertilizer used (kg/ha)</td>
<td>71.1</td>
<td>159.9</td>
<td>46.9</td>
<td>182.7</td>
</tr>
<tr>
<td>Participation in non-farm activities:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of persons participated</td>
<td>1.47</td>
<td>1.63</td>
<td>1.57</td>
<td>1.6</td>
</tr>
<tr>
<td>Total income (Br./household)</td>
<td>395</td>
<td>1042</td>
<td>625</td>
<td>1169</td>
</tr>
<tr>
<td>Cash income (Br./household)</td>
<td>308</td>
<td>183</td>
<td>398</td>
<td>448</td>
</tr>
<tr>
<td>Participation in extension package and programs:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent participated in extension package</td>
<td>45</td>
<td>75</td>
<td>45</td>
<td>76</td>
</tr>
<tr>
<td>Percent had contact with DA in the past 12 months</td>
<td>52</td>
<td>88</td>
<td>69</td>
<td>84</td>
</tr>
<tr>
<td>Future interest in extension program</td>
<td>62</td>
<td>90</td>
<td>78</td>
<td>94</td>
</tr>
<tr>
<td>Percent listened to radio</td>
<td>21</td>
<td>34</td>
<td>10</td>
<td>29</td>
</tr>
<tr>
<td>Percent of HH participating in trainings</td>
<td>32</td>
<td>61</td>
<td>34</td>
<td>32</td>
</tr>
</tbody>
</table>
The factors that trigger participation in crop-sharing (land-sharing) market are largely different from those that prompt farmers to engage in fixed-fee rental market (table 9). Households’ decision to lease-out their land in crop-sharing arrangements is significantly influenced by most social and economic factors. For instance, if the head of the household is female or an old person, the likelihood of the household to share-out its land is high. On the other hand, households with no oxen, low family size and land productivity have a high probability to engage in crop-sharing arrangements. Contrary to what is expected, households with high income also have high probability to share-out their land.

On the other hand, having more oxen, more land, and less labor, participation in extension and fertilizer adoption, low food self-sufficiency level, low labor productivity, and high household income are found to be statistically significant enough to influence positively the households’ decision to lease-in land.
Table 9. Determinants of participation in the land market

<table>
<thead>
<tr>
<th>Determinants</th>
<th>Fixed rentals</th>
<th>Share-cropped</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rent-out</td>
<td>Rent-in</td>
</tr>
<tr>
<td>Owned land (ha)</td>
<td>-0.024</td>
<td>0.199***</td>
</tr>
<tr>
<td>Labor (ME)</td>
<td>-0.113</td>
<td>-0.038</td>
</tr>
<tr>
<td>Sex (dummy)</td>
<td>-0.328**</td>
<td>0.483***</td>
</tr>
<tr>
<td>Logage (years)</td>
<td>1.093***</td>
<td>-0.351***</td>
</tr>
<tr>
<td>Literacy (dummy)</td>
<td>-0.249*</td>
<td>0.027</td>
</tr>
<tr>
<td>Spent 9 or more years in school (dummy)</td>
<td>-0.096</td>
<td>0.061</td>
</tr>
<tr>
<td>Oxen (dummy)</td>
<td>-0.333</td>
<td>-0.029</td>
</tr>
<tr>
<td>Household size (AE)</td>
<td>0.012</td>
<td>-0.012</td>
</tr>
<tr>
<td>Use of fertilizers</td>
<td>0.215</td>
<td>0.302***</td>
</tr>
<tr>
<td>Participation in extension</td>
<td>-0.017</td>
<td>0.299***</td>
</tr>
<tr>
<td>Food security level (from own production)</td>
<td>-0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Household income</td>
<td>-0.000</td>
<td>0.000**</td>
</tr>
<tr>
<td>Income from non-farm activities</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Net farm income (Br./ha)</td>
<td>-0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Gross farm income (Br./ha)</td>
<td>0.000</td>
<td>-0.000</td>
</tr>
<tr>
<td>Labor productivity (Br./ha)</td>
<td>-0.001</td>
<td>-0.001</td>
</tr>
<tr>
<td>N</td>
<td>3670</td>
<td>3670</td>
</tr>
<tr>
<td>Log-likelihood</td>
<td>-238.43</td>
<td>-1069.45</td>
</tr>
</tbody>
</table>

* Significant at 10%
** Significant at 5%
*** Significant at 1%
8. Conclusion and Policy Recommendations

Due to abject poverty, improving tenure security is not a sufficient condition to induce investment, especially long-term investment. Therefore, any land reform should be accompanied by measures that could induce investment on land, irrigation and other alternatives that could increase the productive capacity of farm land and its sustainable utilization.

Recent literature on the causes of long-term agricultural stagnation in Ethiopia have started to broaden the thinking on Ethiopian agriculture by bringing into the picture the widespread homogeneity of peasants (or too little inequality) in rural Ethiopia (Devereux, Amdissa and Sabates-Wheele 2005; Rahmato 2005). Critics say that the extent of rural homogeneity has destroyed personal incentives and undermined the effort that has been made to bring about rural development. It is the frequent land redistribution through state-sponsored program and intra-household distribution and increased vulnerability to drought that compel peasants to convert their asset to food, thus changing the rural social structure. This study has argued that a competitive land rental market has an important role in enhancing personal incentives and motivations by introducing entrepreneurship into rural Ethiopia.

The following results illustrate the importance of the land market:


- Land rental markets also create better opportunity for citizens to fight poverty and create more wealth in their communities. Households that leased-in someone’s land have better labor productivity (64% more than those that leased-out) and earn more income from the same unit of land (24% more).

- However, the existing rental market is not competitive and leads to an exploitative type of relationship between the two parties. The major disadvantaged groups are female-headed households and households headed by seniors (old persons).
These groups have largely leased-out their land but earned less than one-fourth of what they could earn if they cultivated their land.

**Policy Recommendations**

- Policy makers should take further policy actions to enhance the performance of land rental market and its competitiveness by enhancing tenure security. Policy makers could consider the Chinese experience in setting-out the time the next potential land reallocation could take place. Policy makers could also work to enlarge the size of the rental market by encouraging participants beyond immediate neighbors. This will enhance the competitiveness of the market and help those households who lease-out their land to get fair payment (rental fee).

- Constraints put on land markets in terms of limiting the contract period and size of land to be supplied to the rental market should be revised to enhance the competitiveness of the market and the long-term interest of the economy. Any restrictions on the size of land farmers are allowed to supply to the rental market, which is too small or unproductive, would not help. Rather, it would be better to limit the upper limit a tenant or leaseholder can acquire.

- Once the market starts to be competitive, the government could set the minimum rental fee to protect the disadvantages (or the powerless) like female-headed households and households headed by old (retired) persons.

- Until the non-farm economy and factor markets grow in rural areas, policy makers should consider the land rental market as one of the development tools available to:
  - Fight poverty (at community level) and low productivity of labor and land, and
Address problems caused by land scarcity, low non-farm employment, and imperfections in the rural credit market;

Ensure a more effective implementation of the new government development programs — the commercialization of peasant agriculture and livelihood diversification.

Ethiopia’s land policy should be revisited to improve the economic value of rural land. It is not fair to discourage land rental markets because of the fear of the land tenure system of the pre-Revolution period. Based on research findings, policies should be formulated to enhance the positive outcome of land rental markets.

Notes

1. Despite discouraging periodic land redistribution and allowing some form of regulated land rental market, the basic principle of the Derg’s land policy has been maintained to date.

2. In his end-of-year report to Parliament in June 2004, the Prime Minister announced that the privatization of land in Ethiopia would take place only ‘over the EPRDF’s dead body’.

3. However, the EEA/EEPRI survey of 8540 households in 2002 has indicated that over 94% of the farmers will not sell their land and migrate to urban areas even if the government allows them to sell their land in a free market (EEA/EEPRI, 2002).

4. Despite the recent halt of the land redistribution program, the Ethiopian constitution states that every peasant has the right to get farm land for free.

5. Some Woredas in western Harar and Arsi became vulnerable to drought in 2002/03 for the first time, while about 35% of the population of Wolol have received food aid annually since 1997.

6. This should not imply that state ownership of land or prohibition of land sale does not prevent rural-urban migration especially during the early days of the land policy.

7. As land market is still not formally recognized or supported by institutions, the author expected the existence of some unreported transactions especially in regions where tenure insecurity is high.
8. The document has been distributed by the outgoing parliament for public comment and the author has sent a 3-page comment. The author has no information whether the law has been ratified or not.

9. As most existing regional government laws restrict the size of land a peasant farmer can rent-out, the data provided by peasants on the size of rented land may be on the lower end.

10. The maximum size of land a given farmer is allowed to rent or share could be decided by taking equity (employment) and efficiency factors into consideration.

11. Article 9 of the draft proclamation imposed many conditions that could lead to deprivation of land use-rights. It states that land use-right could be dispossessed if holders are deceased and have no heirs or gone for resettlement or left the locality on own wish and stayed over a long period of time. It also states that upon the wish and resolution of peasants and where land redistribution becomes the only alternative, land will be redistributed taking into consideration the minimum desired size of holding. It also says that land distribution will be undertaken on irrigable land in order to use irrigable land properly and equitably.

12. This is what China has implemented.

13. This should not be interpreted to mean that the market benefited female-headed households at the same level as that which a competitive market could offer. As we will see later, households that leased-out their land got less than one third of what the most inefficient farmer gets from a hectare of land. Under a competitive market, the minimum rental fee should be the minimum net farm income level.

14. This is contrary to what the statistics on socio-economic characteristics of market participants suggest.

15. Households’ report on their use of improved seeds seems exaggerated. The reported figures could be interpreted as households that tested (or have experience with) improved seeds.

16. This could be a two-way cause-and-effect relationship; however, the point is that households that rent-in (or share-in) use more of the services provided by the agricultural extension system.

17. Results from regional level regression analysis are not reported.
References


Land and the Challenge of Sustainable Development in Ethiopia


Land Transaction and Market-Oriented Production: The Case of East Shewa Zone

Bezabih Emana

1. Introduction

Agricultural land is a fundamental source of income and livelihood for the rural population. Ethiopia has about 11.05 million hectares of land suitable for agriculture. The land is suitable for the production of temporary/annual crops and permanent crops whereas communally-owned land provides opportunities for an extensive livestock production. Over 73 percent of the agricultural area of Ethiopia was used for temporary crop production in 2001/02. However, farming is dominated by smallholder agriculture and the farm size is declining and fragmented. Natural resource degradation is going on at an alarming rate.

The debate on the effect of the land tenure system is controversial. On the one hand, poor land tenure is blamed for relatively slow agricultural growth, which can emanate from frequent land allocations by local leaders, thus creating insecurity (Johnson 1995). Poorly defined land rights may directly reduce production since farmers may be unable to access credit without the use of their land as collateral (Basely 1995). Experiences elsewhere, e.g., China, indicate that the right to use land for longer or indefinite periods of time encourages the use of land saving investment (Li et al. 1998). Another role of well-defined land right is enhancing the possibilities for gains through land transaction by encouraging land renting.

Supporters of government intervention in the land tenure system attribute low agricultural growth to factor and product market inefficiencies rather than the land rights. A weak credit system and

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1 This paper was prepared based on research conducted by a team of WIBD Consult, namely, Bezabih Emana, Kejela Gemtessa and Melaku Jirata in 2004. Proper citation should include the three authors.
incomplete markets may lead to inefficient and socially dangerous situations with privatization of land rights. Empirical evidences are not available to strongly justify the arguments.

Ethiopia experienced different types of tenure systems. In the following section, the major tenure systems relevant to land market will be briefly reviewed.

2. Evolution of the Land Market in Ethiopia

The land tenure system has been an issue of power and governance in Ethiopia. Land tenure systems evolved in response to the political environment, rural demographic dynamics, expansion of markets, natural resource conditions, and social and physical infrastructure (Ahimed et al. 2002). Historically, the land tenure system of Ethiopia can be broadly classified into three: (i) the feudal land tenure system, (ii) the state ownership under the socialist system, and (iii) the semi-liberal and market oriented system adopted since 1991. Each of the tenure systems has peculiar features regarding forms of land transaction.

According to Dessalegn (1984), the land tenure during the feudal system could be characterized by the rist, semon and maderia or yemengist forms of landholding.

All the three forms of landholding were similar in terms of providing use right to the holders while the institutions with the ultimate reversionary rights over individual holdings were different. The traditional rist system in the North reduced the need for land markets, compared to the South where freehold tenure was dominant.

The feudal land tenure system was recognized by scholars as a fundamental restraint to the country’s agricultural development, as the underlying cause of land degradation, and unequal income distribution. When the Derg regime took power in 1975, it launched a radical land reform ending all customary land tenure systems. All rural lands were declared state property and redistributed to the tillers, primarily based on family size, and quality of the land in an attempt to create equity and fairness in land acquisition. The power
and responsibility to allocate land was given to local peasant associations. Through this the government became the controller of the land. The only means of obtaining access to land was through membership of the peasant association.

All forms of land transaction and wage labour in the rural areas were banned. Hence, farmers could neither sell, mortgage, lease out and transfer the land allocated to them, nor use hired labour. Land rental and farm labour markets legally ceased to exist. But the needs of the rapidly growing population could not be met through land redistribution. As a result, informal land transaction through land leasing between close relatives and friends started gradually. The practice of lending and giving land indicates an altruistic motive on the part of the landowners to support the incomes of their relatives and friends. In contrast to the share-cropping and fixed-rent arrangements that were dominant under the feudal system, lending and giving of land were practiced as a result of population pressure and increasing landlessness. Parents also started to temporarily give part of their lands as a gift to their newly married children.

In the 1990s, the Derg regime adopted the “mixed economy” policy that aimed at liberalization of some of the highly centralized system of economic management and conferred a transferable and life-long lease to holders of rural land. Thus, farmer to farmer transfer of land and land contract became official. But the government did not establish legal procedures and institutional mechanisms to allow the development of formal land markets (Ahimed et al. 2002).

The FDRE constitution reaffirmed what the previous regime had established by institutionalizing the state ownership of all rural lands. Sub-article 40(3) retains land ownership in the hands of the state and the peoples of Ethiopia and declares that land shall not be subject to sale or to other means of transfer. Accordingly, the farmers have the right to use land indefinitely and lease it temporarily to other farmers and pass it on to their children.

But certain issues such as the farm size that farmers are entitled to and how to get access to land are left to regional governments to resolve. The land policy of the Tigray Region (1997) and the land use and administration proclamation of Oromia (No.56/2002),
declares provision of land certifications to holders and limits
distribution/redistribution of land to only certain specified categories
of land. In Tigray, the land lease duration allowed is up to 10 years if
the lease uses modern technologies and 2 years if only traditional
technologies are used (Ahmed et al. 2002). In Oromia, the policy
permits leasing out of up to half of the land holding for up to 15
years if modern technologies are used and 3 years otherwise.

Due to the population pressure, land contracting through share
cropping and renting is largely practiced following the customary
leasing practices. This practice can be considered as informal as the
leasing agreement requires the approval of the local responsible
organ, in Oromia, for example.

One of the major reasons for limiting land transaction is to ensure
the wellbeing of the farming community through income generated
from farming. Important questions, however, can be raised regarding
efficiency of the land use in line with increasing market orientation
to bring about agricultural transformation.

3. Why Land Transaction?

There are different reasons why land is exchanged either temporarily
or permanently. Temporary land transaction occurs when farmers
carry out interlinked contracts. These include the use of land as a
collateral to get access to credit services and granting use right to
money lenders or renting out land for use during a limited period of
time in exchange for money or other benefits. From the 629
borrowers surveyed in 2004, 9% used land as collateral to get credit
from private money lenders while 6.5% used the same to get credit
from Iddir (Bezabih et al. 2005). Land exchange for other inputs
such as labour, oxen, seeds, fertilizer and chemicals is another form
of land transaction. Informal land markets also have the function of
output distribution. This occurs when resource distribution is not
balanced among the farming households. On the other hand, land is
exchanged on a permanent basis when sold.

Even in pastoral areas where crop farming is a new phenomenon,
cropland is owned as private property and exchanged either as rent
or sharecropping or even sold. In Afar, for instance, due to lack of experience and other production inputs, flood land, which is fertile for crop production, is rented to the highlanders at Birr 600 per ha or sharecropped. In the Somali Region, irrigated land is rented at Birr 500-600 per ha or sold at Birr 3000 per ha.

As population grows, the pressure on land increases and opportunities for allocating land to newly emerging households is quite limited. As a result of population increase of young farmers who are often landless, there is unbalanced resource endowment. This leads to emergence of land markets and opportunities to trade and equalize factor endowments. The land rental market transfers land resources from poor to the rich and income from the rich to the poor without creating landlessness.

The landless farmers opt to acquire land for cultivation through renting, sharecropping and borrowing of land (temporary permission to use land freely). Informal land rental markets are common in different parts of Ethiopia. For instance, 26% of farmers leased out land in Tigray during 1995-96 (Berhanu 1998). The figure is 15-33% in northwest Ethiopia (Tesfaye et al. 1999) and 43% in Debre Libanos area (Aklilu and Tadesse 1994).

In the study area, renting of land for one or more years is a major means of contracting land and transferring use right for the specified period. Land renting is motivated by the holder’s lack of capital for investment in the farm or difficulties of meeting some basic needs of the family. This study deals with the role of land renting in agricultural production and boosting of marketable commodities. Hence, land markets perform the following functions:

- Provide tenure security and enable use of credit;
- Reduce land related disputes;
- Improve allocative efficiency and equity;
- Raise productivity;
- Reduce transaction costs.

Due to economic importance, land markets and land tenure security issues have received considerable public attention in sub-Saharan Africa (Ahimed et al. 2002). As stated above, in Ethiopia, land is
owned by the government and the public whereas farmers have use rights. Basically land is allocated to the household through the Peasant Association (PA) using the criteria of number of years of residence in the PA and family size. If the farmer is not tilling the land for some subsequent years, the land might be liable for reallocation to other farmers. Urban and rural lands needed for investment are leased by government. This is the major source of land insecurity in the sub-urban areas encouraging informal land transaction with poor negotiating power of the holders.

It has been emphasized that the agricultural and rural development policy of the country puts land and labor as core resources to be extensively and intensively used to bring about food security and marketable surplus. The objective of this paper is to analyze land transaction which farmers are using to acquire land for production of crops for consumption and marketing. The hypothesis is that land leasing enhances supply of marketable products.

4. The Study Area

The study was conducted in east Shewa Zone, which is located in the central highland of the country. About 55.6 percent of the total land area of the Zone has been utilized for crop cultivation (CSA, 2001/02). Farm land is acquired in two ways in East Shewa. The study was conducted in four districts, namely, Adama, Boset, Dugdabora and Adami Tullu in early 2004.

In the study area, it has been indicated that about 50% of the farmers own use right over farm land and pay taxes to the government. Hence, those farmers who have less access to farmland rent land from poorer farmers or those who have larger farmland. The great majority of poor households rent out their farmland to rich farmers in their communities. The price of land rent ranges between Birr 1200–1600 per ha per year. The poor households exercise such type of land-use arrangement because of resource constraints such as oxen, seed, and sometimes labor.

Land renting is also conducted as a means of advancing agribusiness. It has been observed during the study that despite the modest size of
landholding, business-oriented households rent land to produce cash crops such as haricot beans.

5. Methodology

This study is based on the data collected from samples of farm households organized in groups to undertake on-farm research by Melkasa and Adami Tullu Agricultural Research Centers during early 2004. The purpose of the study was characterization of the farmers’ research group in the area. The data collected include resource bases, household characteristics, land use system, sources of land used for cultivation, production system and disposal, use of commercial inputs and extension services. Qualitative and quantitative data were collected using structured questionnaire and open-ended questions. Experienced enumerators were trained to collect the data under close supervision of the researchers. In total 158 farm households were interviewed to collect the relevant data (table 1). Important observation which requires in-depth analysis is the means farmers, mainly the emerging households, were using to get access to agricultural land.

Table 1. Number of respondents by district

<table>
<thead>
<tr>
<th>District (Woreda)</th>
<th>Number of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boset</td>
<td>28</td>
</tr>
<tr>
<td>Adam</td>
<td>44</td>
</tr>
<tr>
<td>Dugda Bora</td>
<td>14</td>
</tr>
<tr>
<td>Adami Tulu</td>
<td>72</td>
</tr>
<tr>
<td>Total</td>
<td>158</td>
</tr>
</tbody>
</table>

Moreover, group discussions were made with Key Informants such as Peasant Association leaders and elders so as to grasp the facts from the perspective of the community.

