5 Experience on Parcel Identification System for Rural Land Administration: The Case of Amhara

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1. Introduction

1.1 What Is Land?

First of all, before going into the discussion of the experiences gained through the regional land administration system development and establishment, conducted in the last three years, I would like to refer to the different perspectives discussed by UN relating to the precious resource – land. According the description (UNECE 2004), land can be viewed from a variety of perspectives, depending on the context within which it is being discussed. It says that land *is a physical reality, land is of economic value, land is a legal entity and land is a cultural entity*.

Land provides the *physical space* in which we all live, work and play, and from which we obtain our material needs. If it is taken to include areas that are covered by water, then all living creatures are dependent on the land for food, shelter and social interaction. Land is the foundation of all human activity and its proper management is a key to the creation and sustenance of civilized society (Dale and McLaughlin 1999, in UNECE 2004).

Land may also be viewed from an *economic perspective*. It is the basis for economic production and development and the creation of wealth. From it we obtain food and water, precious minerals, materials to build our homes, our shops and factories, and products such as oil, coal and gas that supply us with energy. It is a commodity to which a value can be assigned and which can be traded through land markets. It is also a commodity that can be taxed to produce revenues that support good governance (Opcit).

Land may be viewed as a *legal entity*. To ensure the optimum use of space and enable the land market to operate efficiently and effectively there must be a framework of land and property laws. From a legal perspective land may be viewed as an abstract set of property rights that provide security of tenure and govern the way in which the land may be used and how dealings in land may be transacted. These rights may extend ‘from the centre of the Earth to the infinite in the sky’, that is, they affect what is below and above the surface of the Earth so that the minerals beneath the surface and the air above may be regarded as part of the land (Opcit).

Land may be viewed as a *cultural entity*. Unlike personal property and the ownership of movable objects, land is immovable and indestructible. It has therefore has a cultural dimension that lies at the heart of any nation. Throughout history nations have resorted to war over the possession of land, while at the local level citizens may fight to defend their own personal territories with many disputes over boundaries being resolved at a cost that far exceeds the economic value of what is involved. People often have an emotional

relationship with the land that they claim to own and the locality in which they live, which is why the proper administration of the land is a necessity for stable society and social justice (Opcit).

1.2 Certification in the Amhara Region

The Amhara Region has an estimated area of 170,000 km^2 with a population of more than 19 million. The region is so vast in size and rugged in topography that it is not possible to cover the cadastral surveys of around four million rural properties and about 16 million parcels in a short period of time. On the contrary, the pressing need to get the rural lands registered and certified so that the users are secure is the utmost demand for rural development.

To harmonize the conflict between the need of urgency and the present capacity to shoulder this huge responsibility, the Environmental Protection, Land Administration and Use Authority (EPLAUA) designed to have two levels of licensing in the region. The approach is conceived with an aim to devolve competencies to the *Wereda* level institutions. The *Wereda* staff can, after being trained, support demarcation, surveying and registration until all rural land in the villages are surveyed and registered.

The approach tested in the pilot projects shows that a Land Administration System can be implemented in a fast and cost effective way with full participation of farmers. The experience with demarcation, surveying and mapping in the pilot projectsinvolves eventual scaling up in all 106 rural *Woredas*. The objective was to adapt the results of the pilot projects to *Wereda* specific conditions and to help the *Wereda* staff and at the same time to provide on-the-job training. Based on the experience gained from the pilot project and limited financial resources, the work was undertaken in two phases.

The first registration was based on manual methods and local knowledge. This registration was chosen because of lack of technical equipment and most villages' and many *Wereda*-level land administration offices' lack of the required capacity for the task. Demarcation and surveying of boundaries for Kebele and sub-Kebele, all community areas, service areas and areas for offices and schools within the villages took place before surveying of the individual parcels for the households. Issuing of first level of title certificates was based on registration of users and on traditional parcel measurement. The second phase was focused on geodetic measurement with modern technology of all parcel boundaries. It is a very well known fact that the spatial description of parcel is one of the indispensable inputs for land administration.

