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Land Tenure Disputes and Resolution Mechanisms: Evidence from Peri-Urban and Nearby Rural Kebeles of Debre Markos Town, Ethiopia

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Abstract: In Ethiopia, like in other developing countries, land disputes are critical problems both in peri-urban and rural areas. Handling such disputes requires scientific and evidence-based interventions. This study analyzes the nature, types, and causes of land tenure disputes and the resolution mechanisms thereof in peri-urban and nearby rural kebeles of Debre Markos town. Interviews for the investigation were conducted with sample landholders and concerned legal experts in Debre Markos town's peri-urban area and Gozamin Wereda of Amhara National Regional State in Ethiopia. Compared to rural areas, the incidence of land tenure disputes is high in peri-urban areas. The land tenure disputes identified in the study areas are boundary trespassing disputes, landholding disputes, land rental disagreements, divorce-related land disputes, bequeath disputes, parcel exchange disputes, and land use-related disputes. The land tenure disputes are resolved mainly by formal means such as court litigations and administrative decisions, or by informal means known as alternative dispute resolution mechanisms (ADRM). In both study areas, negotiation, mediation/conciliation, and arbitration are the most frequently employed ADRMs. In particular, mediation plays a significant role in resolving symmetrical land tenure disputes both in peri-urban and rural areas.

Keywords: dispute resolution; land dispute; land tenure; peri-urban

1. Introduction

Dispute, as defined by sociologists, is a social fact, which involves at least two parties with differences either in interests or in social position [1,2]. Disputes can arise either from actual or perceived competition of interests for resources such as land [3] and can be symmetric or asymmetric according to the power balances between the conflicting parties. Symmetric conflicts are conflicts between relatively similar parties with respect to power, whereas asymmetric conflicts are conflicts between dissimilar parties [4]. Land dispute can be defined as a social fact involving at least two parties in an actual or perceived competition of interests over the property rights to land [5–7]. Conflicts of interests may be “the right to use the land, to manage the land, to generate an income from the land, to exclude others from the land, to transfer the land and the right to get compensation from it” [6,8–10]. Therefore, a land dispute can be understood as misuse, restriction, or dispute over property rights to land [10,11].

Land tenure disputes may occur in rural, peri-urban, and urban areas [12]. Peri-urban areas are those surrounding cities and towns with high rates of land tenure transformation, and often with multiple agents exhibiting various disputing interests [11–13]. Peri-urban areas are focal regions for municipalities, since a considerable percentage of land needed for urban expansion comes from the rural–urban interface [7,14–16]. As such, peri-urban areas have received attention from governmental institutions and industries due to their

proximity to the urban centers [15–17]. Nevertheless, peri-urban areas are also primary settings for small-scale agriculturalists who depend on these areas for their livelihood, often on a small-scale or subsistence level [15,18,19]. Given these circumstances, land disputes are typical in peri-urban areas, especially in countries with high rates of urban expansion [10].

Ethiopia is a country exhibiting a high rate of horizontal urban expansion, with 4.1% per annum on average [14,20,21]. Thus, the competition for land between agricultural and non-agricultural sectors is becoming very intense [14]. In Ethiopia, land is owned by the people and the government. Farmers have a constitutional right to use the land for undetermined periods, and they have right of protection against eviction from their land-holdings [22,23]. Land required for urban expansion is expropriated by the government upon the payment of compensation to the affected farmers and is transferred to developers. Thus, the government is the sole provider of land for public purposes. Therefore, in peri-urban areas of Ethiopia, at least three parties are competing for the land. These are the government, which is the provider of the land, the private individual/company who needs the land, and the peri-urban landholders who are losing their land rights due to expropriation as a consequence of urban expansion [14]. Land dispute may occur between these three parties or within the same party [14,24,25]. For example, there are land disputes between the rural land administration organization and urban land administration organization, as the two institutions act on behalf of two different land legislations (rural land proclamation and urban land proclamation). Various studies show that land dispute is prevalent in both rural and peri-urban areas of Ethiopia even though there are some differences in the extent and cause [11,26–28]. It is challenging to effectively manage peri-urban zones since different stakeholders are involved with competing interests [29]. However, there are different resolving mechanisms in different jurisdictions which are intended to mitigate such disputes. All the mechanisms can be categorized into formal and informal ways of settling land disputes [1,2,30,31]. Formal dispute resolution mechanisms are state-based dispute resolution mechanisms which are often referred to as judicial dispute resolution mechanisms [21,32–35]. In contrast, there are the informal ways of resolving land tenure disputes, also known as alternative dispute resolution (ADR) mechanisms, which propose approaches to resolve disputes without ordinary court proceedings [36]; these include negotiation, facilitation, mediation, conciliation, arbitration, community conferencing, fact-finding, and so on [24].

Although many scientific articles examine the impact of title on land tenure security, there is a lack of independent research on land tenure disputes and on the role of informal and formal conflict resolution mechanisms for land tenure disputes in peri-urban and rural areas. Therefore, the assessment of land tenure disputes and dispute resolution systems in peri-urban areas vis-à-vis rural areas in Ethiopia is an increasingly important issue that needs to be addressed when designing appropriate policy interventions to enable the sustainable development of urban areas while considering the property rights of peri-urban subsistence farmers. The purpose of this research paper is to assess the nature, types, and causes of land tenure disputes as well as dispute resolution mechanisms in the peri-urban area of Debre Markos town and the neighboring rural kebeles¹ in Gozamin Wereda² of Amhara National Regional State in Ethiopia. In this paper, Section 2 provides a brief overview of the literature related to the topic. Section 3 documents the study areas and the research methodology applied. In Section 4, the results of the study are presented and then are discussed under Section 5. Finally, Section 6 contains the conclusion and recommendations.

2. Land Disputes and Mechanisms to Resolve Land Disputes

Land is the basis of all forms of human activity. From it we find everything important for life, i.e., the food we eat, the shelter we need, the space to work, and the room to relax [10,37–41]. The accessibility to land is vital for human life. The need for thoughtful and careful stewardship of the land together with the sustainable use of its resources is crucial both for the present and future generations. As a result, disputes over land-

related issues are prevalent worldwide [2,10]. Land disputes have been a major source of disturbance and civil wars in many parts of the world. Anseeuw et al. [42] documented 71 civil wars and insurgencies in agrarian world states, from which more than 84% were caused by land-related issues. Therefore, land disputes have always been an integral part of all human societies. The instigation of land disputes is closely linked with the competition amongst people for controlling scarce land resources available for consumption [43,44].