Both descriptive and econometric analyses were made using the primary data. The descriptive analysis compares the farmers who rent in land to overcome the problem of land shortage with those operating only their own plots. The econometric model is used to
identify key socio-economic and household features that affect the decision to rent in land.

Logistic model was estimated to analyze the determinants of the probability of renting in land. Following the analogy used by Liao (1994), Gujarati (1988) and Aldrich and Nelson (1984), the logistic distribution function can be specified as:

$$ P_i = \frac{1}{1 + e^{-Z_i}} $$

Where \( P_i \): is a probability of renting in land for the \( i \)th farmer and it ranges from 0-1;

\( e^{Z_i} \): stands for the irrational number \( e \) to the power of \( Z_i \);

\( Z_i \): is a function of \( N \)-explanatory variables and expressed as:

$$ Z_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + ... + \beta_n X_n $$

Where \( X_1, X_2, ..., X_n \) = Explanatory variables;

\( \beta_0 \) - is the intercept;

\( \beta_1, \beta_2, ..., \beta_n \) are the parameters.

The parameters indicate how the Log-odds in favor of renting in land situation change as independent variables change. The unobservable stimulus index \( Z_i \) assumes any values and is actually a linear function of factors influencing the decision to rent in land. As \( Z_i \) ranges form \(-\infty\) to \( +\infty \), \( P_i \) ranges between 0 and 1 and that \( P_i \) is non-linearly related to the explanatory variables. This means that the familiar OLS procedure cannot be used to estimate the parameters. In order to simplify the expression, we need to rewrite the equation in the form of odds-ratio. Accordingly, if \( P_i \) is the probability of renting in land, then \( \frac{1}{1-P_i} \), the probability of not renting in land, which can be written as:

$$ R = \frac{1}{1 + e^{-Z_i}} $$

$$ \frac{1}{1 + e^{Z_i}} $$

(3)
Therefore, the odds ratio can be written as:
\[
\frac{p_i}{1 - p_i} = \frac{1 + e^{Z_i}}{1 + e^{-Z_i}} = e^{Z_i}
\]

Now \( \frac{p_i}{1 - p_i} \) is simply the odds ratio in favor of renting in land. It is the ratio of the probability that the farmer would rent in land to the probability that he/she would not do so. Finally, taking the natural log of equation 4 the log of odds ratio can be written as:
\[
L_i = \ln\left(\frac{p_i}{1 - p_i}\right) = \ln\left(e^{Z_i}\right) = Z_i = \beta_0 + \sum_{j=1}^{n} \beta_j X_{ji} \quad (5)
\]

Where \( L_i \) is log of the odds ratio in favor of renting in land, which is not only linear in \( X_{ji} \), but also linear in the parameters. This model was estimated using the iterative maximum likelihood estimation procedure.

**Definition of Variables and Hypothesis**

The binary dependent variable: In this study, the decision to rent in land is defined as binary dependent variable, where a dichotomous variable takes 1 for those households renting in land and 0 otherwise.

The explanatory variables: The variables expected to influence the dependent variable are the following.

**Land holding** – the size of the land under disposal of the household is a key variable affecting the decision whether a farmer would rent in land or not. As the size of the holding increases, the probability that the farmer rents in land is expected to decline.

i) **Age of the household head** - as the population increases rapidly, the pressure on land and the demand for it increases. As a result, it would be difficult for the PA administration to fully accommodate the rising demand. The young, newly married farmers should either shift their career to other sectors or involve in land transaction to engage in agricultural
production. The chance of shifting to other sectors is limited. It is, therefore, hypothesized that the age of the farmer and the probability of renting in land is negatively associated.

ii) *Livestock holding* – Livestock is a means of saving in the rural areas. It can provide capital to purchase commercial inputs for effective use of the rented in land so that the return over investment in rented land is high. Lack of capital including traction power is one of the reasons why the farmers lease out their land. Thus, livestock size is expected to positively associate with the probability of renting in land.

iii) *Family size* – Production for subsistence is a common practice in rural Ethiopia. As the family size increases the demand for food production increases. Unless yield increasing inputs are used, the land size is expected to increase with increasing family size. It is expected, therefore, that family size positively affects the decision to rent in land.

iv) *Extension service* – In this study, extension service is approximated by the number of visits made by the development agent to the farmer. It is supposed that such contacts prompt the farmer to take measures that would increase production. As one way to increasing productivity, the farmer is supposed to engage in land renting. Hence extension service itself would have an indirect but positive influence on the land transaction.

v) *Education* – Basically education improves the decision making of individuals. In this particular case, education may cause newly emerging households to engage in land renting to produce and earn more or it may help them to look for other options. Hence the effect of education on the relationship cannot be determined before estimation of the model.

6. Landholding and Renting

As stated earlier, land is fundamental to the livelihood of the rural population. Although farmers have the right to acquire land to
sustain the life of their family, the opportunity is very limited. After
generations rotated on tilling of the same land, land productivity is
getting low. Physically, land is no more an ample resource in areas
where population pressure is growing rapidly. In sparsely populated
areas such as the study area, moisture stress is another threat.

Young farmers mostly get access to land for cultivation being
dependent on their parents. This, however, is very dependent on the
harmony between the father and the son. Even under a good
harmony, the youth is not getting adequate size of land to support
his/her family. On the other hand, older farmers who own relatively
larger agricultural land are not able to cultivate their land effectively.
Hence, land renting and share cropping are common practices since
these provide opportunity for both sides to efficiently utilize land.

From the 158 farm households interviewed, 51% were involved in
renting in land. Those households who cultivate only their plots own
an average size of 3.1 ha. The smallest size per household is half a
hectare whereas the maximum is 14.5 ha. On the other hand, those
farmers who are engaged in renting in land have either no land or
hold a maximum of 6.5 ha (in contrast to 14.5) (table 2). About 3%
of them do not have any plot while about 17% cultivate less than 1
ha of land. The difference between the land holdings of the two
groups of farmers (those renting in land and those who are not) is
significantly different at less than 5% level.

The result, however, shows that those households who rent in land
put larger area under crop production and contribute significantly to
production and hence improved livelihood. Although they hold an
average land size of 2.5 ha for use, the renters ploughed 4.8 ha of
land during the 2003 production year. The cash income of this group
of farmers is doubled (table 2). This implies that limiting land
transaction can, to a certain degree, constrain optimum use of land
and may contribute to low production.
Table 2. Land owned, cultivated and income of the two groups

<table>
<thead>
<tr>
<th>Parameters</th>
<th>No renting of land (N=77)</th>
<th>Rented in land (N=81)</th>
<th>t</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min.</td>
<td>Max.</td>
<td>Mean</td>
<td>Min.</td>
</tr>
<tr>
<td>Own land (ha)</td>
<td>0.5</td>
<td>14.5</td>
<td>3.1</td>
<td>0</td>
</tr>
<tr>
<td>Land cultivated in 2003 (ha)</td>
<td>0.5</td>
<td>14.5</td>
<td>3.1</td>
<td>0.36</td>
</tr>
<tr>
<td>Total family size of the household</td>
<td>2.0</td>
<td>20.0</td>
<td>8.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Cash income from crop sales (Birr)</td>
<td>0</td>
<td>17557.0</td>
<td>2130</td>
<td>0</td>
</tr>
</tbody>
</table>

7. Crop Enterprise Selection and Use of Commercial Inputs

The major objective of crop production by the smallholder farmers is meeting the subsistence requirement of the members of the household. This objective is attained through putting sufficient size of land under cultivation or using yield increasing technologies such as high yield varieties of seed and fertilizer. The knowledge of choosing a rewarding enterprise in terms of yield and market prices of the products would be an essential component. In the study area, the majority of the farmers interviewed grow maize and sorghum for home consumption and other crops mainly for sale.

Meeting the current development objective of the government requires prioritizing production based on comparative advantage. East Shewa, the study area, is a known supplier of teff, wheat and haricot beans, among others. Which one of the two groups is the major supplier of these products?

Although more thorough investigation is needed to generalize, the result of the study shows that own landholding is not a pre-requisite for expanded production of the required commercial products. As shown in table 3, households who rent in land allocated relatively more land to high value crops such as teff, haricot beans, and wheat to increase cash income and more to maize to meet the household food needs. This means that the goals of producing high value crops to meet the local and export needs of the country requires farmers’ decision-making in a business context, which demands resource mobility from less efficient to more efficient groups of farmers.

Table 3. Comparison of mean area allocated to crops (ha)

<table>
<thead>
<tr>
<th>Crop type</th>
<th>No land renting</th>
<th>Rented in land</th>
<th>t-value</th>
<th>Sig. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teff</td>
<td>0.84</td>
<td>1.49</td>
<td>-3.251</td>
<td>0.001</td>
</tr>
<tr>
<td>Maize</td>
<td>1.18</td>
<td>1.57</td>
<td>-1.241</td>
<td>0.217</td>
</tr>
<tr>
<td>Barely</td>
<td>0.29</td>
<td>0.34</td>
<td>-0.437</td>
<td>0.665</td>
</tr>
<tr>
<td>Sorghum</td>
<td>0.47</td>
<td>0.66</td>
<td>-1.153</td>
<td>0.254</td>
</tr>
<tr>
<td>Wheat</td>
<td>0.51</td>
<td>0.59</td>
<td>-0.515</td>
<td>0.609</td>
</tr>
<tr>
<td>Haricot beans</td>
<td>0.65</td>
<td>1.17</td>
<td>-2.940</td>
<td>0.004</td>
</tr>
</tbody>
</table>

Table 4 shows the average amount of chemical fertilizer and herbicides used by the two groups of farmers. Although the difference is not statistically significant, the amount used by those renting in land appears to be higher.

Table 4. Use of commercial inputs (mean per household)

<table>
<thead>
<tr>
<th>Inputs</th>
<th>No land renting</th>
<th>Rented in land</th>
<th>t-value</th>
<th>Sig. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea (qt)</td>
<td>0.83</td>
<td>3.20</td>
<td>-1.257</td>
<td>0.213</td>
</tr>
<tr>
<td>DAP (qt)</td>
<td>4.35</td>
<td>4.35</td>
<td>0.001</td>
<td>0.999</td>
</tr>
<tr>
<td>Herbicide (kg)</td>
<td>0.70</td>
<td>2.02</td>
<td>-1.323</td>
<td>0.192</td>
</tr>
</tbody>
</table>


8. Market Orientation

The degree of market integration is determined by the role played by the agents on either supply or demand side. The farming community involve in the marketing of agricultural goods. But the roles played by the different groups of households have implications for enhanced interaction in the marketing mechanism. As shown in Table 5, the volume of production of all crops considered is higher and the amount of products sold is also higher for those households renting land. This further confirms the argument of efficient land allocation through factor mobility or transfer.

Table 5. Volume of production and sales of agricultural produces (qt. per household)

<table>
<thead>
<tr>
<th>Crops</th>
<th>Only own land</th>
<th>Rented in land</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Production</td>
<td>Sales</td>
</tr>
<tr>
<td>Teff</td>
<td>5.6</td>
<td>3.2</td>
</tr>
<tr>
<td>Maize</td>
<td>10.7</td>
<td>7.5</td>
</tr>
<tr>
<td>Barely</td>
<td>3.6</td>
<td>2.2</td>
</tr>
<tr>
<td>Sorghum</td>
<td>6.9</td>
<td>5.7</td>
</tr>
<tr>
<td>Wheat</td>
<td>4.8</td>
<td>3.1</td>
</tr>
<tr>
<td>Haricot</td>
<td>6.4</td>
<td>7.3</td>
</tr>
</tbody>
</table>

The increased production is attributable to expansion of area allocated to the crops (Table 3) and increased productivity (table 6).

### Table 6. Yield of Major Crops (qt/ha)

<table>
<thead>
<tr>
<th>Crops</th>
<th>No land renting</th>
<th>Rented in land</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teff</td>
<td>6.7</td>
<td>7.4</td>
</tr>
<tr>
<td>Maize</td>
<td>9.1</td>
<td>10.1</td>
</tr>
<tr>
<td>Barely</td>
<td>12.4</td>
<td>28.8</td>
</tr>
<tr>
<td>Sorghum</td>
<td>14.7</td>
<td>17.6</td>
</tr>
<tr>
<td>Wheat</td>
<td>9.4</td>
<td>13.1</td>
</tr>
<tr>
<td>Haricot</td>
<td>9.8</td>
<td>11.7</td>
</tr>
</tbody>
</table>


### 9. Determinants of Land Renting

As stated above, farm households are motivated by different factors in deciding whether to rent in land or not. In order to assess the factors that may affect this decision, binary logistic model was fitted using SPSS software. The result is given in table 7.

### Table 7. Logistic model parameters

<table>
<thead>
<tr>
<th>Determinants</th>
<th>B</th>
<th>Standard error</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family size</td>
<td>0.31</td>
<td>0.13</td>
<td>0.02</td>
<td>1.36</td>
</tr>
<tr>
<td>Age of household head</td>
<td>-0.05</td>
<td>0.03</td>
<td>0.06</td>
<td>0.95</td>
</tr>
<tr>
<td>Land holding</td>
<td>-0.40</td>
<td>0.22</td>
<td>0.07</td>
<td>0.67</td>
</tr>
<tr>
<td>Frequency of DA visit</td>
<td>0.01</td>
<td>0.01</td>
<td>0.66</td>
<td>1.01</td>
</tr>
<tr>
<td>Male education</td>
<td>-0.76</td>
<td>0.34</td>
<td>0.13</td>
<td>0.47</td>
</tr>
<tr>
<td>Female education</td>
<td>-0.51</td>
<td>0.32</td>
<td>0.114</td>
<td>0.60</td>
</tr>
<tr>
<td>Livestock size</td>
<td>-0.02</td>
<td>0.03</td>
<td>0.51</td>
<td>0.98</td>
</tr>
<tr>
<td>Constant</td>
<td>3.15</td>
<td>1.25</td>
<td>0.01</td>
<td>23.23</td>
</tr>
</tbody>
</table>


The overall prediction capacity of the model is 69% indicating that given the variables included in the prediction, the probability of right prediction is 69 percent. Four of the 7 explanatory variables included in the econometric model are significant. As expected, the probability of renting in land increases as the family size increases.
This could be explained by the fact that large families provide the labour needed for farming and labour cost cannot be a problem if one wants to expand agricultural land through renting. On the other hand if a household having large family size is confronted by land shortage, renting provides an option of acquiring land. In the long run, however, as the family size increases, land is distributed between the emerging young farmers and hence reduces own land size, but may be associated positively with rented land (De Lasson 1993).

On the other hand, the probability of renting in land has an inverse relationship with the age of the head of the household, size of landholding, and education of male-headed households. Visit of the development agent and livestock size appear to be not significant factors affecting the decision.

10. Conclusion

Land renting appeared to have a significant impact on the amount of land allocated to high value crops and food crops. Younger farmers are using land renting as a means of getting access to farming. Rented land is allocated more to marketable products which contributes to poverty alleviation and rural development. This has policy implication regarding land tenure and use policy as a tool to enhancing agricultural and rural development.

Although an in-depth study in different parts of the country is necessary for generalization, the result supports land policy that allows formal land transaction so that land is efficiently used.

Reference


Part III

*Natural Resource Management, Policy, and Economic Return*
Towards the Development of Differential Land Taxation in Ethiopia

Daniel Kassahun

1. The Problems

According to Young (1998), the world's most severe soil erosion is found in Ethiopia, Lesotho, and Haiti. Numerous empirical studies have reported the immensity of environmental degradation in Ethiopia. The rate of deforestation is in the range of 80,000 to 200,000 hectares per annum. The Soil Conservation Research Projects (SPRP) had estimated an average soil loss of 42 t/ha/year on cultivated lands and a maximum of 300-400 t/ha/year in highly erodible and intensively cultivated cereal fields (EPA 2003). Nearly three decades ago, the Ethiopian Highland Reclamation Study (EHRS) estimated that about half of arable lands in the highlands have been eroded from moderate to serious levels (Constable 1985). This figure might have reached a much alarming level, with human population (which is the underlying factor) increasing by more than 65% since then. The yield decline, food insecurity, increased susceptibility to drought, and household economic decline partly emanated from the ongoing severe degradation levels.

Soil and water conservation (SWC) measures (both cultural and introduced ones) are known to avert soil losses. While most cultural methods are getting obsolete due to changing physical, demographic, and socio-economic conditions, adaptation of introduced SWC measures have been negligible, if not none. Low level of SWC adoptions are attributed to several factors. Some studies associate it with poor economic status of farmers, labor shortage, land tenure insecurity, problem of appropriateness of the technologies themselves (Woldeamlak and Sterk 2002; Wogayehu 2003). Others (Kebede and Hurni 1992) asserted that farmers show very little or no interest in implementing the conservation measures.

Gibbon et al. (1995) pointed out that there has been more instances of peasants' unwillingness or inability to carry out 'sustainable actions'. These are attributable to lack of adequate knowledge,
resources, inadequate economic returns or insufficient information about the longer term benefits. Hence, in many instances, peasants are forced to opt for short-term but unsustainable solutions, which trigger accelerated rate of soil loss especially from fragile lands. For instance, Belay (2000) noted that crop cultivation in parts of Wello is carried out without any type of terracing, while 74% of the land requires different forms of SWC measures. Recent studies in Ethiopia (e.g., Belay 1998; Shiferaw and Holden 1998; Dessalegn 2001) reported that although aware of the effects of soil erosion, farmers are often incapable because of the socio economic circumstances.

As more lands are required to feed the rapidly growing population, there would be further expansion of farmlands onto ecologically fragile environments (like steep slopes, wetlands, and communal forest area). This further aggravates the “environment-poverty trap”.

2. Responses to the Problem

Due to the precarious state of the Ethiopian environment, many stakeholders are engaged in various activities to reverse the ongoing degradation. Peasants, successive governments, NGO’s, and scholars have responded to the problem according to their own understanding and resources. Their responses are briefly discussed hereunder.

2.1 Responses of Peasants

The prime sufferers of land degradation are peasants. Amanor (1994) noted that farmers’ response to land degradation reflects their growing awareness of environmental processes. This idea is true in Ethiopia (Tesfaye 2003) where soil degradation is better perceived among peasants of the highly degraded areas than their counterparts in less degraded areas.

Farmers have long been managing their lands through traditional methods of shifting cultivation and land rotation. With increasing population pressure, such practices withered due to corresponding shrinkage of lands. They were compelled to encroach on vulnerable lands which are more steep and stony. They also used various indigenous techniques to arrest soil erosion problems. Kruger et al.
(1997) enumerate indigenous SWC measures available in different parts of Ethiopia. Most of them were found in places such as Tigray, North Shewa, Gamo Gofa, North Wello, and Harargie. For instance, in Konso, stone bench terraces and multiple cropping practices have existed for over five hundred years. However, those techniques failed to sustain the ever mounting demographic stress. Upon reaching the ‘finiteness’ of lands, peasants abandoned fallowing. This has brought about exhaustion of lands and led to declining land productivity. As a result, about 20,000 to 30,000 ha of land are abandoned annually. These abandoned areas are the highly erodible lands of Ethiopia (Humi 1990).

As farmlands are further fragmented, they become uneconomical in size and leave little room for implementing SWC measures. Besides, the growing scarcity of land has caused the vulnerability of farmers to impoverishment and scarcity-induced conflicts (Tesfaye Teklu 2004).

Out-migration is another response of farmers to the deterioration of land qualities, mounting population pressure and the problem of food insecurity. However, while some of the migrants benefited from the process, many others faced even more hostile circumstances. For instance, Tesfaye Teklu (2004) and Tesfaye Tafesse (2004) give accounts of the resentments and grievances from endogenous (host) populations and the consequences of violent conflict and displacement.

2.2 Responses of Government

Successive Ethiopian governments had responded to the problem of land degradation through soil conservation and afforestation initiatives, resettlement programs, area enclosures, etc. Various policies and strategies were developed to implement those initiatives. Despite huge resources, capital and time spent on those activities, several research findings showed that the degradation levels had been immensely augmented since then.

Of all the methods, the greatest strides were in the SWC and afforestation schemes. However, SWCs heavily relied on mechanical methods, where contributions from biological or agronomic
measures were ignored. It was reported that about 998,000 ha of farmland and 208,000 ha of hillside land were terraced, 15,500 km of check dams were constructed, 296,000 ha of land were afforested, 310,000 ha closed for regeneration of vegetation (EPA 2003). However, after spending a huge amount of financial resource, the impact remains limited (Dessalegn 2001; Eyassu 2002; Yeraswork 1995) as most of the structures were demolished during civil disturbances following the collapse of the Derg. A major limitation of those activities was lack of consent from farmers. Besides, most of the activities were coupled with food-for-work (f-f-w) schemes, which are unsustainable due to the probable termination of projects. Government officials (Tekalign 2005) attribute this failure to the lack of ownership of the programs by the community and to the use of a top-down approach.