1.3 Need for Establishing Tenure Security

For creating food security, economic development and environmental protection there is an urgent need for establish security of tenure in the Amhara regional state in particular and in the country in general. The regional land productivity, which is the economic base for all-round development, is in a precarious situation.

Renewable resources such as forests will not be depleted, provided the rate of harvest is below the rate of regeneration and growth. But, when the rate of harvest becomes higher than the rate of regeneration and this continues for a long period of time, the forest resource gets exhausted. As demand exceeds growth, this demand is often met by depleting the stock and over time this leads to an ever-faster reduction in tree stocks and after a definite period of time, the stock gets exhausted.

As a result of forest resources utilization without replacement, almost all the natural forest resources are gone from the regional landscape. The Ethiopian Forestry Action Program (EFAP) projection of demand and supply of fuel-wood for the year 2014 shows that the demand will be about 88.9 million m^3 $year^{-1}$ and the supply on sustainable yield basis is 8.84 million m^3 $year^{-1}$ for Ethiopia. From this prediction it is not difficult to imagine how the situation could be worse for the Amhara region.

Although the imbalance between demand and supply of wood is extremely wide, this does not mean that subsistence rural household energy is totally inadequate. Subsistence demand is fulfilled through over-exploitation of woody vegetation and herbaceous materials in the vicinity of the households and by using livestock dung and crop residue as a substitute for fuel-wood. In most areas of the country, specially the Amhara region, all parts of trees (stem, bark, branches, and in some areas even roots) are harvested as fuel for household energy consumption or for selling in nearby towns. Overexploitation of woody vegetation and herbaceous materials lead to loss of physical cover and exposes the soil to erosion. The use of dung and crop residue for household energy needs has broken the recycling of nutrients back into the soil. The effect of both actions is soil resources degradation.

Soil degradation diminished the overall resources base for agriculture and leads to loss of crop land and reduced agricultural output in all agricultural production systems. The loss of the previous crop land forced farmers to overuse the remaining land and to move into forests, rangelands and other marginal areas, which exacerbated the degradation of land resources.

Devastation of the vegetation cover, besides loss of tangible and intangible benefits that society could get out of it, has other far reaching consequences that affect negatively the economy of the region in particular and the nation in general. When heavy rains come, the rain water doesn't get enough time to percolate into the ground. This leads to formation of heavy floods that destroy infrastructure such as roads, bridges and other built-up assets in the valley bottoms. Built-up water collecting infrastructures such as irrigation and hydropower dams designated to last many decades are filled with silt in an unprecedented short period of time. In this way, the damage goes on and on.

As a result of serious land resource degradation the environment has lost its resilience. When drought comes in its cyclic way, the number of people affected increases from time to time. Some reports indicate that the number of people affected by drought in the early 1970s was about 1.5 million in the whole country. The number of people affected in the early 1980s reached about 6 million, and it escalated to about 14 million throughout Ethiopia in early 2000. In general, land degradation, overgrazing,

deforestation are serious problems in Ethiopia, especially in *Amhara* Region and the need for aid will increase if nothing is done to reverse the situation.

Although there are so many causes for such intermingled environmental problems, the central cause is believed to be *lack of tenure security*. Eviction of land users from the land on which their livelihood depended has destroyed the sense of responsibility that they should shoulder for their basic resource, the land. At this point I would like to bring to the attention of the reader what Todaro said in 1989. He said that when a farmer is driven off his land, not only is his material well-being damaged, more importantly, his sense of self-worth and his desire for self-and-family improvement can be permanently destroyed (Todaro 1989 in Zerfu 1993). The implication of land registration for the creation of tenure security has been emphasized by the UNECE in 2004. It said that land registration provides security of tenure for those whose land is registered.

In the current rural settings of Ethiopia, the cause of disputes, crimes and corruption are rooted in land. These social vices are directly or indirectly related to tenure insecurity, which leads to bad governance. The significant contribution of land registration to the creation of good governance has been emphasized by the UN (2004), which said that that land registration is a component of good governance.