Land disputes can take different forms [38,45,46]. In some land disputes, there are only two parties and hence they are relatively easy to resolve. Inheritance disputes between siblings over a particular piece of land and boundary trespassing disputes are the most common two-party dispute types [10]. Land disputes become more complex and difficult to resolve where more parties are involved. Group invasions or evictions of entire settlements are common examples of these types of land disputes [10,47]. Land disputes in rural areas are often found between different interest groups, e.g., between farmers and investors and/or the state, as well as between farmers themselves [48].

In peri-urban areas, there are numerous simple to complex construction works starting from heavy industries to small legal and illegal residential houses [7,20]. In all such situations, the rural land has been transformed to urban land use types [49]. Changes in these areas, caused mainly by urban expansion, make land one of the most controversial issues and the main source of disputes. One of the most important issues is the competition for land for various purposes of urban development, which may lead to changes in land tenure and use [10]. When land is converted from rural to urban use without designing alternative business strategies for the peri-urban subsistence farmers [50], it leads to disputes, contestations, and in some cases to violence. The peri-urban environment may include parts of urban areas or the edges of urban areas, and areas far from the city. The region may also include urban and rural land which is occupied formally or informally [51].

Land tenure disputes in peri-urban areas can be clustered into three dimensions: “dispute of interest”, “dispute of power”, and “legal and normative dispute” related to the interests of land tenure, power, and domination of beneficiaries under contradictory norms and rules [6]. The fundamental dimension affecting land tenure disputes in peri-urban areas is the dispute of interest, which includes revealed and hidden disputes between individuals, groups, and institutions related to the benefits resulting from land rights, people’s relationships with the land, and the mechanisms of the institutions that affect it. It involves a wide range of types of disagreements and inconsistencies that can lead to disputes, violence, or antagonism.

The interests and motives associated with land are so widespread that sometimes disputants are confronted with one another, especially when the two sides are in the same position with respect to different interests [10,33]. These interests can result from human aspirations and motivations. Ignoring the needs of individuals due to limited resources, social status, and power or value systems leads to the hostile and conflicting behaviors of the involved actors. Land disputes have negative effects on individual households as well as on the nation’s economy. They increase costs, slow down investments, and may result in the loss of the property of the disputants. Land disputes also increase social and political instability. People lose confidence in the state and distrust each other.

Although land issues are amongst the most prominent causes and driving factors for the outbreak of armed conflicts, there is a lack of adequate attention to address those issues with appropriate approaches and strategies in a timely manner [13,30,48]. Presently, due to growing competition over diminishing land resources, many developing states have found the resolution and management of land disputes to be some of their most critical challenges. This situation is “being further aggravated by environmental degradation, population growth and climate change” [52]. According to Wehrmann [10], the most important prerequisites for resolving land disputes are a comprehensive understanding of the causes of disputes as well as the positions, needs, and interests of the disputing parties. In addition, other factors also play pivotal roles in the successful resolution of land disputes, such as understanding the types of land disputes, the identity of the parties involved in a

particular land dispute and their perceptions on how to resolve it, the complexity of the causes of the land dispute, and the driving factors that escalate the dispute [10].

The experiences of some countries such as South Africa, Zimbabwe, and many Latin American countries suggest that the leadership, good land policies, and the quality of land institutions and land governance are important factors to prevent violent disputes or to amicably resolve disputes. As an example from another region, in Norway, there are a large number of land boundary disputes compared to other Nordic countries [53]. However, Norwegian farmers use mediation as the first and best mechanism to resolve these land disputes. If unable to resolve the dispute via mediation, the next step is to handle the case by means of the “land consolidation court”. Thus, there are bundle of formal and informal mechanisms for resolving land-related disputes. The formal mechanisms of solving land-related disputes follow official procedures guided by government rules, regulations, and laws. They can be administrative and judicial. The administrative methods are applied by semi-judicial organizations, such as government resource offices, police, and local government organs. Judicial mechanisms to solve land disputes are carried out by courts.

Informal procedures comprise the so-called alternative dispute resolution (ADR) mechanisms. ADRs refer to the procedure of setting land disputes by means other than litigation. ADR mechanisms normally accelerate the solving of the dispute and prevent future disputes. Therefore, informal mechanisms help to reduce the costs of dispute processing. However, to amicably resolve disputes by using ADR mechanisms, disputants must be willing to participate and they must all feel that resolving disputes by means of ADRM is more valuable than by court proceedings [33]. In addition, for the successful resolution of land disputes, different stakeholders who have concerns with the land have to collaborate rather than focusing solely on their positions [54].

The development of dispute resolution mechanisms is characterized as pragmatic and political rather than theoretical and scientific [34]. In the United States of America, in the mid-twentieth century, the legal and academic communities began to be seriously concerned about the pitfalls of increasing litigation because, although the laws of the day granted a wide range of rights and personal protections, seeking remedies for these rights while they were being violated by the legal system became a complex exercise [55].

There are many potential ways to resolve a dispute, ranging from the formality of legal proceedings to physical violence [34,56]. The law deals with all these means, but not all means of dispute resolution are “legal” in form or acceptability. Litigation as used in many areas of traditional law is too costly, creates divisions, is inaccessible or inefficient, and requires long hours spent in court [57]. As a result, alternatives to litigation are often so regulated or perverted by litigation-oriented lawyers, courts, and lawmakers that they become alternative methods of litigation rather than alternatives to litigation. Instead of the alleged gulf between ‘legal’ and ‘non-legal’ dispute resolution methods, a unified dispute settlement theory that establishes the types of disputes in which each alternative dispute resolution method is most effective is essential [58]. One of the tasks of a unified dispute settlement theory is to integrate the various alternative dispute resolution methods into a coherent framework. Sometimes physical violence is an appropriate way to resolve a dispute, other times it is not; furthermore, sometimes a dispute can be resolved by negotiation between the involved parties only, other times it cannot. Sometimes a dispute can be resolved with what Felsteiner calls avoidance, which means the parties sever the relationship. Sometimes one party forms an alliance with a third party. Therefore, this paper is framed by the above concepts of dispute settlement mechanisms [59].