In order to enhance the adoption of modern SWC technologies, a large number of Development Agents (DA) have been trained. However, Pausewang (2002) noted that while peasants were aware of land degradation in their surrounding, most of them did not ask DAs for help. There is distrust emanating from past experience wherein most DAs were central in executing unfavorable government directives such as land redistribution, villagization and resettlement, tax and contribution collection, grain quotas basis, etc.

Resettlement has been another response by the Imperial, Derg and EPRDF governments to promote food security, relieve population pressure from vulnerable areas, and rehabilitate degraded lands. Close to 600,000 peasants were resettled during the Derg period, but the intended objectives were not met (Dessalegn 2003). The process is blamed for causing massive forest and soil degradation (Solomon 1994) in the host areas. During the last three to four years, about 400,000 people have been resettled, and this figure is expected to reach 2.2 million people in the course of three years.

Around 1980, concern over the worsening condition of land degradation led to drafting of a legislation on land use planning and regulation. However, this draft legislation was never enacted into law. In the last two decades, several environment-related policies, strategies, programs and laws were enacted. In his review of the sectoral and cross-sectoral policies, strategies and laws related to the
environment, Gedion (2003) indicates that most of them were seldom examined for their internal consistency and harmony and are little known by the public. These policies are often criticized for lacking an enforceable mechanism.

Recently, the Natural Resources Sector within the Ministry of Agricultural and Rural Development (MoARD) has tried to fill the policy and strategy gaps that directly and indirectly influence natural resource conservation. A new Land Administration and Use Proclamation (No. 456/1997) has been approved by the Council of Ministers and the Parliament (Tekalign 2005).

2.3 Response of NGOs

Several NGOs have also promoted SWC technologies in various parts of the country using a “bottom-up” and “participatory” approach. Most of the SWC activities were fine-tuned with local conditions. Even in times of political turmoil as in during a change of government, those conserved areas have remained intact (Dessalegn 2001). However, in the light of the magnitude of the problem of the land degradation in the country, the scope of NGO-assisted SWC activities is quite limited. Furthermore, as their efforts heavily rely on f-f-w, they are criticized for inducing “dependency syndrome”.

2.4 Response of Researchers

Several researchers have conducted land/soil and forest-based studies in different agroecological zones of the country. They generated numerous qualitative and quantitative data on the extent of degradation. Most of these studies have generated area-specific recommendations to arrest land degradation.

In Ethiopia, there is already a ‘wealth of literature’ on the impact of land tenure on land degradation. Though it appears to be a delicate political issue, several studies put land tenure as a primary issue to arrest natural resource degradation (e.g., Berhanu et al. 2004; Dessalegn 2004; Kifle 1999; Yeraswork 1995). Enhancing tenure security is widely believed to serve as a means to encourage investment on environmental rehabilitation, which is also a
fundamental variable in agrarian and rural development. On the other hand, opponents of tenure individualization (mostly the government’s side) focus on its alleged negative consequence of concentration of land ownership, and increased marginalization of farmers.

However, from the point of view of the EPRDF government and the current Constitution, land is a “dead issue”. Therefore, it would be a “sterile argument” (Dessalegn 2004) to dwell on the land ownership debate in a situation where there is a deadlock on the issue. This stand could lead to a paradigm shift in the orientation of researchers.

Generally speaking, the maximum attainable level of adoption of improved land management by a farmer is set by physical (natural) factors such as slope, soil depth, soil erodibility, etc., of the locality, called “defining-factors” (Fig. 1). As reported by several scholars, the land policy poses detrimental effect on the adoption of improved land technology. This is due to “policy-limited factors” such as land tenure insecurity. However, the newly revised “Land Administration and Use Proclamation” has provided limited opportunities through “Land Registration and Certification”. As pointed out by Kinyanjui et al. (2000), it is not the lack of policies that led to land degradation, but their poor implementation. Factors such as inadequate economic incentives, tax indiscretions, inappropriateness of some land technologies, and their limited economic and financial return, are called “reducing-factors”. The gap between the actual and the policy-limited adoption level is the conspicuous lacuna which researchers could fill up through generation of alternative approaches and strategies within the existing socioeconomic and political framework.
Against the backdrop of the identified research gap, the prime objective of this study is to generate a new form of alternative strategy which could systematically regulate the ongoing land degradation problem within the existing socioeconomic and political framework of Ethiopia. Specifically, the study will develop a sustainable strategy which effectively enforces improved land management not only in the impoverished environment but also before the problem emerges.

3. Towards New Land Management Enforcement

3.1 A Land-Abuser Pays?

There is an acute dearth of compelling legislation for natural resource protection and development. As Dessalegn (2001) put it, the laws do not back the provisions of the policy, and hence remain mere declarations of intent.

From the land management perspective, peasants could be broadly categorized in two: those who are caring for their lands and those who are not. Most of the non-caring farmers are constrained by financial and land resources. So far, there has not been any particular incentives for the environment-friendly peasants. Rather, they have
been victims of faulty government policy measures, which used to be imposed indiscriminately on the entire farming community.

There are some countries that attempt to provide credits to peasants for implementing SWC activities. However, farmers would be reluctant to use their little borrowing capacity for soil erosion measures as the monetary returns from SWC range from very ‘low’ to ‘none’ in the short-term. Even in the USA, loans are not popular in soil conservation work (Kebede and Hurni 1992). Research in Tigray has shown that the average rate of return from investments in stone terraces is less than 25%. The willingness and ability of Tigray farmers to invest in SWC are mainly constrained by cash (Boetekees 2003).

After the UN Conference on Environment and Development held in Rio de Janeiro in 1992, the “polluter pays” principle has gained widespread popularity. This principle has been employed to regulate environmental problems such as water and air pollutions, where polluters are liable to pay (in the form of tax) for the damage they caused.

Tax is a powerful instrument for revenue collection (Deininger 2003). The canon of taxation is that every citizen should contribute to the state in proportion to his/her ability. Taxation is also used as a means to redistribute income and wealth, discourage or encourage specific activities (Fentahun 2002). Governments commonly employ progressive rates on most urban services such as electricity and water consumption. The attempt is not only to garner revenue from high consumers (so as to subsidize, for instance, rural electrification), but also to systematically discourage the abuse of such meager resources through enhanced rate. Land tax is an annual tax based on land ownership and usage. Revenue from land tax is paid into the general revenue account of government, and assists the provision of public services.

According to Ott (1998), the objective of land tax should range from raising revenues to effectively supporting social and economic goods. Hence, the following queries could be raised: Can land taxes be tagged with a new purpose? Can we use land tax as a catalyst in environmental management? Can we encourage proper management
of lands through tax relief and tax exemptions? Can we discourage land mismanagement through enhanced taxes?

This study presupposes that land taxes could be useful mechanisms to regulate land degradation problems. Based on the principle of the "polluter pays", this research dwells on the idea of "the more one abuses his/her land, the higher the land taxation is" and vice versa.

3.2 Modus Operandi of Land Taxes

Ott (1998) noted that while land taxation is almost universal, the system varies among countries. The commonest land taxation systems are based on land size and quality criteria. In Australia, "total site value" is employed to calculate land tax for each year. It is determined by "valuer general" where there could be periodic reevaluation. Skinner (1991) noted that many countries that have been practicing land taxation in the 50's (such as Egypt and India) have avoided it, and focused rather on income or export-based taxes. In the absence of sound land use plan, land tax administration on qualitative criteria has been identified as a very difficult task to carry out. This difficulty is believed to have weakened the land tax system in those countries. Skinner (1991) reported that some countries have systems similar to income taxes either through consideration of market value of the land or based on the annualized net profit from the land.

The actual revenues from land tax are generally below their potential (Deininger 2003) and the same is true in Ethiopia. The main reasons for this could be deficient incentive structures, weak assessment and administration of land, and also the political difficulty of having significant land taxes. In Ethiopia, the contribution of land tax to the local economy has not been adequately assessed. However, about 70% of total domestic revenue is derived from tax, making >13.7 % of GNP (CSA 2004). Recently, its contribution showed a substantial increase, especially due to the recent introduction of urban land lease and rental taxes. The rural land use revenue was Birr 51.3 million in 1982/3 (Eshetu 1990) and rose to Birr 116.2 million in 2001, making 1.1% of the total government revenue.
According to Eshetu (1990), taxes that are imposed directly on agriculture include: land use fee, tax on agricultural income, and tax on exports of agricultural products. For the land use fee, farmers pay Birr 10.00 for the first hectare and Birr 7.50 for each additional half hectare as land use tax. The land use fee for state farms is Birr 15 per hectare. Eshetu noted that the then land taxes were fixed irrespective of the fertility of the soil and slope factors. Such a taxation system fails to address the variability of biophysical environment in different parts of the country. Skinner (1991) noted that targeting the land size criteria would worsen the environmental degradation. He argued that the agricultural sector is not an important source of tax revenue, especially considering its substantial contribution to output and employment. Agricultural income tax is exactly equal to land use fee, which is Birr 10.00 for annual income less than Birr 600.00. Based on these facts, Eshetu believes that the Ethiopian peasantry is not overburdened by taxes as used to be imagined by many people.

The FDRE Constitution of Ethiopia (Article 97 (2) (3) states that “Regional States shall fix and collect fees for land usufruct rights”. Also “States shall levy and collect taxes on the incomes of private farmers”. Terrefe (1992) pointed out that land taxation influences state-peasant relations. In times of instability, there is deliberate exemption of farmers from land taxes, and when there is political stability, peasants are forced to pay back overdue taxes. This assertion applies to the current situation, wherein the ruling party in Ethiopia faced stiff challenges from the opposition parties during the national election, and so it made various amendments in the amount and timing of land tax payment.

The recent land regulations enacted by four Regional States, viz., Tigray, Amhara, Oromia, and SNNP, show that the land taxation system is mostly based on land size. A minor exception is seen in Tigray Region, where the weredas are partitioned to three land tax categories. A land tax of Birr 30.00 is levied on weredas such as Kefla Humera, Welkayit and Tsegiedie; Birr 35.00 in Tahitay Adiabo and Lae’lay Adiabo; and Birr 40.00 in all other weredas of the region (Tigray Region Land Regulation, No 15/1994).
With respect to land rent practices, the norm deviates from the land size criteria. In Tigray Region (Berhanu et al., 2004) showed that the average rental price per hectare in 1998 was Birr 450.00, 550.00, and 845.00 for the poor, medium, and quality lands, respectively. It is simple to note that a land rent based on quality criteria would induce its own repercussion on land management. The poor farmers can afford to rent inferior (poor) land but they will have nothing to spare for land management. Rather they will opt for the quickest but unsustainable mode of land management practices, which might exacerbate land degradation processes. Hence designing an efficient land taxation system is necessary to bring about any desired impact.

3.3 Marriage of Land Taxation to Land Management

If the present trend of farm extensification is allowed to continue, a great deal of fragile environment would further worsen. The problem is when lands are steadily cultivated without any form of conservation mechanisms. The question is that, are farmers willing to put aside marginal lands from cultivation? Or, could farmers uptake improved SWC technologies while additional labor, capital, time, and space are prerequisites? These issues could not be settled simply by promulgating environmental policies or laws. Most researchers, officials and land users agree that poverty plays a deterring factor to investment on the land. This calls for acceptable and enforcing mechanisms which not only induce investment on the land but also influence the decision of peasants either to farm or dispose the environmentally delicate land from unsustainable farming system.

Right now, the land degradation problem is the most pressing issue of Ethiopia. Commissioning land taxation to address the challenges of land degradation would, therefore, be a timely issue. If land taxation is to be synchronized with the management practices of land users, the system is believed to encourage conservationist farmers, who are adding value to the land, while discouraging land mismanagement by imposing punitive land taxes. Therefore, anchoring land taxes to the land management issue leads to the principle of differential land taxation.
3.4 The Differential Land Taxation (DLT)

DLT is proposed to arrest the problem of land degradation in a reasonable way through taxation of land at a variable rate based on the adoption level of land management packages. In the development of DLT, it is assumed that the owner of the land is liable to pay land tax, irrespective of the tenure regime or wealth status. It is assumed that this unavoidable tax could be targeted at the problem of land degradation.

Farmers managing their land in accordance with the recommended management method would be rewarded not only through the reduced land tax, but also through the long-term benefit of land productivity. As DLT distributes tax burdens among different land management types, it would induce the conservation-minded peasants towards enhanced care. In this regard, DLT would have two vital benefits: to assist the rehabilitation of degraded land with sound land management practices, and to systematically relieve the stress from those degraded and fragile lands.

4. Empirical Evidence from Case Studies

4.1 The Sample Areas

Three administrative zones were chosen (table 1) from central Ethiopia, representing different levels of land degradation. These zones are North Showa (Amhara Regional State), North Showa and East Oromia (Oromia Regional State). The selection was based on consultation with natural resource experts from regional, zonal, and wereda bureaus. From the 3 zones, a total of four weredas (Map 1) were selected: Moja-na-wedera, Tarmaber, Girar Jarso, and Dugda-Bora weredas.

Focus group discussion (FGD) was collect qualitative data. Each focus group was composed of 6-10 members. In each village, 4 to 5 groups were chosen. Also interviews were conducted with local officials and DAs. The interview themes were focused on land and its degradation pattern, SWC issues, and land taxation practices.
Map 1: The study sites (shaded part). Numbers 1, 2, 3, and 4 refer to Moja-na-nawodera, Tarma Ber, Girar Jarso and Dugda Bora Weredas.

Table 1. Summary of the study area

<table>
<thead>
<tr>
<th>Zone</th>
<th>Wereda</th>
<th>Wereda Capital</th>
<th>Kebele</th>
<th>Village</th>
<th>Elev. (mm)</th>
<th>Rain (mm)</th>
<th>Wereda pop.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oromia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Showa</td>
<td>Girar Jarso</td>
<td>Fiche</td>
<td>Ginno-</td>
<td>Ginno</td>
<td>2000</td>
<td>&gt;2000</td>
<td>1283</td>
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<td></td>
<td></td>
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<td>Ano-</td>
<td>Illamo</td>
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<td></td>
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<td></td>
<td>Boneya</td>
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<tr>
<td>East Showa</td>
<td>Dugda Bora</td>
<td>Meki</td>
<td>Tuji</td>
<td>Rasa</td>
<td>1650</td>
<td></td>
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<tr>
<td></td>
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<td></td>
<td>Sumeya</td>
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<td></td>
<td></td>
<td></td>
<td>Tubbie</td>
<td>Dalota</td>
<td>1600</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Suti</td>
<td>Mati</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amhara</td>
<td>Moja-na-Wedera</td>
<td>Sela</td>
<td>Begoch</td>
<td>Meskele</td>
<td>3045</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dingay</td>
<td>Gat</td>
<td>Geda</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Gado</td>
<td>3172</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Debre Sina</td>
<td>Armania</td>
<td>Tornos</td>
<td>2010</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Amba</td>
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</tr>
</tbody>
</table>

The sample areas were selected based on accessibility to conduct field work, prevalence of land degradation problems, and existence of government and NGO-initiated SWC activities in the areas. The study villages are situated in different agro-climatic regions, varying in geology, elevation, climate, soil, topography, farming systems, etc. North Showa Zones of the Amhara and Oromia region are found in the central plateau of the western physiographic region, which is overlain by trappean volcanic rocks, belonging to Magdala group.

1 Data for precipitation was taken from the nearest meteorological station.
Most of these rocks contribute to formation of fertile black soils (Mohr 1967). East Oromia zone is found within the Great East African Rift Valley physiographic region, where the geology belongs to tertiary pyroclastics and quaternary basalts covered with various lacustrine deposits.

Topographically, the two sample weredas of the Amhara Region are very steep and rugged. These areas are drained by tributaries of Abay (Blue Nile) and Awash Rivers. The Girar Jarso wereda of North Showa (Oromia) belongs to a gently undulating topography, where sheet erosion is the dominant type of soil loss. The area is drained by the tributaries of Abay River (Blue Nile). Dugda Bora wereda of the rift valley belongs to rolling plains. It is adjacent to the eastern escarpment, which drains to Lakes Zway and Koka. In this area, gullies proliferated very recently. Those gullies are becoming a very serious problem in the last twenty five years with a remarkable depletion of cultivated area.

The soils in the study area vary not only across weredas and villages but also within different topographic positions of a particular village. While depletion of soil nutrients and acidity are common problems in soils of North Showa villages, the problems of salinity and sodicity are higher in Dugda Bora wereda.

Studies (Hurni 1983) reported that people of North Showa (of Amhara) have practiced agriculture for about 1140 years. On the contrary, crop production is a recent phenomenon in Dugda Bora wereda. Until the 1960s, the area had mainly been under natural woodlots. Very few pastoralists were residing there. Major crops grown in North Showa of Amhara and Oromia Region include barley, horse bean, lentil and wheat in the higher elevated areas. Teff (Eragrostic teff) and sorghum grow at the relatively lower elevations. In Girar Jarso, barley, wheat, horse bean, teff, and lentil are widely grown. In Dugda Bora, maize, teff, and sorghum are grown.

Land rental is a common practice in the studied villages. It is undertaken either in monetary form or through share-cropping. The length of period for land rent is a year or two. Peasants who rent-out land include the old, weak, poor (who lack oxen), and women-headed families. Those who rent in land are mainly landless
youngsters. Farmers showed diverse reflections on the impact of land renting on SWC practices. Most peasants asserted that since there is a binding rule in the contractual agreement, the one who rents in is responsible for caring for the land. Regarding renting out land for longer periods, most respondents fear that the land renter might claim ownership. The short period of rent is believed to have a negative impact on the management of land because SWC investment gives delayed economic and financial returns.

Land fragmentation is one of the factors deterring SWC implementation. It is a common phenomenon in all surveyed areas. However, respondents regarded this problem as “insignificant” and a “tolerable” factor. Land parcels found in different locations vary in their characteristics, benefits, and risks. Land fragmentation can help as a risk aversion strategy and helps in crop diversity.

In the Amhara region, land was redistributed to apportion land to the landless youth in 1997. The process has enabled access to two plots of land with “good” and “bad” qualities. Such mix allows full exploitation of the local ecological niche. Currently, farm plots are not significantly apart from one another. Therefore, differences of agro-climatic impacts are very unlikely as it used to in the past, when they were traveling very long distances for cultivation. Hence, the only differentiation among farm plots in the studied villages is attributable to variations in local topographic conditions.

Land degradation is prominent in all the surveyed areas (table 2). However, the intensity varies from site to site. The degradation is highly correlated with the topographic factor, management response the type of land utilization, and level of awareness of farmers. The severe land degradation in the villages of North Showa (of Amhara) has prompted the introduction of government and NGO-supported SWC activities for over 2-3 decades ago.
Table 2. Land degradation and management levels

<table>
<thead>
<tr>
<th>Zones</th>
<th>Degradation level</th>
<th>Management level</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Showa (Amhara)</td>
<td>Intense due to broken topography and cultivation</td>
<td>Credible effort since 80’s</td>
</tr>
<tr>
<td>North Showa (Oromia)</td>
<td>Overlooked degradation; its effect is looming large at present</td>
<td>Almost negligible effort so far</td>
</tr>
<tr>
<td>East Showa (Oromia)</td>
<td>Degradation is a recent phenomenon, but intensifying at an alarming rate</td>
<td>Almost negligible effort so far</td>
</tr>
</tbody>
</table>

With respect to the farmer’s opinion about the problem of degradation, various responses were given. Respondents of Girar Jarso wereda feel that there is “no degradation” in their locality. This might be due to the dominance of sheet erosion on the dominantly gentle slopes. The fact that teff, which requires shallow soil depth, dominates the farming system might have concealed the threat. In other surveyed areas, soil degradation is a well-known problem. This awareness might be due to their exposure to the conspicuous environmental changes, and partly due to the efforts of the development agents (DA’s). However, their level of awareness pertaining to the causes, processes, and impacts varies across locations.