Considering the above stated environmental, economical and social problems, the *Amhara* National Regional State decided that all farmers should have be legally entitled to long-term possession rights to land. This will give possibilities for farmers to make long term investment and accelerate economic development. It will also support food security and support protection of the environment. Ultimately it will help to bring good governance and political stability. Therefore, one can say that the establishment of the land administration system in the Amhara region is a demand driven initiative.

1.4 Evolution of Legal Provisions for Parcel Based Land Administration

An appropriate and sustainable land tenure system is achieved only if the system is regarded as legitimate and fulfils the needs of the people (Dambiane 1999). Legitimacy has to be established as a prerequisite through different measures that have to be taken by the responsible government organs. In a standard procedure, adjudication or first registration begins with promulgation of policies, strategies, the legal frameworks and institutional set-ups that define what to achieve, how to achieve, and the powers and responsibilities of those who will take part in the overall operation.

Accordingly, the Amhara National Regional State took credible measures step by step. It indorsed and put in place the Regional Conservation Strategy (RCS) in July 1999. The strategy addresses many sectoral and cross-sectoral issues, including the issue of tenure security. The strategy explicitly discusses rural land and natural resources tenure and access rights. As it is stated in the strategy document, in order to reap the benefits of the strategy, the government has *to provide security of tenure for land and natural resources users by clearly defining and strengthening land and other natural resource tenure rights and responsibilities so as to support sustainable agricultural, pastoral, forestry and fisheries production and sustainable urban environment*. This implies that for the

provision of security of tenure to someone (the subject) there must be an area of land/parcel (the object) in the name of that person. In addition to the above mentioned statement, it says that traditional community institutions for resource management should be legally empowered to regulate the use and management of natural resource in their area, which again indicates the area of land/parcel that must be properly identified.

In the regional land administration and land use policy issued in 1999 (following the RCS), there are clearly stated policy statements and policy objectives about certification of landholding. The policy objective says in order to determine the exact size and quality of land and generate data about these, and to give tenure security to the holder, it is necessary to establish a system of certification that is supported by a map, with clear boundary demarcations:

> **የመሬትን ትክክለኛ ስፋትና ተመን በመወሰን መረጃ እንዲያዝ ለማድረግና ተጠቃሚው የባለቤትነት ስሜቱን ሊያዳብርለት የሚችል በካርታ የተደገፈና ዳር ድንበሩ በትክክል የታወቀ ማረጋገጫ መስጠት የሚያስችል ሥርአት መዘርጋት፣**

Similarly the policy statement says that the work of measuring and registering land in an appropriate and sustainable manner and providing certificates will be carried out at all levels:

> **ዘላቂነት ባለውና ተስማሚ በሆነ መንገድ መሬትን የመለካት፣ የመመዝገብና ማረጋገጫ የመስጠት ሥራዎች በሁሉም ደረጃ ይከናወናሉ፣**

Following the issuance of the regional land administration and use policy, Proclamation 46/92 was issued by the regional government. In this Proclamation, Article 8 Sub-article 5 declares it is punishable by law to use land without the proper title deed: (**ተገቢውን የይዞታ ማረጋገጫ ደብተር ሳይዙ መሬት መጠቀም በህግ የሚያስቀጣ ነው**) Therefore, parcels and possessors of the parcels have to be correctly identified and should be attached to each other by law.

After Proclamation 46/2000, Proclamation 47/2000 was issued by the regional government. In this Proclamation, Article 10 Sub-article 4 defines the powers and duties of the Authority: the *Authority has to conduct simple cadastral survey and issue a map and book of certificate to each land holder with a mention of the plot size and its adjacent borders***.** This statement clearly indicates that parcels are the basis of proper land administration. The directive that was developed for the implementation of Proclamation 46/2000, by the Environmental Protection, Land Administration & Use Authority (EPLAUA), articulated the steps in the adjudication/first registration processes.

2. Objective

The land administration system that is being put in place is a new initiative for the region in particular and for the country in general. In the region, it was started without any previous experience about the subject matter. Although there is a very strong satisfaction with the level of achievement in such a short period of time and with limited resource inputs, one cannot deny the need for further improvement and adjustment from time to time. One of the means to get suggestions for further improvement is to share the

experience gained with other professionals. Therefore, the objective of this paper is to share the experience gained in the Amhara region.