Land disputes arise in all property regimes, though the extent differs. There are four types of property regimes: private property, state property, communal property, and open access property [60]. Ostrom has described what each one means. Private property is a privately owned property regime which relies on the availability and enforcement of rules describing the control, use, and exclusion rights of the landowner, whereas communal property is a property regime owned by groups and its use and appropriation depend

on the rules invented by communal property users. On the other hand, a state property regime is a property type owned and controlled by the state mostly in the form of national reserves and parks. Open access is a property regime type when the property is open to all, and no one has the exclusive right to forbid others. In an open access property regime, users try to maximize their private interest at the expense of others.

3. Research Methodology

3.1. Description of the Study Area

The research was conducted in the peri-urban area of Debre Markos town, the capital of East Gojjam. East Gojjam is one of the 11 administrative zones in Amhara National Regional State (ANRS) of Ethiopia (see Figure 1). Debre Markos currently demonstrates a high rate of urban expansion [49].

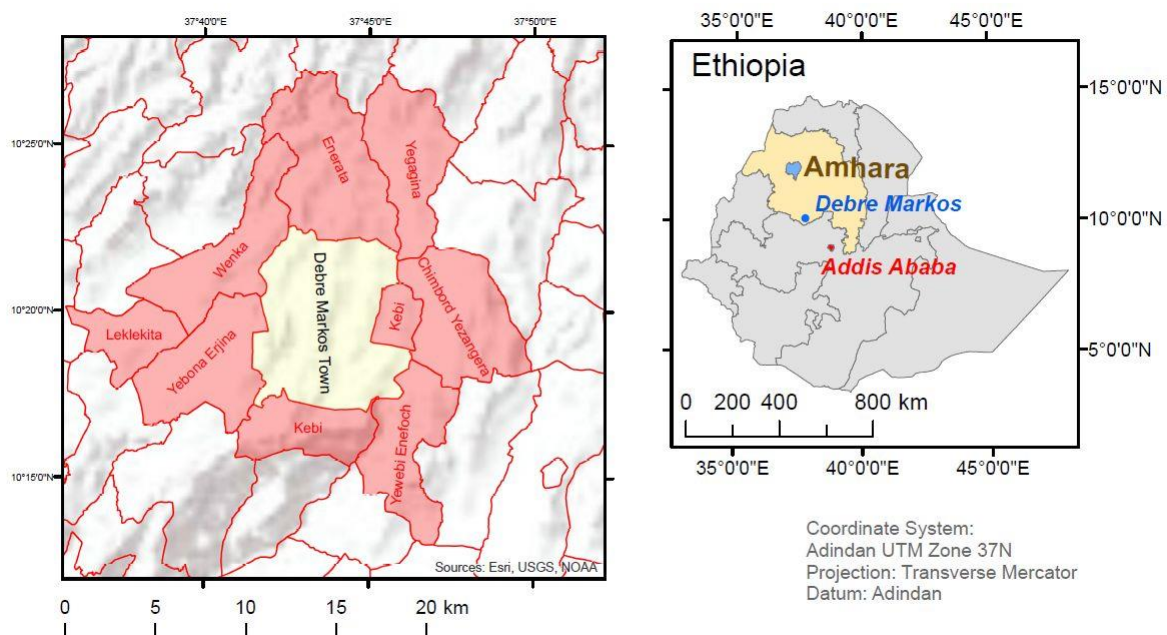


Figure 1. Map of the study areas.

The study areas comprise the peri-urban kebeles of Debre Markos town within the range of 5 km. The land use pattern of the study areas is dominated by a heterogeneous mosaic of agricultural, forest, meadow, and residential land. Due to urban expansion, the municipality has begun to expropriate and transform agricultural land in the peri-urban areas at a rapid pace. The main reasons for selecting this area for the investigations were the rapid urbanization and the current high rate of land tenure transformation.

In addition, three rural kebeles, Chimbord Yezangera, Leklekita, and Kebi, were selected for the investigation in order to compare land tenure disputes in both peri-urban and rural scenarios. The kebeles are close to the peri-urban fringe with an expected changing socio-demographic situation. Initially, the intention was to investigate land tenure disputes during the previous 10 years, but it was difficult for some respondents to remember details of disputes from a decade earlier. Thus, the potential cases were limited to those within the past five years.

3.2. Methods of Data Collection

In this study, both quantitative and qualitative data were collected from primary and secondary sources. The quantitative data were obtained from respondents whereas qualitative data were collected from focus group discussion, legal documents, and key informant interviews.

A preliminary study was carried out in the sample area with the objective of obtaining a general overview of the peri-urban areas and input data for the selection of respondents. Discussions with relevant offices were conducted to obtain basic information and retrieve secondary data. The lists of all landholders in the study's peri-urban areas were recorded, and the lists of landholders in the selected rural kebeles were obtained from the Gozamin Environmental Protection, Land Administration, and Land Use Office. From these lists, 200 respondents from the peri-urban areas and 200 respondents from the rural kebeles were selected randomly. There was an equal probability of selecting respondents who had/had not been involved in land tenure disputes. In addition, during the selection of households, the age and gender distributions in the area were taken into account.

The techniques of data collection in survey research can be face-to-face interviews, telephone interviews, mail questionnaire, self-administered questionnaire, and web surveys [61]. This research involved face-to-face-interviews to gather the necessary data. Face-to-face interviews are preferable as the interviewer communicates personally with each respondent, asks questions, and records their responses [61]. The face-to-face interaction in survey research has many advantages. It stimulates a higher response rate and helps to properly manage longer and more complex questionnaires. In addition, the interviewer has control over the process, and enables respondents to better understand the questions. The interviews were based on a prepared questionnaire. Pre-testing of the questionnaire (see the Appendix A) was conducted before beginning the primary data collection process.