Concerning the impact of erosion on soil fertility, the most commonly cited indicator is a decline in crop production. Crop yield is often considered as a proxy indicator for land degradation by local officials and experts. Respondents explained that crops grown on degraded soil would get stunted, the soil structure would be degraded, the color becomes lighter, more rocky, and the yield declines.
4.2 Appraisal of the Proposed DLT

4.2.1 Judgment of past SWC efforts

Government initiatives in environmental rehabilitation since the Derg period has taken two forms: afforestation program (mainly planting eucalyptus trees), and promotion of physical-based SWC activities. In this respect, North Showa (of Amhara) has been the most widely treated area of all the surveyed areas. However, respondents expressed that the past SWC has not been successful. The explanation given by respondents are the following:

1. The conservation plans were made and implemented on the bases of watersheds and by groups of local farmers. Recently, the approach has shifted to farmers’ plots, and the SWCs are erected by the owner himself/herself;

2. Conservation plans were designed and enforced by government bodies, and there was no room for participation of farmers;

3. Before the implementation of SWC measures, very little awareness was created regarding the contribution of those structures to the quality of the land;

4. There has been little room for modification by farmers as the SWC designs were very rigid;

5. Problems emanating from upstream-downstream conservation were not addressed.

Hence, farmers were erecting terraces compulsorily and carelessly, which easily collapsed. During change of government in particular (as in 1991), most of the government-initiated projects were dismantled, and others were left to collapse. Most respondents believe that NGOs followed a useful approach when compared to the government’s effort. They were undertaking those activities mainly through food-for-work (f-f-w). Apart from the environmental benefits, farmers were happy with the wheat or oil provided during the 1984 and 1992 projects. However, NGO-initiated projects were also criticized for lack of sustainability and follow-up. Some of the
NGO-assisted terraces were also dismantled during a change of government.

4.2.2 Environmental wellbeing of the localities: Optimist or pessimist?

The opinion of group discussion participants in Amhara Region on the future wellbeing of local environmental tended to be optimistic. The predominance of steep slopes and the corresponding long tradition of SWC practices in the region might have enhanced their awareness and led to their optimistic view. Respondents of Girar Jarso were more pessimistic. The area is found predominantly in an ecosystem where erosion takes place gradually. Hence, these farmers have been unaware of the ongoing degradation processes. In terms of age group, younger respondents are more optimistic.

During the discussion, almost all respondents believe that the present time is more challenging than the past. Intensity of land care was also amplified in recent times than before. Concerning the contribution of the current legislation of land registration and certification (which allowed more rights, short of land sale) various groups thought that it would encourage farmers to engage in enhanced land management.

4.2.3 Assessment of current land tax: Homogenous or heterogeneous?

Information obtained from the study area shows that the current land taxation system is heterogeneous. In Amhara Region, the system is based on land size criterion. In Oromia Region, the criteria vary among the *weredas*. Both land size and wealth status criteria are used. In Dugda Bora *wereda*, a land size criterion was adopted. Farmers of Girar Jarso *wereda* are classified into three wealth-related categories. The categories (1\textsuperscript{st}, 2\textsuperscript{nd}, and 3\textsuperscript{rd}) were based on a cumulative of residential unit, number of pack animals, livestock, and size and quality of the owned land. This system was practiced during the 1975 Land Reform. Since then, there have been ups and downs in the ladder of wealth, and the current status of farmers hardly matches the amount of money they are paying for land taxes.
Despite the unjust rating of the prevailing land taxation, several farmers were found ‘comfortable’ with the practice. Farmers fear that the readjustment of land tax might lead to land redistribution, and hence a reduction in their holding to the advantage of the younger generation. This implies that there are two types of land taxation systems in the study area. When this is coupled with the land taxation system in Tigray region, which puts weredas in different tax categories, one finds that the Ethiopian land taxation system is typified by sheer heterogeneity.

At the start of this study, it was hypothesized that farmers would respond positively if existing land taxes are reduced to the extent of “zero taxation”, in accordance with their enhanced efforts in SWC activities. While acknowledging the weakness of the existing taxation system, their response differed from the prior expectation. They unequivocally rejected the idea of “zero taxation”, but accepted tax reduction as a positive contribution. They opted for the possibility of easing the unbearably higher contributions demanded for construction of schools, farmer training centers, toilets, roads, SWCs, etc.

All respondents confirmed that payment of land tax is unquestionable. The annual payment implicitly guarantees a security where their name as land owner is annually updated on the government’s record. Such a belief is partly a result of land tenure insecurity, which is common in most developing countries, and paying even unfair land tax is believed to provide land tenure security to the farmers. Farmers recognize the over- and under-valuation of their land, which stem from inaccurate and obsolete information. There are instances in which some farmers are made to pay land taxes whose land estimation might vary by up to 2 hectares from the actual land size.

4.2.4 The role of incentives and responses to DLT

All responding farmers acknowledge the positive impact of incentives in running SWC activities. This is primarily because most peasants are poor and they cannot afford to spare additional space for structures, and exert their labor, time and money. According to the respondents, let alone a big reward, even small gifts (equivalent to
shorts) could make a difference in the farmers’ motivation. The relatively better outcomes generated by NGOs were mainly through the incentive packages which induce farmers to engage in the projects. However, as NGO projects operate for short periods, their alleged shortcoming is the lack of continuity when incentives are terminated.

When farmers were proposed the idea of levying land higher tax on those who failed to manage their land according to the recommended methods, older farmers remarked that, “as this practice would be new to farmers, it might initially upset those farmers who failed to care for their land, but through time, it would become normal”. Since farmers are hard workers and not willing to jeopardize their gifts of nature, most of them would want to reap the benefits of the tax exemptions. Some other farmers proposed that an alternative measure should be in place which penalizes non-conserving farmers rather than amend the land taxes.

Implementation of DLT encompasses three essential stages:

a) appraisal of lands in line with susceptibility the land to degradation,

b) determination of specific management options, and

c) tagging land parcels with DLT.

All farmers agree with the necessity of evaluating lands for determination of compatible land management type and land tax levels. Most of the farmers preferred forming a group, which is a mix of farmers and experts, to oversee the land appraisal, management recommendation and determine the reduction or augmentation of land taxes. Concerning the criteria for the determination of DLT, most farmers indicated ‘land slope’ to be considered as a key criterion. ‘Level of land degradation’ was chosen as the next key factor.

5. Conclusion and Policy Implications

This chapter has raised the major challenge of land degradation due to lack of adequate incentives to uptake the available improved SWC
technologies. The study has proposed a Differential Land Taxation System (DLT), which is envisaged to address the ongoing land degradation process through land tax incentives to those who care for their lands in accordance with the optimum land management practices while imposing higher tax on those who abuse their land.

As Tegegn (1999) observed, farmers are less willing to pay for environmental protection in cash. The majority of farmers gave a monetary value of 'none' for environmental protection. But, of course, they are willing to contribute in terms of labor. This is because the farmers in the first instance are poor; and even if they have the money, their priority is not investing in long term-benefits such as environmental protection. Therefore, a policy which aims at motivating farmers with an appropriate land taxation mechanism would bring substantial impact on the desired improvement.

However, the first challenge is lack of adequately designed land use plans in most countries. Designing an appropriate land-use plan requires not only input from various disciplines but also robust methodologies to synthesize the diverse data into a meaningful plan. There are opportunities to harness local knowledge through the development of rapid and less complex classification of local lands into certain broad categories. Such classification could be undertaken mainly through qualitative methods by taking slope factor into consideration.

In Ethiopia there is a severe and threatening land degradation which is undermining rural development endeavors and contributing to the poverty trap. Paradoxically, there are also ample literatures on SWC technologies amenable to different agro-ecological regions. However, those technologies are barely taken up by peasants due to various limiting factors. This suggests the gap which needs to be filled without delay. In this respect, DLT can make a modest contribution. DLT makes use of the available literature, policy and land taxation to bring about sustainable land management by promoting technology uptake through systematic incentives and/or disincentives.

Instead of spending huge resources in the little-yielding SWCs through unpopular campaigns and financing the highly criticized
food-for-work schemes, systematic application of DLT system would bear fruit. Besides, instead of collecting taxes indiscriminately based merely on land size, it is possible to systematically encourage and support the conservation-minded peasants to be actively engaged in the SWC, while discouraging those who are mismanaging their lands.

References


Introduction

A description of what the economy and the environment are seems to be in order before we deal with environmental changes and their relationship with land. The environment is defined as 'the thin skin on the earth's surface on which life exists' Nibset (1991). It is composed of the biosphere, the atmosphere, and all flora and fauna; it includes all forms of living organisms, energy and material resources and the atmosphere. Land, which constitutes that part of the earth which is not covered by water and where humanity enjoys all the means of its survival, is therefore part of this environment.

Systems' ecologists underscore the advantage of taking the environment as a set of interwoven systems with a capacity to support biological entities. This systems approach implies that for the set of systems to function in a healthy and steady state, the component parts of each system must be kept safely. If humanity, like the other animals, were incapable of acting and consciously converting the available environmental resources and use those to its own advantage, the only source of environmental change would have been natural forces (physical, biological and chemical reactions).

However, the human race has distinct capabilities of consciously organizing its economic, social and cultural activities, which leads to unnatural or manmade changes. These changes, as long as they are motivated by the objective of producing marketable products tend to undermine the integrity of the ecosystem. In fact as Tiddell (2000) rightly points out 'Natural economic systems are increasingly modified and in some cases destroyed and entirely replaced to facilitate the production of private and marketable commodities.'

The economy is composed of economic agents, the institutions (both formal and informal) formed by complex relationships among economic agents, and the interaction between the agents and
institutions. Economic agents are entities that act to fulfill certain economic objectives such as individual consumers, firms or governments.

It is unfair to presume that the term institution can be adequately described in such a chapter. Interested readers are referred to Schmid (1987 and 1997) and Douglass (1981). However, a simple definition for an institution can be given as “sets of ordered relationships among people that define their rights (opportunities), exposure to the rights of others, privileges, and responsibilities” (Schmid 1987) or as “collective action in control, liberation, and expansion of individual action” Commons (1950).

Thus, a given institution would imply a broad aggregation of specified rights. For instance, the rights (rules) of a market institution are a set of rights (rules) that can be invoked in the process of transactions by consenting parties. It is obvious that institutions, within the same category, can vary from place to place depending on the development levels that the society has achieved. We used the terms rights and rules above as synonymous though they differ in the sense that the term rights is used in the abstract, while if one is interested in a specific situation, the notion rules would apply (Schmid 1987).

The final objective of the interactions between economic agents and institutions, in the current world setting, is the creation of private and marketable products. In this process, economic agents use the environment for two distinct purposes. First, the environment is used as a source of natural resources. These resources are shaped, reshaped and manufactured with human effort into items that are useful to humans. Here environmental resources are used as inputs to the production process. Second, it is used as a depository to the wastes that are generated in both production and consumption of the goods and services. Both interventions entail substantial potentials to change the environment’s composition with possibilities of threatening the survival and integrity of the environment.

The literature identifies two basic reasons for the threat imposed by the human race upon the ecosystem: reduction in the biodiversity through the manipulation and selection of species with short-term
economic return and insufficient investment on conservation of environmental resources (Swanson 1994).

Of course, the elements making up the environment have self-correcting mechanisms that tend to heal the ills done to its elements and systems. The Gaia hypothesis (Lovelock 1987) tells us that much more harm could have been observed had it not been for such healing mechanisms. We should also note that humanity, if and when correct incentive structures are kept in place, is capable of devising mechanisms that have the ability of containing catastrophes that could result from its own actions and usher in positive and constructive actions that make life in this world sustainable. Thus, afforestation, soil conservation activities and the like are human actions exerted by concerned human institutions that aim at effectively controlling distractive human actions.

That the livelihood of the majority of the Ethiopians is intimately dependent on the environment is observed from the fact that more than 80% of its population is rural (both highland traditional farmers and pastoralists in the lowlands) and dependents on the produce of the land and the associated rains. Thus, the soil and forests resource, coupled with water, are important inputs needed for the livelihoods of the rural population.

Thinking about the myriad allocation problems associated with these resources and finding, or even hinting at, possible solutions to those would inevitably lead us to assess the institutional setups associated with land for the simple reason that these resources are actually part and parcel of that fundamental resource—land. In the following sections this chapter will give a brief assessment of the available land resources, indicate the magnitude of their change by looking at soils as an example, and try to describe the land tenure issues in the country.

Identifying determinants of growth to selected categories is usually a futile exercise, as it is always possible to identify individual country cases where these categories have not contributed much to such a process. Yet, if we were to identify a single category that has tremendous potentials of boosting economic growth, besides a skilful and dedicated labour force, the abundance and quality of the natural
and environmental resources seems to be unquestionable. It stands to logic also that availability alone is not sufficient; as such, resources are scarce and they should be utilized in an efficient and possibly sustainable manner.

Ethiopia is a relatively large country with a variety of soil types and climatic conditions. It has abundant water resources, diversified flora and fauna, and substantial underground resources. Yet, the standards of living of the people remain at a dismal level. Moreover, studies show that there is substantial mismanagement of our natural resources in the form of over utilisation of soils. In what follows, we try to substantiate this claim from studies that have tried to measure or estimate extent of mismanagement of this resource.

The total land area of Ethiopia is 1.1 million square kilometres. The Ethiopian highlands represent about 36% of the total land area, while the balance is in the lowlands (below 1,500 m. a. s. l.). The bulk of the human and livestock population, about 85% and 70%, respectively, resides in the highlands.

According to MEDaC (1999) two-thirds of the country’s total landmass is ‘suitable’ for agricultural production. As shown in table 1, only 14.8% of the total land is cultivated and covered with annual and perennial crops. Thus, only around 20% of the potentially suitable land is being cultivated.

<table>
<thead>
<tr>
<th>Type</th>
<th>Share (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grassland</td>
<td>51.0</td>
</tr>
<tr>
<td>Annual and perennial crops</td>
<td>14.8</td>
</tr>
<tr>
<td>Forests and bushes</td>
<td>11.7</td>
</tr>
<tr>
<td>Unproductive land</td>
<td>3.8</td>
</tr>
<tr>
<td>Not suitable to any activity</td>
<td>18.7</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: MEDaC (1999).

Why is it then land classified as ‘suitable’ for agricultural production by MEDaC ‘not utilised’ as such? Is the encroachment on such land for cultivation correct? Such questions raise both ethical and
economic issues. We raise this because encroachment on new land for agricultural production has a variety of unwanted consequences and may not be a viable solution, particularly in the long run.

The first problem arises due to the fact that, at any point in time, people would be cultivating the best portions of the available land; therefore, what is left is of lower quality. It is also more likely that such land may even be more susceptible to degradation in a relatively shorter period. Thus, let alone to be able to enhance output per unit of factor, it may not even be possible to attain existing levels of return.

Second, what is seemingly unused land may be used for other purposes by communities, such as grazing land for animals, forests and bushes that have other useful purposes, and wetlands with their own contribution to the stability of the environment. Thus, encroachment into such lands needs to be entertained only when proper valuations of the costs and benefits of such ventures are undertaken and understood.

Third, land is available in fixed quantity, implying that in the limit there would be no suitable land for encroachment. Thus, the best option in terms of making agricultural production sustainable is to introduce proper management of resources that are currently being used.

Given the current levels of technological know-how and utilization rates in Ethiopia, the quality of soil on which crops are cultivated remains to be an important determinant of yield. There are two aspects of soil quality: soil depth and nutrient loss. Based on soil depth, the quality of the Ethiopian highlands is shown in table 2. Most studies take a 100 cm of soil depth as the critical level beyond which yield is compromised (Bojo and Cassels 1995). Thus, around 30% of these lands need some intervention for them to continue being used in a sustainable manner. Even those lands that have not reached this critical stage would need intervention, if we are to adhere to the sustainability notion.
However, the soils in the Ethiopian highlands are exposed to severe erosion and nutrient mining due to continuous and unprotected cultivation. In fact, the prevailing levels of mismanagement are so alarming that some doubt the sustainability of agricultural production given the existing levels of soil degradation (World Bank 1992). Mismanaging soils leads to degradation, which would in turn lead to reduced yield per hectare. Thus, maintaining the levels of production or aspiring to increase output in order to meet the needs of the ever increasing numbers of people requires improving the soil quality.

Reported levels of soil erosion are so alarming that if the rate of soil erosion remains at the estimated levels, much of the land in Ethiopia will be wasted and will not be suitable for cultivation. The estimates of soil erosion in the country vary based on the assumptions underlying the methods; yet even if we take the lower bounds of the estimates, they still remain alarming.

The first comprehensive study that attempted to estimate the magnitude of soil erosion was the one conducted by FAO (1986a; 1986b) under the name ‘Ethiopian Highland Reclamation Study (EHRS) in 1986. The study, using a method known as the ‘Universal Soil Loss Equation’ and taking only erosion caused by rain into consideration, estimates the average gross loss in soil caused by water erosion to be 35 tons per hectare per year. The gross loss for cropland was 130 tons per hectare per year. The study admits that the method used could overestimate the results (FAO 1986b).

This resulted in various modifications and revisions in the estimates of soil loss, not only because of the admission of overestimation by

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**Table 2. Distribution of soil depth classes for cultivated land (in cm)**

<table>
<thead>
<tr>
<th>Soil depth</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;150</td>
<td>47</td>
</tr>
<tr>
<td>100-150</td>
<td>22</td>
</tr>
<tr>
<td>50-100</td>
<td>20</td>
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<tr>
<td>25-50</td>
<td>7</td>
</tr>
<tr>
<td>&lt;25</td>
<td>3</td>
</tr>
</tbody>
</table>

the FAO report, but also because of the omission of some important considerations in defining soil erosion. For instance, Wright and Adamseged (1984) in a study that was Part of the EHRS, emphasize that biological degradation might be more important than physical transportation of soils due to water movement. In fact, Sutcliffe (1993) brings the effects of the use of dung and crop residues for fuel on crop production into the forefront of the discussion; and the Conservation Strategy of Ethiopia (CSE) concludes that the extent of erosion problem has been greatly overestimated and the costs of nutrient loss unduly ignored. The CSE estimates losses in grain production due to this factor to be more than half a million tonnes.

Another effort of estimating land degradation levels in Ethiopia was undertaken by Bojo and Cassels (1995). It starts by acknowledging that previous figures are gross overestimates and adjusts for possible double counting in the calculations for residues and dung use for fuel, and redeposition of soil. The report distinguishes the effects of erosion and nutrient loss separately. Moreover, its innovation is not only the introduction of these items, but it also introduces new economic dimensions in the calculations. These concepts are: Gross Annual Immediate Loss (GAIL); Gross Discounted Future Loss (GDFL), and Gross Discounted Cumulative Loss (GDCL).

GAIL is defined as the immediate gross loss in agricultural output at the year that the figures were calculated. The loss due to erosion and nutrient loss were estimated as ETB 10 million and ETB 626 million. The GDFL is a concept arising due to the fact that loss in soil at any one time will have an impact until perpetuity, because once lost, soil cannot be regained. The concept is equivalent to loss of natural capital, which could be used to adjust for System of National Accounts and enable it to reflect environmental damage. The GDFL due to soil erosion was estimated to be 108 million while that for nutrient loss is not applicable. The concept GDCL capitalizes on the fact that degradation is a cumulative process. Thus, the costs of soil erosion over the years have to be added up to perpetuity. To arrive at this figure the paper calculated value of estimated output assuming no erosion/no nutrient loss/, subtracts value of output assuming erosion/nutrient loss/, and sums the stream of these discounted values assuming a period of 100 years. Their result shows
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a loss of ETB 3400 million due to erosion and ETB 8300 million due nutrient losses.

These estimates are at the aggregate level, the estimates at micro, i.e., household landholdings and plot levels, would have been more telling and would have much more devastating effects to those possessing them. However, data at such level of disaggregation is not available. This cannot hinder us from speculating/predicting what would happen to a household whose plot is wiped out by a gully, or the soil depth has reached a level that cannot absorb sufficient moisture for the planted crops.

Moreover, decisions to invest or not invest on soil conserving activities are made at the household level. We assume that behind the choice of making such decisions is the rational behaviour that opts to maximize the benefits from such investment. The main question asked in this regard would be: if soil degradation is entailing such costs, why is it that rational economic agents are not investing sufficiently to deter them? A clue to this answer is obtained if we accept the fact that such investment decisions are made in an interdependent economic environment, where externalities play an important role in the farmers’ choice decision rule. While there are many important interdependencies that we need to take into account in our analysis, two most important and traditionally accepted interdependencies will be addressed here: inter-temporal interdependency that is intimately related to ‘on-site effects’; and static interdependence that impinges on ‘off-site’ effects.

**Inter-temporal interdependency:** In a static framework, where actions undertaken at anyone point in time do not have any effect on future outcomes, the decision rule for investing in any activity is the following: invest in such an activity until the marginal cost of investment is equated to its marginal benefit.

This decision rule may not lead to an efficient level of soil conservation activity for two reasons that emanate from the equality of the decision rule. In general, the cost of construction of soil conservation investments is high, with a resultant marginal cost at any one point in time, when such investments are undertaken, being greater than zero. On the other hand the benefits from such
investments, if any at the point of making such investments, are very small. This could easily lead to a zero marginal benefit at the point of time when the investment is undertaken. Thus, if we follow our static investment decision rule, the level of soil conservation activity would not be efficient.