3. The Method of Parcel Identification

3.1 Possessor and Parcel Identification System

I believe that there has to be a common understanding on the term **parcel** to have a common understanding with other individuals and organizations that deal with land and use land information. It seems that there is no absolute unanimity on the terminologies related to land administration. The terminology used in land administration differs from country to country; likewise, there is no agreement on the basic unit of landownership (UNECE 2004). The same report says that the definition of a parcel varies according the jurisdiction, but for practical purposes it should be regarded as a closed polygon on the surface of the earth in unique ownership and with homogeneous real property rights.

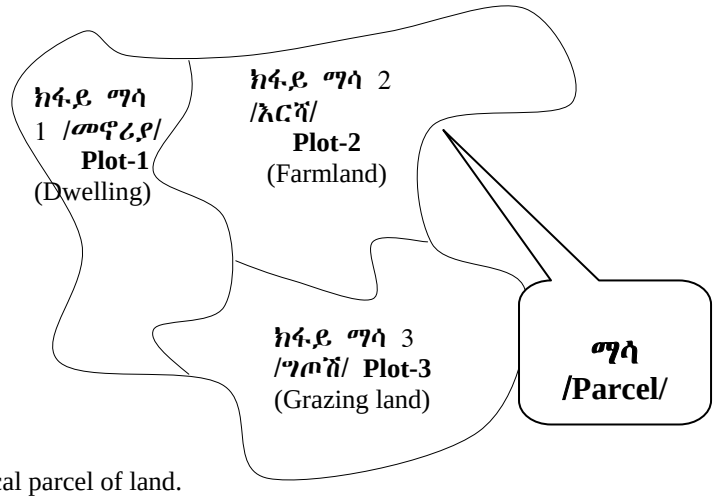

Fig. 1. A typical parcel of land.

According the definition of the UNECE (2004), a plot is an area that can be plotted on a plan and is the smallest unit that can be identified for the purposes of land resource management – such as a field with a particular type of vegetation or form of use, or an area under specifically designated use such as a building. One or more plots make up a land parcel. The units of real property that are established in the Amhara National Regional State are similar to the one presented above. According to the system, *Masa* is equivalent to parcel and *Kifay-masa* is equivalent to plot (See fig. 1 above). In the book of register, *Masa* is registered but not the *Kifay-masa*.

It is an absolutely essential requirement in land administration to a design parcel and possessor identification system. As described by Larsson (2000), the need and the

importance of the parcel-based information is that much of human life or activities and human property have meaningful links with specific pieces of land.

Adjudication is the processes whereby all existing rights in a particular parcel of land are finally and authoritatively ascertained (Laurance 1985, in Larsson 2000). The purpose of adjudication is to identify all existing land rights, and the limits of the areas that can be used as legal evidence to secure rights that people have with respect to their land (Dambiane 1999). A piece of land and the one who uses that piece of land should be accurately identified, numbered and registered. Therefore, proper answers must be given for questions like what? Who? and Where? In this case 'what' refers to the type of right, 'who' refers to the possessor, and 'where' refers to the location.

In doing the first registration, there are different forms of adjudication processes, known as sporadic and systematic. The form of the adjudication process decided in the Amhara National Regional State is systematic adjudication.

As presented in section 3.2 of this paper, once proper screening of rightful possessors for parcels is completed, parcel identification numbers are given and registered. The system, which is developed to identify parcels and possessors includes all hierarchal levels that go down from the regional to the Kebele levels. To identify the different levels, codes are given in English alphabets or in numbers. This avoids any confusion in the registration system and it is an essential element to eliminate disputes that could arise from a wrong numbering system. When the identification number is written, it is followed by Region, Zone, Wereda, Kebele and possessor number. For instance, a possessor called Mrs. Lemlem Abebe Zewdie with a possession number 1201 holding a parcel of land in Amhara region, Debub Wollo Zone, Dessie Zuria Wereda, Endod-Ber Kebele, will be assigned a possessor identification number: A/D/39/18/1201. The designations indicate the following:

A: Amhara region
D: Debub Wollo Zone
39: Dessie Zuria Wereda
18: Endod-Ber Kebele
1201: Registration number of the possessor.