Two focus group discussions (FGDs) were conducted with six members each from the peri-urban areas and the rural kebeles. The participants were experts of the rural and urban wereda courts as well as from justice offices. The experts provided general information about land dispute cases in peri-urban areas, as the legal bodies are particularly responsible for land disputes that are heard in court. A checklist was prepared to collect qualitative data during the FGD. This facilitated the assessment of detailed information and the triangulation of data from the respondents' surveys. Secondary data were collected by reviewing published and unpublished documents from the relevant offices.

Descriptive statistics were employed to analyze quantitative as well as qualitative data by using the Statistical Package for Social Sciences (SPSS Version 20). Mean values, standard deviations, and percentages of the collected data were calculated for the final investigations. In the analysis of data, every questionnaire was coded and checked.

4. Results

4.1. Socio-Economic Characteristics of Respondents

As can be seen in Table 1, the majority of the respondents (76%) were from 30–60 years of age. Due to the small number of female-headed households, there were fewer female interviewees than male, and most of the female interviewees living in peri-urban areas were engaged in low income earning activities besides agriculture. While most of the interviewees were married in both study locations, more divorced and widowed interviewees lived in the peri-urban areas (19%) compared to the rural ones (14%). This is because peri-urban areas have locational advantages for widowed or divorced females, especially for poor rural women, who can find non-agricultural income generating activities, such as daily labor work and retail. Women's labor force participation is higher in urban areas [18].

There are high land tenure transformation and agricultural land losses in peri-urban areas due to urban expansion [15]. In the rural areas, the landholdings of almost all the study participants were registered. In the peri-urban areas, about 13% of the interviewees had unregistered landholdings and 23% were without any landholding certificate. Unregistered landholdings usually have a higher potential for land tenure disputes.

Table 1. Respondents' characteristics and landholding.

| | Peri-Urban | Rural |
|--|------------|-------|
| Gender | | |
| Total number of respondents | 200 | 200 |
| Percent of female respondents | 19.5 | 18.5 |
| Age Groups (%) | | |
| Respondents with age below 30 years | 4.5 | 5.5 |
| Respondents with age 30–40 years | 24.5 | 29.0 |
| Respondents with age 40–50 years | 27.5 | 29.5 |
| Respondents with age 50–60 years | 24.0 | 19.0 |
| Respondents with age above 60 years | 19.5 | 17.0 |
| Marital Status (%) | | |
| Not married | 3.0 | 2.5 |
| Married | 78.5 | 83.5 |
| Divorced and widowed | 18.5 | 14.0 |
| Land registration and certification (%) | | |
| Respondents whose land is not registered | 13.2 | 0.0 |
| Respondents without landholding certificates | 23.0 | 1.0 |

4.2. The Extent of Land Tenure Disputes

As documented in Table 2, a higher frequency of land tenure disputes was investigated in the peri-urban areas (65%) compared to the rural areas (47%). The test of the hypothesis, analyzed by cross tabs, also indicates the existence of a significant difference in land disputes in these two locations (p -value < 0.05). Participants in the focus group discussions also reported that the land tenure disputes from peri-urban areas are higher in number compared to rural ones, which reinforces the findings analyzed in the interview.

Table 2. Extent of land tenure disputes.

| Location | Count | | | % within Location | | | Pearson Chi-Square | | |
|------------|-------|-----|-------|-------------------|----|-------|---------------------|----|----------------|
| | Yes | No | Total | Yes | No | Total | Value | df | Sig (2-Tailed) |
| Peri-urban | 130 | 70 | 200 | 65.0 | 35 | 100.0 | 13.149 ^a | 1 | 0.000 |
| Rural | 94 | 106 | 200 | 47.0 | 53 | 100.0 | | | |
| Total | 224 | 176 | 400 | 56.0 | 44 | 100.0 | | | |

Note: The bases are those farmers interviewed for land tenure disputes: peri-urban, $N = 200$; rural, $N = 200$. Statistical significance: Fischer's exact test $p < 0.05$. ($\chi^2 = 13.149$, $df = 1$, $p < 0.001$).

4.3. Types of Land Disputes

The study respondents revealed that there are disputes in relation to boundary trespassing, landholding, land rental, divorce, land inheritance, parcel exchange, and land use (Table 3). Generally, these can be classified as interpersonal level (micro-social dimension) or societal level (meso/macro-social dimension) disputes [47]. The data show that most of the conflicts identified are at interpersonal levels, involving one-time incidents, and most of these are resolved.

From the total number of respondents involved in different types of land tenure disputes, boundary disputes were the most common type of dispute (about 49% in both study areas). In this study, landholding disputes, also known as land rival disputes, describe a situation "when several people claim the same parcel" [10]. In situations where property rights are ill-defined or where land adjudication is not carried out, the claims of different parties on the same parcel of land increases. Landholding disputes have decreased substantially (by 15%) after land registration in both locations, though peri-urban areas accounted for a high share (21%) next to boundary disputes. In rural areas, the landholding disputes have been reduced after land registration. Instead, in these areas, inheritance disputes constitute the next most frequent type of dispute. Land inheritance disputes, also

known as land bequeath disputes, involve intra-family disputes relating to the inheritance of land by children when their parents die [10].

Table 3. Types of land tenure disputes (multiple responses).

| Typologies | Peri-Urban | | Rural | | Total | |
|--------------------------------------|------------|----------|-------|----------|-------|---------|
| | Count | % within | Count | % within | Count | % Total |
| Boundary disputes | 60 | 46.2 | 49 | 52.1 | 109 | 48.7 |
| Landholding disputes | 28 | 21.5 | 6 | 6.4 | 34 | 15.2 |
| Land rental disputes | 7 | 5.4 | 5 | 5.3 | 12 | 5.4 |
| Divorce-related land tenure disputes | 7 | 5.4 | 6 | 6.4 | 13 | 5.8 |
| Land bequeath disputes | 19 | 14.6 | 20 | 21.3 | 39 | 17.4 |
| Parcel exchange disputes | 10 | 7.7 | 8 | 8.5 | 18 | 8.0 |
| Land use-related disputes | 16 | 12.3 | 8 | 8.5 | 24 | 10.7 |

Note: The bases are those farmers involved in land tenure disputes: peri-urban, $N = 130$; rural, $N = 94$.