In a situation where there is an inter-temporal interdependence our decision rule has to be modified. This modification emanates from the fact that soil conservation activities undertaken at any one point in time will have a positive impact (benefit) not only at that point in time but also in all future periods. Thus, the calculation of benefits from soil conservation activities should include all benefits that would have been forgone from the time of making that investment decision to posterity. Thus, the decision rule for investment in soil conservation activities should be adjusted to ensure that all future benefits are accounted for.

It is important to note that there are two important considerations when one deals with inter-temporal decisions. First, the economic agent that is making such investments should be completely certain that the returns from such investment are going to accrue to him. In the presence of uncertainty about possible expropriation without sufficient compensation one expects little such investment if any. That is why many scholars engaged with research on land underscore the importance of tenure security for efficient utilization (investment) in soil conservation investment.

Second, the incorporation of future benefits as elements determining the investment decision rule bring forth the importance of the discount rate. Future benefits have to be appropriately discounted before they can be summed in order to determine whether an investment venture is worthwhile. In this regard, the determination of the levels of the (social if possible) discount rate is a problem that faces many decision makers. At the individual level, however, there is a consensus (understanding) that the discount rate for the poor tends to be quite high. High discount rates would attach lower values to future streams of income and make an investment decision not worthwhile. Thus, if the social discount rate is lower than the discount rate used by farmers in making their decision to engage in soil conservation decisions, their levels of investment would
inevitably be lower than the socially efficient level. Given the fact that the farmers in the Ethiopian highlands are characterized as poor, it is a foregone conclusion that the level of soil conservation activity would be suboptimal from society's point of view, if they are left alone in such a decision.

**Static interdependence (negative externalities) and off-site effects:** Another important interdependence that arises with soil erosion is the one that could prevail whenever there are downstream development activities, such as water reservoirs used for potable water, irrigation or power generation. The problem here resembles, at least in part, the standard pollution problem: polluting firms do not take into account the costs that they impose on downstream victims, or equivalently downstream victims have to incur the costs that have been imposed on them by upstream polluting firms. The standard outcome under this scenario is that upstream polluters will produce much more output than would have been the case if they were to cover the costs imposed by them on downstream victims. The mirror image of this is that downstream victims would produce less than the socially optimum.

The standard textbook solutions proposed to static interdependencies (or externalities) are Pigouvian taxes and Coase's proper definition of property rights. Pigouvian taxes on the pollution that activities create would ensure that such firms internalize the cost they impose on downstream victims which would have the effect of reducing their polluting activities or lead them to engage in activities that reduce the pollution they create. Proper definition of property rights, and enforcing them, will enable the parties to negotiate prices for the pollution that will have the effect of getting the optimal level of pollution that would be generated.

We note, however, that the assumptions in the pollution models and actual situation in the Ethiopian erosion externality scenarios are different. The models assume one, and usually strong, upstream polluter and many downstream (usually weak) victims. In our scenario, we have many small (mainly poor) farmers as polluters upstream and one (or sometimes many) victim downstream. Thus, observing the poverty levels of upstream farmers, it would be very difficult, at least on ethical grounds, to suggest Pigouvian taxes on
upstream polluters. Even if we were to be immune to such an ethical issue and suggest Pigouvian taxes as a solution, there is the practical problem of determining the magnitude and tax rate and enforce such a policy.

**Causes of Degradation**

Given that the environment is such an important source of the livelihoods of the people, the fundamental environmental economics question, "Why is it that humanity does not make the necessary investments to protect the environment?" remains topical and is a source for a variety of discourse. As the question touches almost every aspect of social life, such a discourse is found in almost all the branches of the social sciences. It includes ethical and normative issues as the question has to answer why we should care about what we leave behind for the future; it is an economic problem as it should answer the allocation of scarce environmental resources both within a point in time and over posterity; it is a development problem as poverty has a bearing on how much one can invest; it incorporates institutional and legal issues as it should be possible to identify the appropriate set of rights/rules/regulations required; it is a demographic issue as the size as well as the structure of the population has some bearing on its answer; it is a political issue as it should bring forth consensus among members of society in answering the question.

In answering this fundamental question, each discipline adds bits and pieces in trying to explain the sub-optimal levels of investment in the protection of environment. It would be hazardous to try to answer this question from all the angles raised above. In what follows we try to discuss one such answer – property right in land or land tenure.

**Property Rights in Land – the Land Tenure Issue**

"Plainly the sheep and the wolf are not agreed upon a definition of liberty."

(Abraham Lincoln)

Land tenure is a special name for property rights bestowed on land. That property rights, especially when attached to immovable things, should not be identified as a relationship between person and things,
but rather between persons was appreciated as early as the days of classical economists, and this has been the basis for most pertinent definitions such as, ‘Property is a set of social relationships which ties the future to the present through expectations of stabilized behavior regarding other persons and things’ (Parsons 1942, cited in Schmid 1987). Under such a framework and understanding, institutions, broadly seen as the rules of the game, serve as instruments and define the circumstances under which individuals get what they get.

There are a plethora of possibilities under which rights can be formulated. An existing set of rights on a resource is largely dependent on the historical path through which a society has passed. The various available alternative institutional arrangements are of interest to economists as they affect economic performance by impinging on the incentives and motivations for working or shirking. In the extreme case, if a farmer is not certain that he would reap the benefits of the crops he plants, there would be no farming at all.

There is no country with a unique form of tenure arrangement in the world. In fact, these varied forms of tenure arrangements tend to evolve over time, generating variations in time as well. There are a number of reasons for such a variation. The first broad categorization of land tenure arrangements is based on the rural-urban classification. Rural land is used for agricultural production – crop production, animal husbandry, forestry, etc. In such a setting, the producer requires a relatively larger operating area. Land in an urban setting, on the other hand, serves mainly for the construction of residential, business, and industrial centers. A substantial proportion of land is also needed for the construction of road networks. Thus bestowing the rights of raising cattle in urban centers would be unacceptable.

The second broad categorization arises within the rural areas, depending on how land is used as an input in production. Thus, tenure requirements for crop production differ fundamentally from those required by the cattle raising pastoralists. In terms of efficiency considerations, that private possession would be superior to other forms of possession could easily be appreciated. There is a simple logical argument that supports this: that such an environment signals
the correct incentives and gives the farmer the required security to be engaged in any production activity. In this setting, well defined boundaries among villages and within a village becomes a natural requirement. That communal ownership of land for crop production leads to a complete failure is an experiment that Ethiopia has undertaken during the Derg regime.

Though probably untenable in terms of efficiency, it is common to observe different tenure arrangements even within a village where its members are engaged in crop production. Thus, while the bulk of the land would be given to individuals for cultivation, setting aside some common land for cattle grazing, worship, and other cultural activities is common. We also observe that most of the cattle rising activities undertaken in the lowlands seem to be effectively organized in communal lands. This is observed in both the pastoralist settings as well as the highland where mixed (crop growing and cattle raising) farming systems prevail. It is those intricate differences, coupled with cultural, social and political variations across the different communities in Ethiopia, that have led to the evolution of different kinds of tenure arrangements.

The land issue remains to be an important item of debate and discussion in Ethiopia. We recall that it was an important issue that contributed to the downfall of the Imperial government, and ushered in the communistic military dictatorship through the 1974 Revolution. Most of the debate and discourse that led to this event were issues of fairness and equity. This is vividly expressed by the motto of the student movement at the time: Land to the tiller.

Nowadays, the experience in the past three decades and with the hindsight of the failures of the Derg’s land and other related policies, the debate seems to have shifted in the direction of efficiency. Thus, issues of secured tenure and their implication, not only for the current but also for that of future output, through its influence on incentives to invest is a bourgeoing literature (Workneh 2004; Berhanu and Swinton 2003; Holden and Hailu 2001; Tekie 1999). The empirical findings in this regard are mixed. While some studies show a positive relationship between tenure security and investment on land-improving investment, others show that the relationship is low. There is no evidence, however, that there is a negative
relationship between the two. Thus, there is no evidence or logical argument that could force us to neglect the importance of introducing and advancing policies with that foster tenure security.

There is also a growing literature on the effects of the kind of farm operators, which highlights the efficiency of land markets, on efficiency. Of course most of this literature focuses on the relative efficiency of owner-operators, fixed rental markets and sharecropping. Note that complete exhaustion of land rights is not a legal act in Ethiopia. However, informal exchange of such rights exist, in the form of either complete transfer of rights, or arrangements that look like long-term rental arrangements on contracts between the parties, but de-facto complete transfers exist now and have prevailed even during the Derg period. However, as such transfers are few in number and are not formal, they would not be amenable to the kinds of analysis that economists use.

Despite the fact that land issues have been at the forefront of most discussions in the country for the last three decades, there has been no governmental organization responsible for land-related issues. It is an irony to observe that the Imperial regime had a Ministry of Land Tenure, and the Derg, after using the ministry to promulgate the first land distribution and rural organization proclamation in 1975 (PMAC 1975), suspended it.

Moreover, the legal system in the country has intentionally shunned land cases in the rural areas. Thus, local administrators, including peasant association chairpersons, have been the main actors in the determination of landholdings in rural areas. Numerous redistributions and reallocations, which were implemented in a haphazard fashion, have been made during the Derg regime. There were only two redistributions, the first redistribution during the Derg period and the other one undertaken by the Amhara Regional State, which had legal backing from the legislative organs of the country (CANRS 1996).

It seems therefore that we are still looking for mechanisms of initial land allocation every time we change legislations. The current government has enacted one proclamation in 1997, which stipulated how Regional States could redistribute land in the rural areas (FDRE
This proclamation seems to have been triggered by the decision of the Amhara Regional State to redistribute land in 1996 (CANRS 1996). The rational for this redistribution was the belief that officials from the Derg regime had possessed disproportionate land in the villages as compared to their other compatriots. This led to discontent in the country. It was feared at the moment that such measures would be replicated elsewhere. However, the redistribution issue did not materialize elsewhere.

**Organizational issues:** The past few years have witnessed yet another shift in the land reform agenda and Regional States (at least the four largest ones) have established organizations that are responsible for land administration. This shift seems to be pushed ahead in response to the call for secured tenure, which is thought to improve the incentives available to the farmers and lead them towards introducing more efficient management and farming practices. As a result, the Tigray Regional State started distributing land certificates to the small farmers in 1997/8. A similar move is being introduced in the Amhara Regional State in the past couple of years. The Federal Government of Ethiopia is in a process of promulgating legislation to the effect of allowing Regional States to follow the same strategy. In this legislation, the ownership of land, with the exclusion of the complete transfer of ownership through selling, is bestowed to the household members.

The Tigray and Amhara Regional States have followed different routes in issuing certificates to the farming households. In the Tigray Region it was done in a cost-effective, but probably less accurate, traditional way of assessing the size and location of the plots being given to a household. They used the ownership of the neighbouring households as a means of delineating the plots. In the Amhara Region on the other hand, the process was more systematic. They initially implemented the land certification program by selecting two pilot villages. They used sophisticated measurement equipment to delineate, identify the position and determine the size of each plot allotted to a household. They have now started implementing this program in the remaining parts of the Amhara Region. Will this certification increase the sense of security of farmers with regard to their possession rights? Which method is effective in ensuring a
greater sense of security from the point of view of the farmer? These are empirical issues that will have to be studied.

Notes

1. In fact, there are studies that indicate a negative/no relationship between soil conservation investment and yield (Minale Kassie)

2. The empirical findings here too are mixed. Some obtain a positive and significant relationship between soil conservation and tenure security, while others find weak relationships. Irrespective of such a difference in empirical findings, however, the need for security cannot be neglected.

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Land Tenure and Technological Improvement in Smallholder Agriculture in Ethiopia

Workneh Negatu

1. Introduction

The outstanding and critical issue of the Ethiopian economy is its failure to liberate about five million people entrenched in the chronic food insecurity-poverty trap. Apart from the chronically food insecure population, an additional population of about three million also faces seasonal hunger almost every other year. In 2003, about 14.3 million of people (22%), mainly in rural areas, were in critical food crisis (DPPC 2003).

More than 90% of the agricultural production in Ethiopia is carried out by smallholders who hold more than 95% of the cultivated land. According to CSA (2002) 10,738 farm households cultivated a total cropland (temporary and permanent crops) of 9,133,510 ha. in the 1999/2000 cropping year. Annual (temporary) crops make up about 93% of the total crop area. The average annual crop area per farm household was estimated to be 0.79 ha. This simply shows how the overall agricultural development in the country is dependent on the performance and development of subsistence-oriented smallholder farming systems.

Cereals are the major crop types occupying the largest proportion of cultivated land. They are the main staple foods in Ethiopia. Cereals occupied 78.4% of the total area of annual (temporary) crops in 2000, while pulses occupied 12.7% of the temporary crops area. With regard to crop yields, average cereal yield was 12 qt. per hectare and pulses about 9 qt per hectare. These yields are very low by world standards. Specific crop yields can show the actual yield performance of annual crops. For instance, the 2000 average per hectare yields of teff (*Teff eragrostis*), sorghum, maize, wheat and barley, the five major crops in the country in terms of area allocated to their production, were 7.96 qt, 11.54 qt., 18.25 qt., 13.79 qt. and 10.82 qt., respectively. Moreover, a typical smallholder household grows multiple crops on the small farm holding in one cropping
season in order to cope up with income, production and price risks that the household faces.

Although subsistence-oriented smallholder agriculture is the main source of livelihood for the rural population, it has not been able to ensure food and income security for the rural population. Low farm production and productivity is one of the major reasons for food and income insecurity of the rural population. Given the declining arable land per agricultural household under the existing population growth rate and limited non-agricultural employment opportunities in the country, increasing farm production through improved technology-based farm intensification is a less debated option. Regarding farm sizes, in the 2000 cropping season, 87.4% and 64.5% of rural households operated less than 2 hectares and less than one hectare, respectively, while 40.6% operated land sizes of 0.5 hectare and less (CSA 2002). An important strategic element for agricultural growth and rural development is therefore technological improvement in agriculture.

Technological improvement here refers to transformation of technological structure of small farms from less productive, less return and less sustainable traditional technology under subsistence-oriented farming system to more productive, profitable and sustainable research-based technology under a market-oriented agricultural system. In this context, development and transfer of appropriate improved technologies by national and sub-national agricultural R&D and extension organizations is imperative. Use of technologies by smallholders in the country is, however, limited.

The rate of technological change in Ethiopia’s agriculture, since the inception of development and transfer of modern agricultural technology around 1950, is very low.

And if any level of technology development and transfer effort such as that of Ethiopia is not followed by commensurate technology utilization (or diffusion), it requires that the R&D and extension strategies and policies followed should be questioned or re-examined.
Generally, use of improved technology by smallholders is also affected by multiple factors, including productivity and profitability impacts of the technology and adaptability of the technology to agro-ecological conditions and farming systems under which the farmers are working. Socioeconomic factors (farm size, income, etc.) and institutional services and rules (e.g., extension and credit services, input supply, etc.) affect farmer’s decision on use of new technology.

The land tenure system and security are also important institutional factors that affect technology choice and utilization by small holders. Land in Ethiopia is public property. Farmers have use right to agricultural land and the right to transfer or lease use right of agricultural land. Thus, land tenure systems under the existing public ownership of land derive from official allocation by government authorities and/or through transfer of land use rights. The common types of transaction of agricultural land include inheritance, cash renting, sharecropping and gift. The process and act of land transfer among land users, however, is often non-transparent. The transfer process usually takes place informally. The land lease market (sharecropping and cash rental) is constrained, inter alia, by lack of clear rules and regulations for secure and transparent transaction of land-lease holdings. Lack of confidence among farmers in the effectiveness and capacity of state agencies in enforcing transaction agreements influences farmers’ decisions on use of new production technologies and especially sustainable land management technologies.

The objective of this chapter is to examine the impact of land tenure systems on use of production and land management technologies and to draw policy lessons on the basis of empirical evidence gathered from selected case studies.

2. Some Conceptual Considerations

2.1 Sustainable agricultural intensification

The importance of increased food production in alleviating food insecurity in Sub-Saharan African countries has been emphasized by many writers and researchers (Delgado, Mellor, and Blackie 1988, Sen 1990; Staatz and Eicher 1990). Given the declining trend of
available arable land in many African countries including Ethiopia, agricultural intensification is considered to be an appropriate path to agricultural growth and rural development.

Agricultural intensification is understood as use of increased average inputs of labor or capital on smallholding, either on cultivated land alone or on cultivated and grazing land, for the purpose of increasing the output or value of output per hectare’ (Tiffen et al., cited in Okike et al. 2001). An intensification process takes place in three ways:

a) An increase in the gross output in fixed proportions, due to inputs/factors expanding proportionately, without technological change;

b) A shift towards more valuable outputs (e.g., cash crops);


Sustainable agricultural intensification requires applying sustainable land management technologies and practices, along with productivity increasing technologies and inputs. On the other hand, application of sustainable land management technologies demands that continued and long-term tenure of land resource is ensured.

Sustainable production intensification is a function of investments on sustainable land management technologies and practices (e.g., stone terraces, soil bunds, drainage ditches, crop rotation, manuring, contour ploughing, etc.). Enhancing land quality through improving soil fertility, soil structure and organic matter and through control of soil erosion and land degrading cropping and pasturing practices contributes to production intensification and sustainable land use.

Use of more inputs and improved technology on the farm (e.g., labor, oxen power, improved seeds, fertilizer), use of irrigation water, and farmers’ human capital (education and extension training) contributes to production intensification. Other production intensification factors include size and quality of farmland, household characteristics, agro-ecology factors such as rainfall and altitude (community level factors) and prices of crop outputs and inputs.
2.2 Land tenure security and technological change

Farmers’ decisions on improved production input use, land management practices and farm enterprise patterns depend on: factors that determine profitability and gross farm income (e.g., factor costs and product prices); land tenure systems (which may affect the future returns from current investment on land improvement); household’s total resource endowments of land, labor, oxen, other livestock and assets; household access to roads, markets, credit and other institutional services that affect farmers’ ability to purchase or hire inputs and/or to sell their farm products; and, other community level factors such as culture and agro-ecology.

Development and transfer of improved production and sustainable land management technologies to small farmers is essential to induce technological change in smallholder agriculture. Technology transfer needs efficient extension workers endowed with relevant agricultural education and skills. Incompetence of extension workers could be considered as one of the reasons for the limited technological change in smallholder agriculture. Without adequate number of educated and well-trained extension workers, technological progress would be seriously hampered.

There is a widespread belief among development specialists that land tenure security is an important condition for economic development (Bruce and Adhola 1994). With insecure land tenure and transaction, farm households may have less incentive to invest in improved technologies and land management practices (Feder and Feeny 1993), for it takes a longer time to reap benefits from investment on sustainable land management practices. Besley (1995), however, argues that households may increase investment if the investment can increase or promote land security. Under Ethiopian context, however, it seems more likely that land security promotes investment on land than vice versa.

2.3 Farm size and technological change

Application of sustainable land management practices such as rotation, agro-forestry, inter-cropping and soil erosion control are
generally influenced negatively by the fragmentation and diminution of farmland, since such sustainable land management practices need a consolidated and considerably larger farm size. Small farm households face higher overhead cost of application of technology per unit of land area. On the other hand, smallholders are generally less risk tolerant, for they often have low income, and work under a risk-prone environment.

Profitability of a technology depends, among other things, on its costs. Large farm holders often benefit from economies of scale and from the associated lower transaction and risk costs per unit of land. The rewards from application of sustainable technology (such as manure/compost and agro-forestry) on farmland are obtained only in the long term. Thus land tenure security would affect the choice and utilization of technologies by small farmers.

It is now a common knowledge that farmers’ access to inputs, knowledge and skills delivering institutions is an essential condition to enhance technological change and thus to accelerate production intensification. The efficiency of policy instruments and rules in input supply and extension service would therefore have an important role in facilitating technological change. Generally, however, farmers with relatively small-size farms have poor access to extension service, for the inclination of the extension service (workers) is often towards external input using large farmers. This situation marginalizes small farmers from using improved technologies. This is aggravated by the preference of input supply organizations for large and better-off farmers, for they are considered to be dependable clients to use agricultural inputs on a larger scale. An exploratory study conducted in Adami Tullu-Jido Kombolcha woreda in East Shewa indicated that the landless and the near-landless groups have usually less access to improved inputs and extension services (Workneh 2002). Compared to small farm holders, larger farm holders have relatively easy access to informal sources of credit, for they do have better social capital and better credit worthiness in the face of loaners.

Farmers with relatively small farm holding are the ones who are highly vulnerable to food and income insecurity, and as a result who turn frequently to trading crop residues and animal manure as fuel
source, rather than using them for soil fertility improvement. The increasing decline of farm size also leads to a reduction of fallowing practice or shortening of fallow cycles, and rotation, with a consequence of declining soil quality and fertility.