If the possessor has only one parcel, the parcel identification number will be the same as the possessor number. However, the possessor may have more than one parcel in the Kebele. In this case each parcel registered against the same possessor should have a different parcel identification number. For instance if Mrs. Lemlem Abebe Zewdie has three parcels, the parcel identification number will be:

- A/D/39/18/1201/1 (parcel registered first)
- A/D/39/18/1201/2 (parcel registered second)
- A/D/39/18/1201/3 (parcel registered third)

3.2 Actual Operation in Parcel Identification

In the land administration system, broadly speaking there have been two approaches, one focusing on its legal aspect and the other on its fiscal or resource potential (UNECE 2004). The former, called land registration or the land book system, concentrates on the abstract rights associated with the land. The latter is the cadastre and often contains more evidence about the physical size and shape of areas, and data on land values or land use. In some countries, property registration and land registration are handled by one institution, whereas in other countries they are handled by different institutions. In the Amhara region, both the land registration and property registration are done by the same institution, the EPLAUA.

The essence of tenure security is certainty. The fundamental information problem in land registration is to establish and maintain certainty in three questions: what rights, who holds them, and where these rights can be exercised (Haldrup 1996 in Dambiane 1999). Incorrect information in one of these questions will cause uncertainty, which typically will take the form of a dispute.

One of the fundamental reasons that the information should be perfect is to prevent uncertainty in the what-who-where questions through correct information. The function of a land administration system is to record, maintain and make available information that can create security of tenure, and support the land market (UNECE 2004). With this in mind, the actual operation in parcel and possessor identification is presented as follows.

The first entry point is making an announcement, meeting the Kebele administration, discussing about the survey plan and other relevant matters related to tenure security till a consensus is reached on the plan. In this meeting, the regional land administration and use policy, the legal framework, the importance of land registration and creation of legally binding tenure security, and other relevant matters are discussed. In addition, as stated in the Directive that has been developed to implement Proclamation 46/92, responsibilities of the Kebele administration are presented and discussed.

Once proper understanding is established with the Kebele administration, the next step is to go to the people that reside in the Kebele. With a participatory method of approach, the experts give a more detailed explanation about the planned survey work and the importance of the registration/adjudication work in establishing credible and legally binding tenure security. At this step emphasis is given to the details of the legal framework. Some times this step takes repeated meetings and discussions till a consensus is reached. Based on the agreement reached, the farmers are requested to elect the Kebele and sub-Kebele land administration committees without any interference from the experts.

The elected land administration committees get further detailed information through properly designed training programs on the issues of land administration and the technicalities that will be involved at that level, the legal framework focused in the directives, the economic importance of legally binding tenure security, the method of

working and other relevant matters like that of the Kebele administration, duties and responsibilities of the committee.

After completion of the training of the land administration committees, actual operation of the survey work commences. The first work is to determine the jurisdictional area of the Kebele administration to avoid ambiguities of boundaries with surrounding Kebele administration. Sometimes this work needs repetitive meetings and negotiation till the issue is settled on a win-win basis. Then boundaries are fixed and measured properly. The determination of the boundary becomes more difficult when the boundary is passing through common resource areas such as grazing lands and forests. Once the boundaries of the Kebele administration are settled and the jurisdictional area of the Kebele is fixed, sub-Kebele boundaries are determined in the same manner. This survey work helps to resolve from the outset border disputes between Kebeles and sub-Kebeles. Thereafter, communal possessions such as grazing and forest lands, possessions of Governmental institutions and non-governmental organizations are identified and delineated. Using these survey data an index map that shows the different land-uses is prepared.

When all survey activities that are described above are completed, what remain are the individual possessions. In this case, too, identification of the parcel and the possessor is done in the presence of at least three parties. These parties are the expert/surveyor, the possessor of the parcel and the land administration committee. Based on the announcement and the work plan made, neighboring parcels' possessors are also expected to appear. The possessors of the parcels are expected to show their parcels and the boundaries of their parcels. They are also expected to bring stones that ought to be erected at each corner of the parcels. Witnessed by the land administration committee, all information about the parcel and the possessor are properly registered in the field format by the surveyor. Once the parcel boundaries are confirmed, the possessor is expected to put monuments at the corner of the parcel that indicate the legitimacy of the possessor for the registered parcel.