About 11% of the respondents described land use-related disputes as the main challenges in their locality. Though land use-related disputes are complex [45], three specific topics were identified by the respondents as the primary sources for land use-related disputes in the peri-urban and rural study areas: inappropriate waste disposal, misuse of land, and communal land encroachments. Communal land encroachment is a problem both in peri-urban and rural areas, whereas inappropriate waste disposal and misuse of land are challenges peculiar to peri-urban areas.

4.4. Land Tenure Disputes on Property Regimes

Table 4 documents the ranked assessment of the respondents' perceptions of the frequency of land tenure disputes related to the four property regimes (state, common, private, and communal). Drawing from the data, the perceptions of the respondents about the land tenure dispute situations on these four property regimes were assessed and ranked in order of frequency. Disputes associated with communal land property regimes were enormous (76%) in both rural and peri-urban areas. The results show that communal land is facing severe encroachment and misuse problems. The data show that the perceived high rank of disputes on common land (about 10%) is actually small and similar for both rural and peri-urban respondents. For state lands in both study areas, about 85% of respondents reported that landholding disputes are relatively few, and only about 6–7% of the respondents in both areas reported a high frequency of land disputes. Thus, there are low frequencies of disputes related to state-owned lands because these are often found far from residential sites in lowland areas.

Table 4. Land tenure disputes on different property regime types (multiple responses).

| Property Regimes | Respondents' Judgements (%) | | | | | |
|------------------|-----------------------------|--------|------|---------------------|--------|------|
| | Peri-Urban ($N = 200$) | | | Rural ($N = 200$) | | |
| | High | Medium | Low | High | Medium | Low |
| Private | 62.5 | 23.1 | 14.4 | 38.5 | 32.1 | 29.4 |
| Common | 10.4 | 42.9 | 46.7 | 10.1 | 11.8 | 78.1 |
| Communal | 76.2 | 18.2 | 5.6 | 76.2 | 16.9 | 6.9 |
| State | 6.1 | 8.2 | 85.7 | 6.8 | 8.0 | 85.2 |

4.5. Resolving Land Tenure Disputes

For both peri-urban and rural areas, dispute resolution mechanisms were assessed and analyzed in terms of their success and applications. The Pearson chi-square test results in Table 5 show that the differences between the rural and the peri-urban areas are significant. Though most of the disputes have been resolved in both areas, the percentage of solved cases in rural areas is higher (about 86%) compared to that of peri-urban areas (about 71%).

Table 5. Locational scenarios of land tenure dispute resolution.

| Location | Count | | | Frequency (%) | | | Pearson Chi-Square | | |
|------------|-------|----|-------|---------------|------|-------|--------------------|----|----------------|
| | Yes | No | Total | Yes | No | Total | Value | df | Sig (2-Tailed) |
| Peri-urban | 92 | 38 | 130 | 70.8 | 29.2 | 100 | 7.359 ^a | 1 | 0.007 |
| Rural | 81 | 13 | 94 | 86.2 | 13.8 | 100 | | | |
| Total | 173 | 51 | 224 | 77.2 | 22.8 | 100 | | | |

Note: Statistical significance: Fischer's exact test $p < 0.05$. The test results have demonstrated marked statistical significance (^a $\chi^2 = 7.359$, $df = 1$, $p < 0.007$).

Table 6 shows that from the available systems of conflict resolution, communities typically use alternative dispute resolutions mechanisms as these are seen to be the most effective methods of land tenure dispute resolution in both study sites (69%). Though ADR mechanisms play a pivotal role in resolving land tenure disputes in both study areas, analysis shows that higher frequencies of disputes are being resolved by ADR mechanisms in rural areas (76%) compared to peri-urban areas (63%). This is likely because of the parties involved in disputes in these two locations. When there are power inequalities, the application of negotiation, negotiation-assisted processes, and arbitration is not sufficient, as outcomes usually will benefit the more powerful party. Legislative processes play pivotal roles in such circumstances [34]. That is why, in peri-urban areas, the frequency of litigation in land dispute resolution is higher (21%) than in rural areas (16%).

The most commonly employed ADR mechanism to resolve land tenure disputes in the study areas is mediation (Figure 2) with a higher rate in rural areas. The data show that compared to peri-urban areas, more land tenure disputes are resolved by mediation in the rural areas. The second most employed ADR mechanism for land tenure dispute resolution in both locations is arbitration, followed by negotiation.

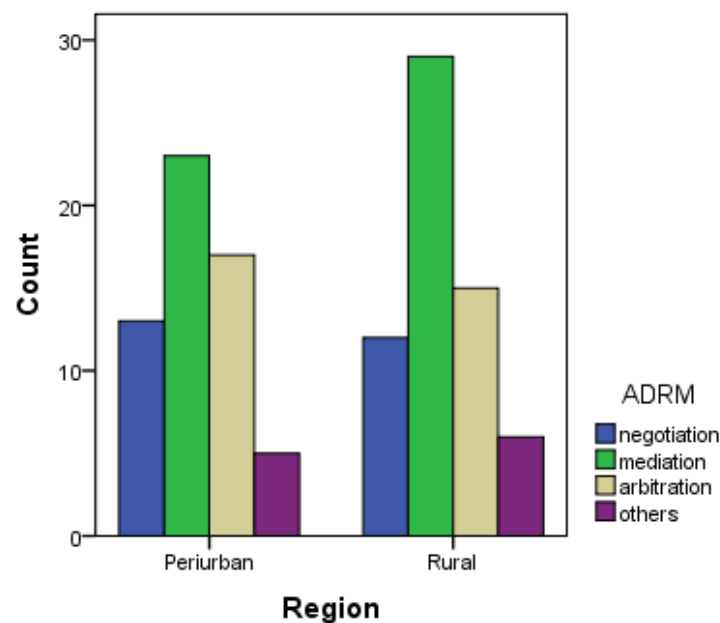
**Figure 2.** Employed ADR mechanisms.