Small farmers do not seek or get information from government agencies as readily and frequently as do large farmers. Small farmers do not afford to use improved technologies because of poor ability to cope with risks of crop failure or low returns. Small farmers may not adopt fertilizer because of low profitability, given small size of operated farmland, and the associated larger overhead costs per unit of farmland. On the other hand, some researchers indicated that the strategy of working with receptive farmers (usually large farmers) on the premise that knowledge would trickle down to others has proven unsuccessful over the years (e.g., Singh and Williamson 1985).

Disparity in production efficiency and income is a function of difference in asset, particularly land possession (Bennet et al. 1986). Vasant and Chaya (1993) state that the disparities in landholding beget disparities in technical efficiency. But, large farms could be less efficient compared to small farms probably due to poor technical know-how and managerial ability. Labor intensive technological system may help small farms to be more efficient than large farms, but with population increase and declining of available land, household farm holding reaches an inadequate level of farm size associated with inadequate income to adopt technology and ensure efficient production and an acceptable standard of living for family members. This is occurring now to many farm households in the highlands Ethiopia.

3. Technological Change in Smallholder Agriculture in Ethiopia

The major types of improved technologies promoted in Ethiopian agriculture are biological and chemical technologies. Improved mechanical technologies are rare. Below are outlined the status of use of improved crop seeds, chemical fertilizer, pesticides and irrigation water.
3.1 Use of improved seeds

Research-based improved seeds are important inputs that enhance the productivity of food crops. Cereals receive relatively more of improved seeds compared to other temporary crops and permanent crops. For instance, in the 2000 cropping year, only 5.4% of the cereal land and 0.14% of pulse land were cultivated with improved seeds, showing the overall low extent of use of improved crop varieties. Demand for improved seeds still remains low because of the high price of improved seeds and farmers’ preference to use own seeds saved from previous harvest, as the improved seeds are claimed not to be significantly superior to own seeds, a cheaper substitute (Befekadu and Berhanu 1999/2000).

3.2 Use of chemical fertilizer

In Ethiopia, the common fertilizers applied are Urea and Diammonium Phosphate (DAP). Cereals are the main crops that receive much of the applied fertilizers. About 14% and 44% of pulse area and cereal area, respectively, were applied with fertilizer in 2000. Teff, maize and wheat are the three most important crops for which chemical fertilizer is commonly applied. For instance, in 2000 cropping year, 65.5%, 52.5%, and 49.1% of cultivated wheat, teff and maize areas, respectively, were applied with chemical fertilizer.

3.3 Use of pesticides

Use of pesticides against insects and diseases in Ethiopia is limited. A relatively larger proportion of cereal farmland is applied with pesticides compared to other permanent and temporary crops. About 13% of the cultivated cereal area in 2000 was applied with pesticide.

3.4 Irrigation use

Although there is a considerable potential for irrigated agriculture in Ethiopia, the area of irrigated farmland is small. Only 0.01% (81690 ha.) of the total cropland of small farmers in the 2000 cropping year, including permanent crops, was irrigated. Generally, about 5% of the potentially irrigable land is irrigated today. In recent years, irrigation
vegetable and fruit production by smallholders is under promotion on the basis of water harvested from rainfall, surface and underground sources. On the other hand, however, farmers’ experience in irrigation agriculture is limited. Irrigation know-how, water availability, and financial capital to develop the irrigation infrastructure and invest in the necessary equipment are crucial challenges of irrigation-based production. Yet, for agriculture entangled in drought-prone situation, irrigation development is one of the key means of ensuring stable farm production.

**A case example of technology use**

A study conducted by BASIS/IDR project in South Wello shows the limited use of technology (table 1). The case study also reveals that maize and wheat are the main crops for which improved seeds are extensively promoted, the rest benefiting less from improved seed technology.

**4. Farm Size and Technology Use**

Ethiopia is a country of smallholder agriculture. The diminishing of farm size per household has reached a stage that critically demands search for ways of stopping further diminishing of household farm holding or search and promotion of technologies that can substitute for land area. On the other hand, some studies have indicated that farm households need to possess a farm of adequate size in order to apply technology profitably (Bedassa 1998). A study (Bekele 2001) in Moretna Jiru Woreda in central Ethiopia showed that size of farm cultivated with wheat and teff, are among the most significant factors that influence productivity (yield per hectare) and efficiency of the crops.
Table 1. Amount per household and user percentage of technological inputs in 2000/01 and 2001/02 in South Wello

<table>
<thead>
<tr>
<th>Technological input</th>
<th>Woreda</th>
<th>N</th>
<th>2000/01 cropping year</th>
<th>2001/02 cropping year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mean</td>
<td>No. of users (%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fertilizer, kg.</td>
<td>Bati</td>
<td>110</td>
<td>0.00 (0.00)</td>
<td>0 (0.00)</td>
</tr>
<tr>
<td></td>
<td>Jamma</td>
<td>104</td>
<td>80.90 (87.271)</td>
<td>62 (59.62)</td>
</tr>
<tr>
<td></td>
<td>Dessie zuria</td>
<td>100</td>
<td>3.50 (13.771)</td>
<td>8 (8.00)</td>
</tr>
<tr>
<td></td>
<td>Legambo</td>
<td>106</td>
<td>0.00 (0.000)</td>
<td>0 (0.00)</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>420</td>
<td>20.87 (55.751)</td>
<td>70 (16.67)</td>
</tr>
<tr>
<td>Improved seed, kg.</td>
<td>Bati</td>
<td>110</td>
<td>0.00 (0.00)</td>
<td>(0.00)</td>
</tr>
<tr>
<td></td>
<td>Jamma</td>
<td>104</td>
<td>3.20 (14.454)</td>
<td>7 (6.73)</td>
</tr>
<tr>
<td></td>
<td>Dessie zuria</td>
<td>100</td>
<td>0.50 (3.518)</td>
<td>2 (2.00)</td>
</tr>
<tr>
<td></td>
<td>Legambo</td>
<td>106</td>
<td>0.003 (0.029)</td>
<td>1 (0.94)</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>420</td>
<td>0.91 (7.486)</td>
<td>10 (2.38)</td>
</tr>
</tbody>
</table>


Note: Figures in parentheses in mean column are standard deviations.
A case illustrating the role of farm size

The BASIS/IDR study in South Wollo shows that operated farm size has a positive and statistically significant impact on fertilizer use. Here, a unit change in the size of farm operated entails more than two and a half times higher chance of using chemical fertilizer, other factors remaining constant. Those farm households with larger farm size benefit from economies of scale in using chemical fertilizer. Households with relatively small farm size are generally poor in cash income, have less access to extension service and credit, and have less coping opportunities to bear risks of rain failure and less profitable technologies given higher transaction costs of acquisition and application of fertilizer per unit of operated land.

In the case example mentioned, the relation of technology use and farm size was observed by categorizing farm holdings into three size groups: (i) small size farm, 0.50 ha and less; (ii) medium size farm, 0.51 ha - 2.0 ha., and; (iii) large farm size, above 2.0 ha. As shown in table 2, large size farm holders are significant users of fertilizer, improved seeds and manure. This simply implies that size of operated farm is a crucial factor in the intensification of smallholder farming systems.

Table 2. Distribution of improved seeds, chemical fertilizer, and manure by operated farm size groups in South Wello

<table>
<thead>
<tr>
<th>Item</th>
<th>Small farm</th>
<th>Medium farm</th>
<th>Large farm</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fertilizer, kg.</td>
<td>1.41</td>
<td>23.69</td>
<td>27.83</td>
<td>5.530***</td>
</tr>
<tr>
<td></td>
<td>(11.868)</td>
<td>(59.472)</td>
<td>(62.898)</td>
<td></td>
</tr>
<tr>
<td>Improved seeds,</td>
<td>0.00</td>
<td>0.42</td>
<td>2.67</td>
<td>3.940**</td>
</tr>
<tr>
<td>kg.</td>
<td>(0.000)</td>
<td>(3.772)</td>
<td>(13.690)</td>
<td></td>
</tr>
<tr>
<td>Manure use, kg.</td>
<td>16.972</td>
<td>74.66</td>
<td>140.92</td>
<td>9.985***</td>
</tr>
<tr>
<td></td>
<td>(80.194)</td>
<td>(151.583)</td>
<td>(278.429)</td>
<td></td>
</tr>
</tbody>
</table>


Note: *** = sig. at 1 %; ** = sig. at 5; figures in parentheses are standard deviations.

In general, the findings of the case studies reported here and other studies imply the need for increasing household farm size to an adequate level for which technology use would be rewarding. For a
farm household to be sustainably food secure and a user of modern improved productive technologies, consolidation of small and fragmented holdings into larger and viable size would be essential. These observations or conclusions have clear implications for policies and institutions required to ensure a long-term and secure land transaction, an important source of farm size growth.

The present attempts of the Ethiopian government to register land and issue landholding certificates is expected to facilitate long-term land transaction and access to capital credit, for which the land certificates are considered to serve as collateral. The latter assumption, however, is problematic unless there are ways through which creditors would have power to use the certificates in compelling defaulters to pay back their loans. Of course, all issues related with the process and effects of the current land registration and certification need further studies.

5. Land Tenure Systems and Land Transaction, and Technology Use

5.1 Land tenure systems and land transaction

Land tenure systems under the existing system of public ownership of land derive from official allocation by local government authorities and/or through transfer/transaction of land-use rights. Farmers’ practice of leasing agricultural land in the country is mostly limited to a few years, for instance to a maximum of three years in one agreement. The major types of tenure systems of agricultural land include own-holding resulting from inheritance and/or official land allocation, cash renting, and sharecropping. The process and act of land transfer among land users, however, is often non-transparent. The transaction usually takes place informally. The land lease market (sharecropping and cash rental) is constrained, *inter alia*, by lack of clear rules and regulations for transaction of landholdings.

*Cases illustrating land transaction practices*

A case study conducted in Adami Tullu-Jido Kombolcha (AJK) Woreda in East Shewa identified four types of land tenure systems
These are: (1) own land – land parcels owned by a household as a result of official land allocation, inheritance from parents or other mechanisms; (2) sharecropping systems in which operated land parcels are obtained as a result of sharecropping agreements; (3) cash rental tenure system in which operated land parcels are obtained as a result of cash rental agreement, and; (4) gift/borrow land tenure system in which operated land parcels are obtained as gifts or borrowed from parents, relatives/friends for a short period or permanently. The sizes of land parcels operated under all these tenure systems vary from community to community, and from a household to household (Workneh 2002).

Sharecropping: The case study in AJK woreda indicates that 24.2% of farm households entered into sharecropping agreements either as land taker or land giver. Farmers in the same area had reported that sharecropping transactions decreased over the previous decade (ibid). Sharecropping agreement among farmers is entered into often for a short period, mostly for one season. The main reason for a short-period sharecropping agreement is that land givers themselves want to operate the parcel soon, expecting better weather situation and/or better access to purchased inputs. Some land givers (20% in the case of AJK) preferred short-term sharecropping fearing that they may lose their parcels to others, including lessees in case a dispute arises with the lessee or in case official land redistribution takes place during the contract period (insecure land transaction practices).

Cash rental: The case of AJK indicates that 26.5% of sample farm households were involved in land rental transaction. Involvement of farm households in cash rental agreements seems more than that in sharecropping system. Cash-rental land tenure practice like sharecropping is limited to short periods because of the reasons mentioned above in the case of sharecropping.

The case study indicates that farmers who are better endowed with labor, oxen and cash lease-in land, while the less endowed ones lease-out some of their farm parcels. Similar results have been reported for many areas, including Ada and Lume Woredas in East Shewa (Workneh et. al. 1994).
Generally, lessees have almost full say over what to grow and which inputs to use. Inputs that may not provide benefits within a period of one year are usually not applied by lessees (e.g., manure and soil conservation practices). This is mainly because of short period lease-holding during which all benefits of sustainable technologies applied may not be accrued. Lack of clear legal rules that assure land leasing without fear of risk of loosing tenure on leased-out land parcels aggravates the problem.

5.2. Land tenure systems and use of technology

The highlands of Ethiopia which provide living space for more than 90% of the country’s human population and for 75% of the livestock population of the country suffer from severe soil erosion averaging 42 tons of soil per hectare per year on cultivated lands (Hurni 1993). Most of the soils show negative nutrient balance, and up to 2% of total crop production is lost annually due to soil erosion alone (Kappel 1996). According to FAO (1986) about 75% of the Ethiopian highlands are estimated to need soil conservation if they are to support sustained cultivation. Under such a scenario, the importance of development and application of sustainable land management technology and practices is not debatable.

However, it is generally believed that insecure land tenure and land transaction discourages application of sustainable land management technologies. Pattern of application technological inputs and sustainable land management practices vary between own plots and plots leased-in under cash rental or sharecropping arrangements. Own plots usually receive better technological treatment compared to leased-in plots. For instance, the case study in AJK woreda showed DAP was applied to 19.3% and 14.9% of own and leased-in farm parcels, respectively. It is also reported that there was a considerable difference in the average amount of fertilizer applied to own-farm parcels and to leased-in parcels. The average per timad (a quarter of a hectare) application rate of Urea and DAP were 24.2 kg and 28.4 kg., respectively, while per timad application on leased-in parcels were 14.7 kg Urea and 15.4 kg. DAP (Workneh 2002).

Similarly, manure was applied to the highest proportion (25.5 %) of crop plots under own land tenure systems compared to the
proportion of plots (10.6%) under lease systems (ibid). A study in the Amhara highlands showed that own plots are associated with greater likelihood of applying manure (Benin 2002).

The study in AJK woreda also showed that, though on small number of plots, intercropping, alley cropping and irrigation practices are applied only to those plots under own land tenure systems (Workneh 2002). The study conducted in the Amhara region (Benin 2002) showed that owner-operated plots are associated with more stone terraces, contour plowing and crop rotation (i.e., sustainable land management technologies). This may indicate the tendency of farmers to apply such practices with long-term benefits on relatively more tenure-secure plots. This implies the need for secure long-term landholding and land transaction system that may ensure farmers benefits from investment on land.

6. Conclusions and Policy Implications

According to the case examples reported here and in other similar studies, oxen holding, farm size and credit are the most important positive determinants of chemical fertilizer use. A larger farm size benefits from economies of scale. As fertilizer is an expensive input for smallholders, the positive role of credit and the importance of strengthening credit service are obvious. On the other hand, applying fertilizer is feasible in farming systems located in suitable agro-ecology (e.g., woinadega and dega) compared to agriculturally less suitable agro-ecology (e.g., kola or wurch), where moisture is a limiting factor.

Use of technological inputs also varies between owner-operated and leased-in plots. Farmers seem to apply on average more chemical fertilizer and manure to owner-operated farm plots compared to that on leased-in plots. This is associated mainly with the lack of long-term land tenure and transaction security.

In agro-ecologies that are not suitable for agriculture, other options like non-farm income activities and animal farming are worth considering. In connection with this, agricultural planning that prioritizes agro-ecologies for different agricultural and non-agricultural activities would be helpful.
It seems in general that locality-specific and wider studies are required to investigate in detail factors and conditions on the ground that constrain farmers from applying the improved technologies package (e.g., fertilizer, seeds and water).

Overall, rationalizing the existing land tenure policies and institutions with the objective of ensuring security of land tenure and land transaction would enhance efficient food production, technological change, sustainable land use, and food security.

Under market-oriented economy, land may not be efficiently allocated to alternative uses if its market is made imperfect. The question would then be: if the rationale for imposing restriction on land market is to avoid the possibility of land speculation and the consequent economic and social problems, is it not possible to control the unnecessary effects through policy instruments along with appropriate and legally secure land tenure arrangements and land transaction administration that take into account equity and sustainability issues?

Note

1. Technical efficiency of a farm is the ratio of output observed in relation to potential or frontier output, conditional on the levels of inputs used by the farm (Coelli et al. 1998). Productivity is the ratio of output produced to input used. Productivity can be improved through technological change and/or efficiency improvement.

References


Annex 1

Land Tenure Reform and Structural Transformation of the Economy
Country Experiences

Getnet Alemu*

1. Introduction

At the early stages of development, the structural transformation inherent in the development process is agricultural transformation. The main tenets of agricultural transformation are rapid agricultural growth with enhanced agricultural productivity and reduced share in total output and labour force with, of course, a simultaneous rise in the share of the non-agricultural sector. The rapid agricultural growth and the resultant decline in its share are not contradictory. Agricultural growth is rather the apparent prerequisite for agriculture to decline and for the simultaneous rise in the share of industry.

Successful industrialization in the developed countries and some emerging economies in Asia would not have been possible without rapid agricultural productivity. The experience of China and India in their industrialization efforts in the second half of the 20th century was based on an agriculture-first strategy in their first five-year development plan and focus on industry in the subsequent five-year development plans (Storm 1992; Bramall 2000). Thus, at the early development stage focus on (investment in) agriculture is a must for successful industrialization and overall economic growth. The focus, however, must be time-bound and in the context of transforming agriculture.

* The author would like to thank Admit Zerihun and participants of the Conference on Land and Challenges of Sustainable Development, held at Hilton Hotel August 5, 2005, Addis Ababa, Ethiopia, for their valuable comments on the earlier draft of this paper.
In an agrarian society, one of the key entry points to achieve an agricultural transformation seems to be a well-defined and dynamic land tenure arrangement. Land tenure reform that bestows ownership right or long-term use-right, with transfer and sale rights within the context of Kaleckian\(^1\) type of agrarian reform or structural transformation, is an appropriate approach to sustainable agricultural growth and a prerequisite for successful industrialization. Land tenure reform with ill-defined tenure regimes and independent of macro framework has usually led to agrarian and overall economic malaise.

Most land tenure reforms, particularly at the initial period, made their objective the creation of owner-farmers as a means of confronting the landlord system. To this end, the tenure arrangement prohibited transfer of land or was carried out under severe restrictions. This was practiced in land reforms that bestowed ownership right and use right. The structural problems of agriculture, namely, farm size, fragmentation, poor farm management and the likes are usually left aside. These kinds of tenure arrangements could not address new problems created by the development of markets and the economy. In this process, older forms of land tenure may give way to new tenure arrangements. Thus, land tenure reform must not be a once-and-for-all action. It is rather a dynamic one.

Examples of such reforms were taking place in Japan, China, and India. There was a series of policy revision in land tenure to address the challenges of smallholder agriculture and increase agricultural productivity. Most land reforms, therefore, shifted from a simple land reform to a Kaleckian type of agrarian reform to tackle problems associated with smallholder agriculture.

This chapter reviews country experiences and draws lessons for conceptualizing Ethiopian land reform and tenure arrangements, and the structural transformation thus far experienced.
2. Country Experiences

2.1 Private Ownership of Land

2.1.1 The Experience of Japan

The main driving forces for the land tenure reform in Japan (see Kajita 1965, 8-14) can be summed up into the following three factors:

i) Patterns of land ownership

The average size of landholding was small, i.e., less than one cho². Furthermore, tenancy was pervasive and there was excessively high rent on tenanted fields. According to a 1941 survey, the tenanted fields constituted 53 percent of the paddy fields and 38 percent of upland fields, out of the total cultivated land. On average 46 percent of total cultivated land was tenanted. With regard to the rent, tenants were forced to pay more than 50 percent in kind. In addition, tenants had to pay all input costs except land tax.

There was also high insecurity of tenanted lands. The basic law regulating the lease of farmland prior to the Land Reform was the Civil Code enacted in 1898. In this law the period of tenancy was not fixed and landowners could take back their land whenever they wished just by giving tenants a one-year notice. Tenants also could not legally enforce their right to tenancy on the land they cultivated when the landlord sold or leased his land to a third party.

This kind of tenure regime was recognized as a constraint to expansion of farming and investment in agricultural production by tenants, landlords, and even by own cultivators. Beyond a certain level of cho, even owner cultivators preferred to lease it as the rent was really attractive. Very few owner cultivators cultivated beyond 5 cho of land.

ii) Political factors

Attacks on landlords by tenants became frequent in the 1920s and 30s, and intensified during the second world war. This situation created a fertile political ground for the communist party, which
opted for socialism. The Supreme Commander for the Allied Powers (the Americans), who were in Japan, were unhappy with this move and pressured the Japanese Government to immediately launch land reform.

iii) Critical food shortage

Japan was devastated by the war. Most industries were reduced to ashes. During and immediately after the war, there was critical food shortage and unemployment. In order to rebuild the economy, it was necessary to enhance agricultural production and produce more food. For this farmers must be given the land they had been demanding for years. Political pressure, including from the Diet, forced the government to act.