When the registration of all the parcels in the Kebele is finalized, the surveyor and the land administration committee call for a public meeting. With the presence of the majority of the community, registered parcels against the supposed rightful possessors are presented for comment and adjustment if any. After the public hearing is conducted, those parcels that are without any complaint are assigned a parcel identification number. If there is any complaint on some parcels, those parcels are retained from parcel number assignment and a further scrutiny is done. Even for those parcels that passed the public hearing without any complaint, 30 days are allowed to lapse before making the final registration of the parcel identification number in case any complaint is lodged. Once those 30 days are expired, then the parcel identification number is permanently registered. Thereafter, all the information is recorded in the book of register and the possessor is legalized through the issuance of book of possession.

The processes for first registration of Thailand’s land administration system have similarities with the processes for first registration employed in the Amhara region. As it was reported by Burns (2002):

> Efficient, streamlined procedures have been developed for systematic registration on the ground. After initial planning, there is an initial period of public announcement that systematic titling will be undertaken. Systematic registration is undertaken on the basis of whole sub-districts. Initial contact is made by the supervisor of the adjudication party with the village head and arrangements made to announce the field work to the people. Prior to the field work copies of existing certificate of utilization records will be obtained from the district land office. The surveyor then goes into the field and, with the village head, has land occupiers, in the presence of people with rights in adjoining land, indicate the position of the boundary corners. Temporary parcel numbers are assigned. Concrete marks are emplaced at each corner, usually by the land holders, in the presence of the surveyor. With the photomap the boundary markers are photo-identified. With line map a sketch is prepared. Lengths of parcel boundaries are measured with a steel tape. A report is prepared for the adjudicator. The surveyor information is then passed to the adjudicator. Land holders are expected to produce identity cards and records of their family histories. The adjudicator completes the back of the survey form and has the land holder and the people with rights in adjoining land certify, by signature or the impression of the left thumb-print, the two copies of the adjudication form. If the parcel is mortgaged, or if the resurveyed area markedly differs from that recorded on any previous document, this is noted on a report form. This information is then used by the adjudicator to complete the certificate of examination. …. For each title a notice of intent to issue a title is prepared and sent to the provincial land office. The provincial land office sends the notice to the district land office and the residence of the village head. The notice is displayed for at least 30 days. The detail on the final map is then transferred onto the title forms and two copies of the new title are prepared and checked. The adjudication party also prepares the provincial land office's records. The information is then sent in batches to the registration section in the provincial land office. The registration section in the provincial land office checks the details submitted to ensure that they meet specification. A report is prepared to the provincial land officer stating that the information has been completed correctly and that the 30 day period for the notification of intent to issue the document has expired. This report is signed by three officers. The title is assigned a number, and is then sent for signature. The provincial land officer signs the titles and the village head is informed that the titles are ready for the distribution to the land owners.

It is estimated that there are about four million property possessors in the rural areas of the region. At the same time, it is estimated that there are an average four parcels per each rural property possessor. With this crude estimation the number of parcels in the rural areas of the region will be 16 million. According to the reports that are coming from the 106 rural Weredas of the region, about 80% of the possessors are registered. Taking the above estimated figures and assuming that the number of the possessors registered is proportional to the number of parcels, about 13 million parcels are registered throughout the region.

The EPLAUA has entered into the adjudication operation since 1995 E.C. Recognizing the importance of having a strategy to organize resources for the purpose, towards the end of 1995, EPLAUA formulated a three-year strategic plan for the regional rural land adjudication process. As it is clearly stated in the strategic plan, the strategy was designed in such a way as to register one-third of the rural properties per year and to finalize the whole adjudication work in three years' time. Accordingly, in the last two years, about 80% of the rural properties have been registered. The remaining rural properties will be registered in the 1998 E.C. in the same way as it was in the last two

years. Therefore, the system that is in place for possessor of parcel and parcel identification will be employed.