Table 6. Dispute resolution systems.

| System of Dispute Resolution | Peri-Urban | | Rural | | Total | |
|------------------------------|------------|----------|-------|----------|-------|---------|
| | Count | % within | Count | % within | Count | % Total |
| ADR mechanisms | 58 | 63.0 | 62 | 75.6 | 120 | 69.0 |
| Administrative decisions | 15 | 16.3 | 7 | 8.5 | 22 | 12.6 |
| Litigation | 19 | 20.7 | 13 | 15.9 | 32 | 18.4 |
| Total | 92 | 100 | 82 | 100 | 174 | 100 |

5. Discussion

5.1. Land Tenure Disputes

As noted in the results part of this study, high frequencies of respondents in peri-urban areas are victims of land tenure disputes compared to those from rural areas. This finding has also been documented in other studies. For instance, Mbiba and Huchzermeyer [62] noted that peri-urban areas in Africa are dominated by land-related disputes. Though there are locational variations, land can be seen as the direct or indirect source of most disputes in agrarian societies [52,63,64]. In most developing countries, even if horizontal urban expansion is the major cause of peri-urban land disputes [38], the problem is exacerbated in situations where there is a lack of sound spatial planning and where there are institutional problems, inadequate compensation payments, and the absence of effective land tenure security for all landholders [6,49,65]. In addition, in a study conducted in China, it was reported that the lack of institutional competence, i.e., the exercise of power by lower governments without getting into agreements with farmers and inadequate compensation payments, are the main causes of land expropriation disputes [66]. Different types of land disputes were identified in the study. These are boundary disputes, landholding disputes, land rental disputes, divorce-related land tenure disputes, land bequeath disputes, parcel exchange disputes, and land use-related disputes. Boundary disputes are disputes which arise due to trespassing of the parcel boundary between bordering parcel owners/holders and can arise between individuals, between groups, between public agencies, and between individuals and public institutions [10]. From the identified plethora of land disputes, boundary trespassing disputes are the most dominant. The lack of surveying to fix cadastral boundaries is the main challenge even if land has already been registered. Researchers in other African countries also confirm that boundary disputes constitute a significantly high share of land dispute types [12,46,47]. As confirmed in this study, the asymmetric boundary conflicts between municipalities and individuals are a complex challenge for peri-urban landholders. The boundary between urban and peri-urban territory is obscure. Urban municipalities usually want to have control over the surrounding land, assuming that it is municipal land, while suburban landholders claim rights to challenge the supremacy intentions of municipalities. As confirmed by the participants of the focus group discussions, this has increased the incidence of landholding disputes in peri-urban areas and leads to greater tenure insecurity for peri-urban subsistence farmers.

Since 2007, the territory of Debre Markos town has expanded by about 5 km in all directions, based on the municipal master plan. As a result, former rural areas have been designated as urban areas and landholders whose houses are within the expansion radius are assigned as residents of the urban areas. These are the areas which face institutional problems of land administration. For example, as reported by a farmer in the interview, some of his parcels are now dedicated to urban territory, while other parcels are still registered as rural areas. One parcel even is bisected into urban and rural territory. As the rural land administration institution is responsible for the portion of the parcel in the rural territory and the urban land administration institution is responsible for the portion designated to the urban territory, the landholder sometimes faces contradictory rules. For instance, the rural land administration legislation allows the landholder to use the land for houses, agriculture, animal husbandry, forest management, or other activities, if no written land use plan has been prepared by a competent body (often land use plans are

absent in peri-urban areas). In contradiction, the urban land administration rule prohibits constructing or renovating buildings or fences without building permits. Constructions of any sort may lead to sanctions and even demolition. Thus, peri-urban landholders are sometimes subject to two different sets of regulations from two different authorities, which jeopardize the security of their land tenure and leads to disputes. Deininger et al. [40] and Nega et al. [67] have also noted that the unclear assignment of institutional responsibilities causes land tenure conflicts. Peri-urban expansion by a municipality is often not based on a sound spatial plan but on the spontaneous desires of a municipality [49]. Property rights in peri-urban areas are often uncertain due to a lack of institutional arrangements to manage peri-urban land [67]. To manage these areas by urban administration is challenging since the focus of the municipalities is to expand urban territory by expropriating peri-urban land. Most of these land disputes are interest-based disputes since they are competing for the scarce resource of land.

As noted in the result part of the study, the three predominant types of peri-urban land use disputes are inappropriate waste disposal, misuse of land, and communal land encroachment. The municipality of Debre Markos town disposes waste materials in the surrounding peri-urban areas haphazardly without taking into account the consequences of their actions for the well-being of peri-urban dwellers. Both liquid and solid waste materials are disposed of at open-air waste sites, which are expanding over time by consuming productive agricultural land. Even the land near the disposed waste material cannot be properly cultivated because of the noxious smell of the waste. Some wastes, like plastic cases, are also blown by wind and pollute other properties. Face-to-face interviews carried out in the study gave evidence that peri-urban landholders are concerned by this abhorrent situation, as they are affected in multiple ways. They are victims of expropriation, and their landholdings are being polluted and spoiled by waste. Consequently, landholders are suffering from the unpleasant smells due to environmental pollution. These findings are in line with those of other studies. Allen et al. [51] also noted that peri-urban areas are often used as waste disposal sites, while Alemu et al. [68] noted that many peri-urban dwellers spend their whole lives in polluted environments. The municipality, responsible for waste disposal, has never consulted the peri-urban farmers about the suitability of sites for waste disposal. Even though the active involvement of the affected farmers and discussion with the relevant stakeholders are essential to reduce land disputes, the lack of participatory land use planning is one of the basic challenges of peri-urban land management in most African countries [69,70].

The current economic growth in Ethiopia is exhibiting promising results. The government desires to transform the country from an agrarian economy to industrialization based on agricultural development. Thus, the policies promote small enterprises as well as medium- and large-scale industries. Most of the private and public enterprises find it the most feasible to establish their firms close to towns. Thus, peri-urban areas become primary choices for investment by many governmental and non-governmental organizations, and the municipalities incorporate industrial zones in their master plans in the peri-urban areas. Accordingly, Debre Markos has delineated industrial zones along the urban fringe in its master plan. For the establishment of this industrial zone, the authorities expropriated many parcels and transferred individual land to municipal ownership. After the transfer, the municipality usually makes this land available to those coming with development projects and with the intention to establish firms. However, some of those firms are abusing land. For instance, enterprises carry out earthworks to construct company buildings and infrastructure and indiscriminately dump the excavated material, polluting peri-urban grazing land. It would be better to transport the excavated soils to the hinterland and use them for filling eroded gullies and ravines, even though this would be more expensive.