The enforcement of the land reform

The first Bill for the revision of the Agricultural Land Adjustment Law of 1938 was presented to the Diet on December 4, 1945. The main point of this bill is transfer of all tenanted lands belonging to absentee landlords to tenants, but resident landlords were to be allowed to hold 5 cho of tenanted land. This Bill, however, failed to secure the approval of the Supreme Commander for the Allied Powers. The main reason for this was that if resident landlords were allowed to hold 5 cho, there would be very little land left to redistribute to tenants. This was a serious concern given the strong upheaval of tenants immediately after the war and the strong move of the communist party.

The Second Land Reform Plan of 1946, based on the recommendation by Supreme Commander for the Allied Powers, had two bills: Owner-Farmer Establishment Special Measures Bill and the Agricultural Land Adjustment Law Revision Bill. Under the first Bill, the government purchased all land leased to tenants by absentee landlords, all tenanted land owned by resident landlords in excess of 1 cho, excluding Hokkaido where the average was 4 cho, and all land held by owner-farmers in excess of 3 cho, excluding Hokkaido where the limit was set at 12 cho. Land purchased by the Government was resold to the tenants on an annual installment basis at 3.2% interest per annum over a 24-year period.
The Agricultural Land Adjustment Law Revision provided for the regulation of landlord-tenant relations and the institutional arrangement to effect the land reform. The Agricultural Land Commission was established in every prefecture and village level. While the Prefectural Land Commission was composed of 6 elected landlords, 4 owner-farmers, and 10 tenant farmers, each Commission at the village level was composed of ten elected members of which 3 were landlords, 2 owner-farmers, and 5 tenant farmers.

**What are the immediate outcomes?**

This land reform brought an end to the landlord-tenant agrarian structure and bestowed ownership to peasants. This reform, as indicated by Sirisena (1996, 88), changed the proportion of owner cultivators from 30 percent in 1945 to 70 percent in 1950 and to 80 percent in 1960. This ownership of farmland has become virtually synonymous with management and this has increased farmers’ agricultural productivity and motivated them to increase production. The reform also increased the income and changed its distribution structure in agriculture, presenting the possibility of capital formation to farm households (Kajita 1965, 46; Ouchi 1966, 138). By 1955, real agricultural income has increased by 57% over the 1934-36 average. Land productivity and agricultural investment also increased significantly.

<table>
<thead>
<tr>
<th>Year</th>
<th>Yield of rice per hectare of paddy land (in kgs)</th>
<th>Agricultural investment (at 1952 prices in 100 million yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1933-42</td>
<td>3040</td>
<td>--</td>
</tr>
<tr>
<td>1949</td>
<td>--</td>
<td>725</td>
</tr>
<tr>
<td>1950</td>
<td>--</td>
<td>1023</td>
</tr>
<tr>
<td>1951</td>
<td>--</td>
<td>1044</td>
</tr>
<tr>
<td>1952</td>
<td>--</td>
<td>1471</td>
</tr>
<tr>
<td>1953</td>
<td>--</td>
<td>1741</td>
</tr>
<tr>
<td>1954</td>
<td>--</td>
<td>1752</td>
</tr>
<tr>
<td>1955</td>
<td>--</td>
<td>1699</td>
</tr>
<tr>
<td>1955-59</td>
<td>3740</td>
<td>--</td>
</tr>
<tr>
<td>1960</td>
<td>3980</td>
<td>--</td>
</tr>
<tr>
<td>1961</td>
<td>3890</td>
<td>--</td>
</tr>
</tbody>
</table>

Source: Kajita 1965, 46.
As can be observed from table 1, improvements were significant immediately after the land reform and started to slow down thereafter. This was mainly due to the problems associated with smallholder agriculture. Following the land reform, the size of holding became small and fragmented across all farmers.

In order to address this problem, the Government enacted the Agricultural Land Law in 1952. The main objectives of this law were the following:

i) Promotion of agricultural production capacity,

ii) Restriction on the repossession of tenanted land, and

iii) Regulation of the transfer of agricultural land.

With regard to land transfer, the law imposed the following conditions:

i) Purchasing farmland in order to lease it to others is prohibited.

ii) Purchaser must, at the time of purchase, be farming at least three tan of land (which is less than 0.3 hectare). No one who is not classified as a farmer is permitted to purchase farmland; and

iii) In principle, the total amount of land after purchase, including land both owned and rented by the purchaser, must not be more than 3 cho (Kajita 1965, 40-1).

This law was basically aimed at abolishing landlordism. Thus, its target was protecting the re-emergence of the landlord by restricting and regulating agricultural land transfer through sale and lease. Guided by these rules, the 1952 Law, therefore, worsened the situation of smallholder agriculture by discouraging land consolidation and increase of cultivated land. Transfers of agricultural land after the land reform decreased relative to the pre-reform period. The amount of owner-cultivated land bought and sold from 1953 to 1962 did not exceed 1.3% per annum.

This process later evolved as one of the major constraints on agricultural productivity. In line with this Kajita noted, “The progress made in methods of production,” after the land reform, “created a contradiction between growing agricultural productivity and the
dominant agricultural structure in Japan, that of petty farming. This contradiction is evident in the fall of the efficiency of fixed capital (which is mainly invested in farm machinery)” (Kajita 1965, 51). This implies that an enlargement in the scale of farming means an increase in the yield on investment.

The other problem, which basically emanated from the 1952 Agricultural Land Law, was the imbalance between rapidly growing manufacturing industries and smallholder agriculture. The period 1950-55 was that of a ‘honeymoon’ between agriculture and industry as agriculture was taken as a springboard for recovery. After 1955 the rapid growth in manufacturing drew large amounts of labour from farm households.

From land reform to agrarian reform

What followed after the land reform was that farm units became very small, fragmented and not viable. In 1955, farms with operational arable land of less than 2 hectares accounted for 96.4% of all farms and operated 88.1% of the total arable land. In 1960, operations that could be considered viable farm units totalled 8.6% of all farms (Nakayasu 1991, 143-4).

As discussed above, the 1952 Agricultural Land Law restricted transfer of land either through sale or rent. At the same time, the growing industries drew a large number of young families from farm households. In 1956, the total number of people over 15 years of age engaged in agriculture was 39 percent of the total working population, but in 1959 the proportion fell to 35 percent and then to 28 percent in 1962. More and more farm households took on non-farm jobs. They made this move without breaking away from land ownership and utilisation.

This process left farm households with severe scarcity of labour. Japanese agriculture could not, therefore, go along with the fast growing manufacturing industries. This led to relative decline in agricultural production (see Table 2 below) and an imbalance between manufacturing and agriculture (Kajita 1965, 57-58).
This imbalance caught the attention of policy makers and the 1952 Agricultural Land Law came to be criticized. The Law had not only prevented farmland expansion and land consolidation but also retarded agrarian transformation by retaining farm households in agriculture.

Table 2. Agriculture and manufacturing production (index: 1933-35=100)

<table>
<thead>
<tr>
<th>Year</th>
<th>Agriculture</th>
<th>Manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1946</td>
<td>8.1</td>
<td>77.6</td>
</tr>
<tr>
<td>1950</td>
<td>97.5</td>
<td>173.8</td>
</tr>
<tr>
<td>1955</td>
<td>128.2</td>
<td>494.7</td>
</tr>
<tr>
<td>1960</td>
<td>137</td>
<td>380.2</td>
</tr>
<tr>
<td>1962</td>
<td>143.5</td>
<td></td>
</tr>
<tr>
<td>Average annual growth rate</td>
<td>3.3</td>
<td>16.7</td>
</tr>
</tbody>
</table>

Source: Kajita, 1965:55

One such criticism of the 1952 Law and agricultural productivity read as follows:

The basis of the landlord system was demolished by the land reform, and Japanese agriculture has progressed by leaps and bounds. However, the land reform did not solve the problem of petty farming. The percent of households farming on a reasonable scale and who make their living from agriculture alone does not total even 30% of the number of farm households.... There is also a trend toward a decline in productivity. The development of agricultural technology after the Land Reform has been remarkable, but if Japan does not make a requisite of land consolidation, enlargement of the unit of cultivation, and planned production, it will increasingly enter the stage where it will be difficult to expect increases in agricultural productivity.... The Agricultural Land Law made its objective the creation of owner-farmers as a means of confronting the landlord system. Now the next step is the problem of tackling small-scale farming. This is the problem facing agricultural administration at the present moment” (an Editorial in the Asahi Newspaper in April 1959, as quoted by Kajita 1965, 59).
As a result, in May 1959, the Committee for the Investigation of the Basic Problems of the Agricultural, Forestry, and Fishing Industries, which consisted of 30 scholars, was formed by the Cabinet. Based on the Committee’s report, the Agricultural Basic Law was enacted on June 6, 1961. The basic tenet of this law was to transform agriculture by changing its structure through encouraging farm households engaged in off-farm work to leave agriculture and hence to create and strengthen economically viable farm units through consolidation of land and increase of its size (Nakayasu 1991, 144; Kajita 1965, 60-61).

The 1961 Law eased the restrictions on the ceiling on the size of agricultural land, which could be acquired. Furthermore, the Law provided various supports that can speed up the agrarian transformation in the context of Kaleckian type of agrarian reform. As noted by Kajita (1965, 60-61), an average of 110 million yen was spent per district (averaging 100 hectares and/or 60-100 households). This investment was more than three times the average annual income of full-time farm households. The average income for a farm household in 1955 and 1961 was 376,664 and 450,847 yen, respectively (Kajita 1965, 45).

Following the Agricultural Basic Law, land was consolidated, size of holding increased, heavy investment in ‘irrigation, drainage facilities, road construction, land reshaping’ and ‘...machines, and facilities—were induced by means of subsidies and institutional loans’ (Nakayasu 1991, 144). Subsidies, however, were not provided for individual farm units but went to groups composed of several farm units to encourage large-scale farms (Nakayasu 1991, 144).

Due to the relaxed transfer and sale rights and transformation effect, the size of operational arable land expanded and an overwhelming proportion of farmers become commercial farmers. As pointed out by Nakayasu (1991, 145), “…the share of farmland belonging to farm units over 3 hectares was a mere 2.4% in 1955, but by 1990, this had expanded to 16.8%. ... The number of farm households had declined by more than 30% in the past 30 years”. According to the 1990 census, about 77.5 percent of farm households were commercial farmers who produce for the market and this was mainly due to the land reform, growth of the labour market, particularly vast

2.1.2 The Experience of India

The rationales for the post-independence land reform

The main driving forces for the land reform in India were high rates of tenancy with high insecurity of tenancy rights, small size of holding, and fragmentation. Consolidation of holdings and avoiding landlordism and tenancy was the overriding issue to increase agricultural production immediately after independence. Accordingly, almost all states had enacted a land reform law in 1952 (Querol 1974 and Sirisena 1996).

The enforcement of the land reform

The political willingness and commitment of the state was half-hearted, and hence, institutions were not put in place to carry out the land reform. Accordingly, the reform was not implemented in all states. Some tended to assure security to tenants and to fix rent at a maximum of 25% of the crop, to fix ceilings on landholdings, to consolidate fragmented landholdings; some others transformed the landlord-tenant relationship to individual ownership of land and others kept the system as it was (Querol 1974 and Sirisena 1996).

In states like West Bengal, Haryana, Punjab, and Uttar Pradesh, land was expropriated from landlords beyond a certain limit by paying compensation in cash and/or bonds and redistributed to farm households with full ownership. The reform was not radical in the sense of egalitarian redistribution, but this was the main factor for rapid agricultural growth. In fact, the Indian experience was taken as a case in point when the Chinese Government initiated land consolidation. According to Sen (1981, 346, as quoted by Bramall 2000, 50-51), the major drive of the Chinese Government for huge collectivization after 1955 was “in accord with much work in India, where agricultural growth has been faster in those states where the land reform of the 1950s brought middle groups (essentially rich peasants) to the fore”. Thus, a significant increase in agricultural productivity was achieved in only these states (see also Storm 1992,
By contrast, as noted by Sirisena (1996) and Anbarasan (1999), in states where land was still owned by a handful of landlords, food production was very low.

**Other supportive policies**

Land reform was carried out in the context of structural transformation of the economy guided by a series of five-year development plans since 1950. The main focus of the first five-year plan (1950-55) was agriculture under a Grow-More-Food Campaign. The sector was supported by huge public investment in irrigation, expansion of area under cultivation, and provision of better seeds (Storm 1992, 55).

Following the rapid increase in agricultural production in the first five-year development plan, attention was shifted from agriculture to industry in the second five-year plan (1956-61) and third five-year plan (1962-66). It should be noted that the focus on industry was preceded by high agricultural growth achieved in the first five-year plan.

In the second and third five-year plans, agriculture was not neglected. There was a massive public investment to boost agricultural growth. In line with this, Sen pointed out, “During the 1950-65, the real impetus to agricultural growth was provided by a fairly massive scheme of public investment in large-scale multipurpose irrigation projects, which besides dovetailing into industrialization plans by generating substantial amounts of electricity, created in fifteen years a larger irrigation potential than that built up in 150 years of colonial rule” (Sen 1981, 174, as quoted by Storm 1992, 63).

When the potential for extensive agricultural growth became largely exhausted, the Government issued a new agricultural investment strategy in 1965. As noted by Storm (1992, 64), the new strategy focused on rapid technological modernisation of agriculture (irrigation, high yield varieties, chemical fertilizer, etc.). This technological modernisation was to be achieved through a policy package consisting of three elements: output price policies, input price subsidies, and a public distribution policy, which tried to contain food grain prices at affordable levels while at the same time
ensuring that producers did not suffer on account of volatile output prices and high input prices.

2.2 Community Ownership: The Experience of China

The rationales for the land reform

The agrarian structure before the communists came to power was dominated by a landlord-tenant relationship. Immediately after the Communists came to power in 1949, the 1950 Agrarian Reform Law was enacted. This law divided the rural population into “... five classes: landlords, rich peasants, middle peasants, poor peasants and labourers” (Bramall 2000, 31). The main driving force for this classification was not the size of land owned by farm households; rather, it was “… by the degree to which they exploited others, either via high rents or low wages, and largely in accordance with the procedure laid down in Mao’s (1933): “How to Differentiate the Classes in the Rural Areas.” Accordingly, the rationales for the land reform were expropriation and redistribution of the surplus and the abolishment of the land ownership system of feudal exploitation by the landlord class.

The other rationale for the land reform was pure effects of scale. It was believed that there is an inverse relationship between farm size and land productivity. The main argument, as noted by Bramall (2000, 38), for this was that small farms use labour more intensively per unit area than large farms.

The enforcement of the land reform

The Government nationalised all lands and redistributed to peasants free of charge. Peasants received title deeds which ‘recognised the right of all landowners to manage, buy, sell, or rent out land freely.’ (Prosterman, Hanstad, and Ping, 1994, 3). In North China (which was liberated early), a more egalitarian reform was undertaken. Even much of rich peasants’ land was redistributed. The Communist leaders felt the negative impact of absolute egalitarian land reform. Mao himself was also against this policy. Accordingly, the 1950 Agrarian Reform Law was designed explicitly to avoid the
redistribution of land held by rich and middle peasants in Southern China. Landlords were also allowed to retain small and poor quality of plots of land, which were actually less than what poor peasants got (Bramall, 2000, 32-3 & 48-9).

What are the immediate outcomes?

The egalitarian land reform was immediately followed by poor agricultural performance. The reform broke farms, which were optimum size, by taking land away from the rich and middle farm households. The country evidence showed that in places where more egalitarian land reform was pursued, agricultural growth was poor. By contrast, in places where more land was not taken away from rich peasants, agricultural growth was relatively better and faster. This was also reflected in terms of the process of capital accumulation. While the accumulation process was disrupted in the northern parts of China, where radical land reform was implemented, the process was relatively better in the South where the redistribution of land owned by rich and middle peasants was limited (Bramall 2000, 30, 36, 49-50).

Despite their initial belief to egalitarian land reform, the Chinese leaders recognised the negative effects and started to think how to increase land size and consolidate land. The major driving force of the huge collectivisation after 1955 was in fact to address the agrarian structure that was dominated by small individual farms (Bramall 2000, 49-50).

From individual to collective farming system

As noted by Bramall (2000, 30), the country-level evidence showed that the land reform ‘... hampered the pace of agricultural growth in the years immediately prior to collectivisation’. The fundamental problem, which was also recognised by the Government, of this egalitarian land reform was fragmentation and small size of holdings. To address this problem, the Government pursued a policy of collectivisation believing that it will consolidate farm plots and increase the size of holding so that productivity of labour and land will increase.
As a result of this move initiated in the mid-1950s, individual owner-operated farms were replaced by collective agriculture. Each farm household "...was allowed to retain a small 'private plot' of land for its own use which was not to exceed 5 percent of the average individual landholding." (Prosterman, Hanstad, and Ping 1994, 4). This process was further strengthened and by the end of 1958 as part of the Great Leap Forward policies "the agricultural collectives had been abruptly merged into Rural Peoples' Communes" (Ibid, 4). In the same year, almost 90 percent of the rural population became commune members and the average commune included 20,000 people. The commune took sole ownership of all property including the small individual plots, livestock, and others (Prosterman, Hanstad, and Ping 1994, 4-5).

The immediate result of collectivisation was an increased agricultural production. This, however, could not be sustained. The effect of the Great Leap Forward on agricultural production was disastrous. Food production had declined substantially since 1959, followed by the worst famine in the world in the 20th century. Daily per capita availability of food energy decreased from more than 2,100 calories in the mid 1950s to only 1,500 calories by the end of the 1950s and in the early first half of the 1960s.

From land reform to agrarian reform

The gains from collectivisation were not up to expectation. The immediate success could not be sustained. The situation was even worse. Grain production per capita in 1977 was lower than that of 1956. This was a clear signal to the Government to change its agricultural production system. The death of Mao, which brought moderate leaders who were opposing many of Mao's agricultural development policies to power in 1978, made possible the much required change of the production system. In the same year, the new Government pursued a general economic reform. As part of the general reform of China's economy, the Government made dramatic transition from a socialist agriculture dominated by large collective farms to a more market-oriented agriculture dominated by small family farms between 1979 and 1983. As Prosterman, Hanstad, and Ping (1994) noted,
In the Third Plenary Session of the Eleventh Central Committee of the Communist Party of China held in December 1978, the Chinese leaders recommended sweeping changes in rural policies. Elements of these changes included expansion of free markets, a rise in government procurement prices, diversification of the rural economy, and product specialisation and crop selection in accordance with rural comparative advantage. The most radical and important change was the later adoption of the Household Responsibility System (HRS) in which land and crop production were contracted to individual households. During 1980-83, virtually every production team in China adopted the HRS (Ibid, 7).

In terms of the land tenure, the reform failed to reinstate the ownership right which was provided in the 1950 land reform. Land was redistributed among farmers on the basis of family size with only use right. The use right was given only for three years. Furthermore, the Constitution prohibited transfer of land. In 1984, however, transfer of land was allowed and formalised in 1988 by amending the Constitution and the use right was also revised and extended to 15 years for annual crops. In 1994, the use right was further extended for 30 years and some mountains, hills, and the like to 100 years. The revision of the Constitution in 1988 has encouraged farmers to leave their land for plentiful non-agricultural work opportunities. Land was also subjected to readjustment when there is any change in the household size without enough compensation. What was more surprising was that this little compensation did not even take account of the improvements made on the land (Prosterman, Hanstad, and Ping 1994, 8-9 and 13).

Outcomes of the agrarian reform

The remarkable progress achieved was not only in agricultural production but also in other aspects of rural development. The reform has improved the standard of living of peasants and boosted the overall economy. Grain production per capita increased and millions of Chinese got opportunity for non-farm and non-agricultural employment. As noted by Prosterman, Hanstad, and Ping (1994, 10), the rate at which grain production per capita grew during the collectivisation period was only 1.3 kg per annum, while it was more than 7.2 kg per annum during the decollectivisation period (1981-90).
It should also be noted that this achievement was not only due to the land reform. The land reform was just one aspect of the overall agrarian reform. The late 1970s reform was accompanied by widely developed irrigation, introduction of high-yielding varieties, abundant chemical fertiliser produced locally, and heavy investment in agricultural research (Bramall 2000, 48; Anbarasan 1999; Prosterman, Hanstad, and Ping 1994, 12).

Despite the remarkable achievements of the decollectivisation and the overall economic reform, the rural land system that had emerged from the decollectivisation had serious tenure problems. The actual land rights by farm households, as observed by Prosterman, Hanstad, and Ping (1994, 12-14), fell short of the characteristics normally associated with long-term tenure securities. The length of use right was inadequate and there was a risk of losing land due to land readjustments in response to changing household size. As a result, "most farmers did not make capital or long-term investments to the land... because farmers did not feel adequately assured that they would remain on their present land long enough to recover their investment and reap a profit." (Ibid 12).