4. Challenges and Opportunities

The parcel identification system designed and made operational throughout the region is too young to comment on its weakness or the strength. Up to now the focus of the EPLAUA was on system design and establishment. Like any new initiative, it has to be reviewed from time to time and it has to be updated to strengthen the system. This will be an immediate task of EPLAUA. However, the serious challenge that the EPLAUA currently faces is not the system itself, rather it is the implementation of the system. This is because of resources limitation at the Wereda level and due to very frequent staff turnover. The system that is currently in place in the Amhara National Regional State is a good opportunity by serving as a base for further development in the country. However, it has to be integrated into a national parcel identification system to enable communication between individuals and institutions that deal with land-related information generation.

It is not uncommon to observe that different institutions get engaged more or less in similar types of activities for various reasons. Once this is observed, fast and proactive measures have to be taken by responsible decision makers to amalgamate the system for effective and efficient utilization of resources. Otherwise it will lead to duplication of efforts and wastage of resources. It may also hamper communication and even lead to confusion. Therefore, those institutions that are engaged in information generation and dissemination related to land have to sit together to develop a uniform system.

Land markets exist in a number of forms. They may be formal and subject to the procedures laid down by the state, or informal and unstructured as is often the case in less developed economies (UNECE 2004). They operate in rural areas, where the main interest is usually in agricultural land or forestry, and in urban areas, where industrial, commercial and residential interests predominate. They may be based on the sale of freehold or long-term leasehold (sales market) or on short-term lease (the rental market). The procedure laid down by the current Ethiopian Government is a rental market, which is also practiced in the Amhara National Regional State.

Land markets may also take the form of mortgages. A mortgage involves the transfer of certain rights in a legal estate as security for a financial loan with the provision that those rights will cease when the loan is paid off by a certain date. The mortgage may be in the form of a written agreement or the deposit with the lender of the title deeds of the borrower’s land.

In urban areas rental markets create opportunities for people to migrate to where work is currently available, while for rural communities they allow agricultural land to be used more efficiently by farmers renting land which they can use productively.

The market value of any real property depends in part on its location. The identification and accurate description of real property units and their relation to neighbouring

properties is essential if land markets are to operate smoothly and openly for the benefit of all. Real property identifiers provide a link between the various components of a land market. A clear definition of what is to be transacted and where it is located is central to the development process. Failure to identify the ownership and rights surrounding real property units has had disastrous consequences in many development programmes, especially those designed to help low-income communities (UNECE 2004).

From what has been presented and discussed above, parcel identification system has an immense potential for the future regional land market and rural development program. Since the scientific land administration system development is a new initiative, there is great expectation to get the benefit out of it in the future.

The parcel identification system that is developed in the region has to be compatible with the national grid system. With the existence of modern technologies it may not be difficult to do so. However, it needs to work out the techniques required, the time it needs, the resources it demands. It may be also necessary to review the legal aspect of the different federal institutions such as the Ethiopian Mapping Agency and Ethiopian Central Statistical Authority if there is any shortfall in their legislation.

5. Recommendations

The Amhara Region has during the last three years developed a Land Administration System that consolidates rights to rural land in the region and the system is under implementation in the whole region. The focus of the Authority was on developing and implementing the system. The overall system must be evaluated for further improvement.

The parcel identification system that is developed in the region has to be compatible with the national grid system. An immediate taskforce has to be organized with representation of experts from relevant regional and national institutions to harmonize the methodology. The taskforce has to work on properly developed terms of reference that includes technical aspects, legal aspects and others.

It has been discussed on and off about the importance of a federal institution to harmonize the regional land administration activities and to give support to regional land administration institutions. The establishment of a strong federal institution is indispensable.

The land administration system that provides land information to the people or institutions that need the information should be the same to avoid confusion of both the providers and users of the information. This has to be worked out properly based on the experiences that are gained in the last three years. Those institutions that have some kind of interest in land information have to sit together and design a system that enables them to communicate with the same working language.

The land administration system, which is under implementation, is a new initiative for the country. For further improvement, exchange of experience with those countries that have well documented knowledge and experience is vital.

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