In Amhara National Regional State of Ethiopia, there are four types of landholdings: private, common, communal, and state property [71]. Private, communal, and state property regimes are similar in definition to those terms in different literature [72,73], though landholders lack exclusive rights in the case of Ethiopia. The use of the term common

property regime differs in Ethiopia from other countries: this refers to a property type commonly held by small groups of individuals. In order to minimize land fragmentation, the minimum parcel size (0.25 hectares) is specified in the rural land administration Regulation No. 159/2018 of Amhara National Regional State [74]. Thus, if any property formation measure results in an area of less than 0.25 hectares, two or more individuals will own the parcel commonly as common property [23,71,74]. As noted in the results of this study, disputes on this type of property regime are few in number. The main reason for this is that the common landholding regime is found in small amounts in peri-urban areas and the nearby rural kebeles. Disputes on this property regime are expected to increase in the future, however, because land fragmentation is legally prohibited and there will be many common landholders.

As with common property regimes, disputes on state property regimes are also few in number. However, in some areas, state property regimes in lowland areas are becoming sources of dispute between the local community and investors engaged in agricultural production [16,75–77]. This is because some farmers have possessed land in these lowland areas informally, and because of increasing immigration to these formerly remote areas.

Although the rural land administration proclamations grant full rights to communal landholders [23,71], these rights are not properly practiced. The absence of clearly defined property rights to communal land [23] and a lack of enforcement contribute to increased competition and encroachment on the communal land. The registration for these property regimes is not well managed and even the book of possession has not yet been issued, and as a consequence, compensation is not often paid for the expropriated communal lands. When farmers raise the issue to the municipality, they are told that it is the right of the municipality to use communal land for urban expansion without paying compensation. Communal property regimes in peri-urban areas are targets of expropriation by municipalities. This finding is confirmed by Puppim de Oliveira [78], who also observed that municipalities focus on expropriating communal property regimes without titles.

The encroachment of communal land generally increases problems in peri-urban areas. This is because farmers, who have parcels adjacent to the boundary of the communal land, assume that converting pastures into arable land is a way to get at least some compensation in the case of expropriation. For this reason, farmers whose plots border communal land are encroaching on it and converting communal grazing land into arable land. During the past few decades, communal forests have been encroached upon to such an extent that there are only sparse areas left. Currently, communal grazing lands are becoming new areas of interest for encroachment, even though this has a detrimental effect on the livestock sector.

5.2. Land Tenure Dispute Resolution Mechanisms

Land tenure disputes in the study areas have been resolved by employing various processes and mechanisms. These processes include both alternative dispute resolution mechanisms (ADRM), which are informal in nature, and administrative decision and litigation, which are formal in nature.

Though, as noted in the results, most of the disputes have been resolved in both areas, a higher percentage of disputes are resolved in rural areas compared to peri-urban areas. The difference was justified by the experts in the focal group interviews, who said that the rural disputes are usually symmetrical (between farmers) and can be easily resolved by employing ADR methods. As identified by Moore and Jayasundere [5], mediation is most effective when the parties have symmetrical power relationships. In peri-urban areas, most of the land tenure disputes are between farmers and municipalities or other institutions. These asymmetrical disputes are usually more difficult to resolve.

Communities tend to employ alternative dispute resolution mechanisms, as these are seen to be the most effective methods of land tenure dispute resolution. This finding is confirmed by results of other studies documenting that land disputes can be solved within a short period using local dispute resolution mechanisms rather than being handled

by courts [8,28,29,56]. Additionally, less formal techniques, especially mediation and to some extent negotiation, are encouraging mechanisms to resolve disputes, in contrast to adversary litigation [79–81].

This research identified that the majority of the landholders in both peri-urban and rural areas used the ADR mechanisms more than the formal means to resolve land tenure disputes (Table 6). State missionaries, such as court and government administrative organs, are normally involved in the formal ways of land tenure dispute resolution mechanisms [21,32]. These land tenure dispute resolution mechanisms are often noted as JDR (juridical dispute resolution), court litigations, or administrative means of land dispute resolution mechanisms. Court litigations are applied to resolve symmetric land tenure disputes in situations when the resolution by the other methods is not feasible. As reported by the discussants and informants, court litigation is only applied when the parties are confident enough to win the dispute. At the same time, parties who are not confident in winning the dispute are likely to send older neighbors to the opponent to negotiate with them. The confident opponent feels honored by the involvement of the older neighbors and agrees to settle the dispute out of court. However, this does mean that the numbers of respondents going to court is insignificant. The discussions with civil judges revealed that the majority of the civil cases lodged to the civil benches have been directly or indirectly related to land issues. In the group discussions, judges described that most of the instigated caseloads in each year are land-related disputes. Administrative authorities may also resolve issues which are not very controversial. For example, at the kebele level, land administration committees play an important role in resolving land disputes. However, formal means of land tenure dispute resolution mechanisms are recommended as the last resort of dispute resolution mechanisms in Ethiopia in general and in Amhara National Regional State in particular [23,71,74]. The discussants and the interviewees indicated that the formal procedures for resolving land tenure disputes are mainly applied when one of the parties in the dispute is a government organ or a judicial person³.

The Federal Democratic Republic of Ethiopia's (FDRE) constitution gives regional states the option to incorporate the informal land tenure dispute resolution mechanisms in their land administration and use legislations [22]. Moreover, the Federal Land Administration and Use Proclamation No. 456/2005, used as a framework for regional states to enact their own laws, explicitly recognizes negotiation, conciliation, and arbitration as appropriate means of setting rural land disputes [23]. Almost all the rural land administration and use legislations emphasize informal dispute settling institutions in addition to administrative tribunals, regular courts, or special courts. As the Amhara National Regional State (ANRS) recognized the informal resolution mechanisms for land tenure disputes in the ANRS rural land administration and use proclamation No. 252/2017 and the consequent Regulation No.159/2018 and prioritizes informal land tenure dispute resolution mechanisms [71,74], negotiation, mediation, conciliation, and arbitration are practised in the study area. In ANRS, informal land tenure dispute resolution mechanisms have equal (sometimes favored) status with the formal means of land tenure dispute resolution mechanisms.