3. Lessons Drawn

This countries' experiences show one clear historical evidence. Sustainable use of land can largely be ensured by bestowing ownership in the cultivator or at least bestowing use rights for a certain period along with transfer and sale rights within a framework of structural transformation of the economy.

Land reform is not a once-and-for all action, it is dynamic. Land tenure reform has continuously been adjusted to address constraints that emerge through the development of markets and the economy. Problems associated with smallholder agriculture were dealt with multiple entry points: series of policy revision in land reform and constitutional amendment to increase the size of holding and land consolidation, provision of all the necessary supports to tackle other structural problems of agriculture (widely developed irrigation, introduction of high-yielding varieties, local production of chemical fertiliser, and heavy investment in agricultural research), and
facilitate sectoral mobility of the farm households to ease pressure on land.

Taking land reform as a package of agrarian transformation and a series of adjustments in land tenure reform led even China to a remarkable achievement, despite the fact that farm households still do not have long-term tenure security.

To recap, the important lesson drawn from this discussion is that egalitarian land reform with no or restricted land transfer rights has adverse consequences on agricultural production and transformation of agriculture. Even land reform designed in terms of land consolidation and increasing the size of land alone has little impact unless it is supported by public investment that can mitigate the underlying structural problems of agriculture.

5. Reflections and Concluding Remarks

Land tenure reform alone has little and short-lived impact on agricultural growth. Land tenure reforms that are contextualised in the agrarian transformation framework are observed to have a long-lasting positive impact in enhancing agricultural productivity and transforming the society and the economy. Although the main objective of land reform at the initial period was just to remove the landlord system, there was a series of policy revisions in land reform and a shift from land reform to agrarian reform to tackle problems associated with smallholder agriculture.

Smallholder agriculture is subsistent in practice and it is a major constraint to the industrialization effort. In smallholder agriculture internal consumption (i.e., on the farm consumption) accounts for a larger portion of output and what is left for market is very small. This has adverse consequences on industrial expansion by raising price on wage goods and by limiting the market for industrial products. It prevents a diversification of consumer expenditure that could potentially expand the domestic market for industrial consumer goods. Thus, food self-sufficient program in subsistent smallholder agriculture like Ethiopia’s does not mean much for sustained industrialization and structural transformation of the economy.
Experiences from other countries showed that land consolidation and higher size of holding in the context of agrarian transformation (shifting the proportion of food producers to food buyers) is more appropriate to increase agricultural production and transform the economy.5

The industrialization and structural transformation Ethiopia has thus far experienced is far behind, if not the opposite of, the country experiences mentioned above. The following table supports this claim.

Table 3. Agricultural and industrial share of total GDP (China & Ethiopia)

<table>
<thead>
<tr>
<th>Year</th>
<th>Agriculture</th>
<th>Industry</th>
<th>Decline in agriculture</th>
<th>Rise in industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>75.8</td>
<td>7.0</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>1978</td>
<td>61.6</td>
<td>9.3</td>
<td>-14.2</td>
<td>2.3</td>
</tr>
<tr>
<td>1993</td>
<td>53.5</td>
<td>10.3</td>
<td>-8.1</td>
<td>1.0</td>
</tr>
<tr>
<td>2003</td>
<td>39.4</td>
<td>11.9</td>
<td>-14.1</td>
<td>1.6</td>
</tr>
<tr>
<td>1961-2003</td>
<td>-36.4</td>
<td>4.9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Agriculture</th>
<th>Industry</th>
<th>Decline in agriculture</th>
<th>Rise in industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>1952</td>
<td>57.7</td>
<td>19.5</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>1978</td>
<td>32.8</td>
<td>46.8</td>
<td>-24.9</td>
<td>27.3</td>
</tr>
<tr>
<td>1993</td>
<td>25.3</td>
<td>51.7</td>
<td>-7.5</td>
<td>4.9</td>
</tr>
<tr>
<td>2003</td>
<td>14.8</td>
<td>53.0</td>
<td>-10.5</td>
<td>1.3</td>
</tr>
<tr>
<td>1952-2003</td>
<td>--</td>
<td>--</td>
<td>-42.9</td>
<td>33.5</td>
</tr>
</tbody>
</table>

Source (Ethiopia): EEA /EEPRI, Statistical Database. 2003 at and National Bank;


*Note (Ethiopia): At 1980/81 prices.

As can be observed, in China, at the early stage of development, agriculture has the largest share but through a successful structural transformation, industry took the dominant position. The decline in agriculture first led to the proportionate increase in industry and latter shift to distribution and service sector. This is what we call the
stylised facts of economic growth and transformation from agriculture to non-agriculture that all developed countries passed through. The Ethiopian experience is different. While agriculture declined by 36 percent in the last four decades, industry has increased only by less than 5 percent. It should be noted that this trend does not show structural transformation but simply an economic malaise and unhealthy shift to services due to militarization and burgeoned bureaucracy and administration while the decline in China is associated with demanufacturing.

Ethiopia attempted to transform its economy by a successive Five-Year Development Plan as early as the 1950s as China and India did. Since all policies and strategies depend on one sector (industry-biased, to the neglect of peasant agricultural policies under the last two regimes, and agriculture-biased, at least in the policy document, under the current regime) (Getnet 2005b), the achievement was quite contrary to the stylised facts of structural transformation as observed in table 3.

It should be noted that at the early stages of development agriculture and industry are interdependent. The success of one depends on the success of the other. In the Ethiopian context where nearly half of the peasants are living below subsistence and a significant part of the others are incapable of producing a surplus of food above their own subsistence needs, there is little or no incentive for industry to establish itself. Conversely, in the context of very limited manufacturing base of the economy and insignificant proportion of urban population of which nearly 40 percent are living below subsistence, whatever effort in agriculture can not bring growth as it will be inhibited by a lack of market for farm products. In this kind of economy, each of the two sectors must try to move forward. If one remains passive the other is highly likely to be slowed down.

It can be concluded that growth in Ethiopia has been, and will be for sometime to come as the policy itself recognised, agriculture-constrained and the driving force for agriculture growth and transformation most probably will be land. What makes land more important in the Ethiopian context is the number of people it supports and its role in the overall economy. The livelihood of about 82 percent of the country’s population is directly dependent on land.
Thus, what happens to land is almost tantamount to what happens to the economy. They strive to bring the whole economy on board for accelerated development has, therefore, to start from land tenure reform.

The actual and potential dangers inherent in Ethiopian egalitarian land reform and the current regime’s land policy and Constitutional promise to each peasant to access land so as to guarantee subsistence for poor rural households are:

i) taking more land away from relatively optimum size and breaking up viable farms (if at all there are viable farm sizes);

ii) collective action problems associated with organising any possible irrigation for fragmented and small size of holdings,

iii) adversely affected the motivation of farm households to be an agent for agricultural development with adverse consequence on the level of marketed surplus created.

What is even more disturbing, which most studies ignore, is the regular in-house redistribution of land. Parents share their land with their sons and this is a regular activity in farm households. Although this is partly explained by the land tenure system where redistribution is based on household size and fear of further Government redistribution, the major explanation is the failure of the economy to offer jobs in the non-agricultural sector. Farm households are not also supported and encouraged to leave their farmland for other employment opportunities.

The need for a new land policy is imperative to change the existing small and fragmented enviable farm plots to viable farms and to stop regular in-house redistribution (Getnet 2005a). Since the 1975 land reform, there has been no policy change with regard to land tenure to deal with fragmentation and small size of holding. Both land reform and agricultural policies are not contextualised in the framework of agrarian transformation. The country has thus far experienced an increased degree of vulnerability to famine in terms of area coverage, number of victims and frequency.
The attempt to give rural land users a title of ‘ownership’, by issuing user certificates, to the land they have been using after the last land redistribution seems to have very little impact as it can not address the structural problems. Neither has it provided a sense of ownership. I had a focus group discussion in Gojam and Gondar with farm households who have user certificates (for actual benefit) and expected to have in the near future (for expected benefit) in May 2005. I had also the same discussion with committees for land administration in the peasant association of the two places. In all of the cases, the only benefit experienced and expected is the avoidance of boundary conflict. With regard to the sense of ownership, most of them argued they had this feeling even before the issuance of the user certificate. They argued that the binding constraint for them is not lack of a sense of ownership. It is rather deterioration in the size of land, the failure of land to give enough harvest as it used to be, exhaustion of traditional mechanisms to regenerate the soil fertility, and absence of any alternatives to their children other than sharing land with them. They attached the highest degree to population pressure and the resultant regular in-house land redistribution.

In general, lack of comprehensive policy framework to transform agriculture left the country with no internal engine to move the economy forward. A weak and limited manufacturing base and smallholder subsistence agriculture are closely interrelated in a kind of vicious and self-reinforcing circle and prevent the economy from attaining basic thresholds to bring it on board.

Notes

1. Kaleckian agrarian reform proposes land reform to be followed with other supporting policies such as providing cheap bank credit, improvements in the method of cultivation, small-scale irrigation, cheap fertilizer and other productivity increasing inputs.

2. One cho is almost equivalent to one hectare.

3. In some parts of Japan, the average size of landholding by landlords was within the range 5 cho (Kajita 1965, 30).

4. It should be noted that some adjustment was undertaken in the 1960s towards reinstating private plots. The decentralisation process simply
reactivated the lower layers of the commune with new name such as production brigades and production teams. See Prosterman, Hanstad, and Ping 1994.

5. In Ethiopia, if we take the urban population as buyers of food grains and the rural population as food grains producers with, of course, a small margin of error, we have 7 producers for one buyer. Efforts to increase productivity and volume of food production without a simultaneous effort to boost the non-agricultural sector (transforming agriculture) and, hence, transforming a significant number of food producers into wage labourers, will not lead to success.

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Welcome Address

Dessalegn Rahmato  
(Executive Director, FSS)

On behalf of the Forum for Social Studies, the Ethiopian Economic Association, and the Agricultural Economics Society of Ethiopia, I would like to welcome you here to this conference on land issues.

I am happy to note that this joint effort involving the three sister organizations has attracted such a large audience: it is a good enough indicator of the importance of the subject to be discussed and the success of the joint effort itself. We were not quite sure at the time we were planning the conference if enough people would turn up because we assumed that the public interest was drawn to the elections. As it happens, the conference was postponed twice due to the elections and the events that followed. Because of this, some of our paper presenters have not been able to be here in person.

This is a joint undertaking and while we have had similar undertakings in the past, this is the first program launched with the aim of making such undertakings a regular program in the future. We believe such joint efforts have a number of advantages: they are less costly since each organization shares the cost; we share scarce resources such as “brainpower”, research and experience. We can deal with important subjects and issues that cut across disciplines and professions; and we will be able to establish a strong bond.

Today, the land issue is such a crosscutting issue: it has a bearing on the economy, the environment, resource management, class and social relations, technology, and politics. Today’s conference will by no means exhaust the debate; we will have to have more diversified debates on the subject to do justice to the many questions and problems that are raised by the subject. But this will serve as a good beginning.

Welcome again, and thank you.
Opening Statement 1

Bezabih Emana
(President, AESE)

Conference Participants,
Paper presenters,
Colleagues,

I am delighted to be here today and say a few words on the opening session of this conference on behalf of the Agricultural Economics Society of Ethiopia. The conference has been jointly organized by the Forum for Social Studies (FSS), the Ethiopian Economic Association (EEA), and the Agricultural Economics Society of Ethiopia (AESE).

Our society was established about ten years ago (1994) with the objectives of:

i) Contributing to the development of Ethiopian agriculture by:
   a) Promoting the study of agricultural economics in the country's educational and training institutions;
   b) Promoting research in agriculture and assisting in the dissemination of the findings of such research in Ethiopia;
   c) Providing fora for the discussion of problems of agricultural development;

ii) Promoting the professional interests of agricultural economists; and

iii) Promoting professional contacts among agricultural economists and other professionals in Ethiopia and abroad.

The organization of this conference is, therefore, in accordance with the objectives indicated above. Policies affecting the agricultural sector are the core interest of the society. We collaborate and associate with other institutions to positively influence the policy formulation and strategy setting processes. Today’s exercise is part of this effort. The organizers of this conference, i.e., the AESE, EEA, and FSS, have complementary, but not overlapping, objectives.
The topic to be discussed today is essential for all bodies interested in land. We all know that land is important in any economy where crop and livestock production dominate. Moreover, land is a key instrument in the political economy of Ethiopia. The importance of land in this respect has also been emphasized by policymakers and politicians. Discussions held on land issues so far have been based on emotion, wishes, ideologies and politics. Empirical support for the arguments presented have not been well established.

I have the feeling that this dialogue will open up the interest to debate on key issues and provide evidences so that more effective policies are set. Saying so, I appreciate the initiators of the joint conference, including the former Executive Committee Members of the AESE and Dr. Berhanu Gebremedhin, the former President of the Society. It is also my hope that such a joint organization of conferences on crosscutting policy and development issues will continue and grow in the future.

I wish you fruitful deliberations.
Opening Statement 2

Assefa Admassie
(Executive Director, EEA)

This Conference on land and the challenge of sustainable development has been organized through a cooperative effort of the Forum for Social Studies (FSS), the Ethiopian Economic Association (EEA) and the Agricultural Economics Society of Ethiopia (AESE).

It is well known to all of you that land is a key asset that provides the foundation for all economic activities, particularly in rural areas where most poor people derive their livelihood from land. Since land is a multi-disciplinary issue, any intervention in land has far-reaching social and economic implications. Hence, research on land issues should be informed by the broad range of other issues that land is associated with and should be integrated into a broader dialogue with the public.

Different studies have demonstrated the need for a careful approach to the land question and for making clear policy recommendations since policies could be affected by the presence of multiple market imperfections. Very often, discussions on land issues are overshadowed by ideology, which undermines the potential of using land as a catalyst for social and economic changes. Land requires a careful analysis of the political, social and economic contributions to the broader development process. There is, therefore, a need to carefully analyze the mechanisms for achieving these social and economic goals since recommendations that undermine the complexity of the land issue may lead to unintended negative consequences. Hence, when analyzing the land issue, both equity and efficiency considerations become necessary.

This one-day conference on land aims at strengthening our understanding of the critical issues surrounding the land question in the country. The papers that would be presented in this conference reflect on recent research results and can thus contribute to the poverty reduction process in the country. It is hoped that these research results will be accessible to a wide audience of
policymakers, non-governmental organizations, the academic community, donors, and the broader development community.

We hope that this conference would be able to summarize the key insights from research and practical experience, not only to highlight the importance of careful and nuanced policy advice, but also to illustrate some general principles for formulating such policy advice in the country.
Annex 3

Conference Programme
(Hilton Hotel, Friday 5th August 2005)

Morning Session
8.30 – 9.00  Registration
9.00 – 9.20  Welcoming Statements
9.20 – 10.15 Land and the Experiences of other Countries
            (Getnet Alemu, IDR, AAU)
            General Discussion
10.15-10.35 Coffee Break
10.35 – 10.55 Access to Land, Poverty and Livelihoods
            (Berhanu Adnew, EEA)
10.55 – 11.20 Women’s Access to Land
            (Yigremew Adal, IDR, AAU)
11.20 – 11.45 Land Tenure and Land Investment
            (Berhanu G/Medhin, AESE & ILRI)
11.45 - 12.30 General Discussion
12.30 – 1.45 Lunch

Afternoon Session
1.45 – 2.10  Equity and Efficiency of Land Markets
            (Samuel G. Selassie, EEA)
2.10 – 2.35  On Land Markets
            (Bezabih Emana, Private)
2.35 – 3.15  General Discussion
### Land and the Challenge of Sustainable Development in Ethiopia

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<tr>
<td>3.15-3.35</td>
<td><strong>Coffee Break</strong></td>
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<td>3.35-4.00</td>
<td>Land and Agrarian Class Structure</td>
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<td><em>(Dessalegn Rahmato, FSS)</em></td>
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<td>4.00-4.25</td>
<td>Land, Environment and Differential Taxation</td>
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<td><em>(Daniel Kassahun, FSS)</em></td>
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<td>4.25-4.50</td>
<td>Land and Environmental Change</td>
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<td>4.50-5.30</td>
<td>Land and Technology Diffusion</td>
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<td><em>(Workineh Negatu, IDR, AAU)</em></td>
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<td>5.30</td>
<td><strong>End of Conference</strong></td>
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# FSS Publications List

## FSS Periodical

- **Medrek**, now renamed **FSS BULLETIN** (Quarterly since 1998. English and Amharic)

- **Africa Review of Books** (Managed by FSS for CODESRIA)
  - Vol. 1, No. 1 (October 2004)
  - Vol. 1, No. 2 (September 2005)

## FSS Discussion Papers

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<td>No. 2</td>
<td>The City of Addis Ababa: Policy Options for the Governance and Management of a City</td>
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<tr>
<td></td>
<td>with Multiple Identity.</td>
<td>Meheret Ayenew</td>
<td>1999</td>
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<td>No. 3</td>
<td>Listening to the Poor: A Study Based on Selected Rural and Urban Sites in Ethiopia.</td>
<td>Aklilu Kidanu and Dessalegn</td>
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<td>Rahmato</td>
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<td>No. 5</td>
<td>Land Redistribution and Female-Headed Households.</td>
<td>Yigremew Adal</td>
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<td>No. 6</td>
<td>Livelihood Insecurity Among Urban Households in Ethiopia.</td>
<td>Dessalegn Rahmato and</td>
<td>2002</td>
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<td>No. 9</td>
<td>Rural Poverty in Ethiopia: Household Case Studies from North Shewa.</td>
<td>Yared Amare</td>
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## FSS Monograph Series

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<td>No. 2</td>
<td>Environmental Change and State Policy in Ethiopia: Lessons from Past Experience.</td>
<td>Dessalegn Rahmato</td>
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<td>Democratic Assistance to Post-Conflict Ethiopia: Impact and Limitations.</td>
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<td>Meheret Ayenew</td>
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<td>No. 4</td>
<td>Lord, Zega and Peasant: A Study of Property and Agrarian Relations in Rural Eastern</td>
<td>Habtamu Mengistie</td>
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<td>Perspective.</td>
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## FSS Conference Proceedings


Consultation Papers on Poverty

No. 3 Civil Society Groups and Poverty Reduction. Abonesh H. Mariam, Zena Berhanu, and Zewdie Shitie. Edited by Meheret Ayenew. 2001
No. 4 Listening to the Poor. Oral Presentation by Gizachew Haile, Senait Zenawi, Sisay Gessesse and Martha Tadesse (in Amharic). Edited by Meheret Ayenew, 2001
No. 5 The Private Sector and Poverty Reduction [Amharic]. Teshome Kebede, Mullu Solomon and Hailemeskel Abebe. Edited by Meheret Ayenew, 2001
No. 7 Poverty and Poverty Policy in Ethiopia. Edited by Meheret Ayenew. 2002

Books


Thematic Briefing


Gender Policy Dialogue Series

No. 1 Gender and Economic Policy. Edited by Zenebework Tadesse. 2003
No. 2 Gender and Poverty (Amharic). Edited by Zenebework Tadesse. 2003
No. 3 Gender and Social Development in Ethiopia. (Forthcoming).
No. 4 Gender Policy Dialogue in Oromiya Region. Edited by Eshetu Bekele. 2003
No. 6 Gender Policy Dialogue in Southern Region. Edited by Eshetu Bekele. 2004

Consultation Papers on Environment

No. 1 Environment and Environmental Change in Ethiopia. Edited by Gedion Asfaw. Consultation Papers on Environment. 2003
No. 2 Environment, Poverty and Gender. Edited by Gedion Asfaw. Consultation Papers on Environment. 2003
No. 5 Government and Environmental Policy. Consultation Papers on Environment. 2004
No. 7 Promotion of Indigenous Trees and Biodiversity Conservation. Consultation Papers on Environment. 2004

FSS Studies on Poverty

No. 3 Destitution in Rural Ethiopia. Yared Amare. 2003
No. 4 Environment, Poverty and Conflict. Tesfaye Teklu and Tesfaye Tafesse. 2004
No. 5 Issues in Urban Poverty: Two Selected Papers. Daniel Kassahun and Meron Assefa. July 2005

Environmental Documentaries on CD and Video

- የስለ如实 እሆኔ ከም葫芦 በሆነ ያገኝ ሰሚ ከማለት (Amharic Video Film)
- የስለ如实 እሆኔ ከም葫芦 በሆነ ያገኝ ሰሚ ከማለት (Amharic Video Film)
- "Witinkit": Poverty and Environmental Degradation (CD in Amharic with English Subtitles)
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