As noted in the results of the study, ADRMs are most widely used to resolve land tenure disputes, though the extent widely differs from place to place. Negotiation, mediation/conciliation, and arbitration are the most commonly used ADR mechanisms to solve land tenure disputes in the study area. This finding is according to Article 52(1) of the Amhara National Regional State's revised rural land administration and use proclamation No. 252/2017. Gowok [24] also reported that Ethiopia has been using alternative dispute resolution methods for centuries, and that negotiation, mediation, conciliation, and arbitration are the key dispute resolution mechanisms in Ethiopia.

Arbitration, also known as 'shimaglle'⁴, is one of the oldest forms of dispute resolution practiced in Ethiopia. It relies on solving disputes by appointing arbitrators who are persons with particular knowledge on custom or have experience in shimgline [24].

Farmers and experts interviewed in the study confirmed that parties usually try to solve land tenure disputes by negotiation. Sometimes the parties solve the land tenure disputes by negotiation, but there are many cases where this is not possible. For example, disputants find it difficult to solve problems in negotiation when they are entangled in competing positions or when there are interpersonal problems between the parties [80]. Due to these problems, negotiation assistance processes (i.e., mediation/conciliation) were applied to effectively resolve land tenure disputes. Mediation is seen as an integral model to dispute resolution [5,35,81]. This is because mediation has the advantage of empowering parties and improving communication [82]. Though the practice of mediation has often been used to settle labour disputes or family and divorce disputes, the technique is now widely in use in interpersonal disputes [5]. As an example, mediation has been espoused as a central land dispute resolution model in Ghana [37]. Norwegians also widely use mediation to resolve boundary disputes [53]. Though mediation is not a panacea for all land tenure disputes, it plays a significant role in managing problems between disputants.

6. Conclusions

This paper addressed the extent of land tenure disputes and the most commonly used land tenure dispute resolution mechanisms based on investigations in peri-urban areas and in nearby rural areas of Debre Markos town in Ethiopia. Though the rural–urban interface is a conflict prone area, land conflicts in such areas are exacerbated in situations where there is a lack of timely assurances of peri-urban land rights and when urban areas are spatially expanding and consuming agricultural land [49,50]. To avoid disputes, governments must take into consideration the land property rights of peri-urban subsistence farmers. In this way, the sustainable development of urban areas can be attained in the peri-urban and surrounding rural areas.

For the effective management of peri-urban land and to support the urban sprawl of a town, it is essential to set up sound spatial planning techniques considering various spatial planning support systems and to integrate affected persons and different stakeholders. Moreover, spatial planning should restrict the outward growth of urban areas by designing strategies for the development of the inholdings of vacant land in the town and by implementing proper land use planning strategies.

This study has identified different types of land tenure disputes. Boundary trespassing disputes are the most frequent type both in rural and peri-urban areas. This is because of a lack of progress in defining and demarcating the boundary points. Therefore, conducting cadastral survey and mapping boundaries are of paramount importance to reduce these disputes.

Land tenure disputes are high in communal land and private land property regime types. Communal land is experiencing severe levels of encroachment. This suggests that land property rights must be secured for communal landholders. In addition, boundaries must be clearly defined and demarcated in both peri-urban and rural areas. However, peri-urban areas should be given special attention since they are the primary focus of municipalities for expropriation, which also aggravates the encroachment problem.

In the study area, the situation of land administration is not well defined. Landholders may be liable to rules from two different land administration authorities. This creates confusion and stress in the lives of peri-urban subsistence farmers. The remedy for this problem is to organize peri-urban land administration institutions. Alternatively, it would be possible to manage these areas by rural land administration and land use rules, since the land predominantly exhibits a rural character, and the majority of the landholders are subsistence farmers. In addition, the merging of the rural and urban land administration authority would be an option. Research on this issue must be carried out.

Alternative dispute resolution mechanisms are the most preferred systems to resolve land tenure dispute, especially in symmetric dispute situations. This is because they are less expensive, faster, and more efficient than other approaches to dispute resolution. Many ADR mechanisms are available to resolve land tenure disputes, irrespective of the location,

and of those, negotiation, mediation/conciliation, and arbitration are the most widely used methods of dispute resolution as an alternative to litigation. Strengthening alternative dispute resolution mechanisms is of paramount importance for countries like Ethiopia, where most farmers rely on subsistence living.

This study attempted to identify the land tenure disputes and resolution mechanisms in Debre Markos peri-urban study areas and nearby rural kebeles. The studied areas may be representative for the peri-urban land dispute cases and resolution mechanisms in other areas, since peri-urban areas have more or less similar scenarios with respect to land dispute as a consequence of fast rate urban sprawl. However, further studies in other regions of the country must be conducted to be used as additional inputs for policy makers who have stakes in the amicable resolution of land tenure disputes.

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Appendix A

Land disputes are one of the main problems which hinder the socio-economic development of a country. Even though these disputes are common phenomenon globally, the extent is severe particularly in developing countries where land is the basic asset of economic development and property rights are ill defined. Conducting research on these land dispute situations is paramount important for socio-economic development of a nation by designing appropriate context oriented dispute resolution mechanisms. The objectives of this research paper is to identify the extent and causes of land conflicts, the effect of land registration in reducing these conflicts and to design low costly dispute resolution mechanisms. For the sake of addressing these objectives, data can be collected from different stakeholders and this questionnaire is for data collection from respondents. I hope that completing this survey may not take much of your time and you will deliver necessary information within the survey period of time. I want also to thank in advance for your cooperation.

Part I: Please give your opinion on the extent of land tenure related disputes

1. Did you come across with any land tenure related conflicts during the past 5 years?
 - 1.1 Yes
 - 1.2 No
2. If yes, when is it?
 - 2.1 Before land registration and certification
 - 2.2 During land registration and certification
 - 2.3 After land registration and certification
3. What type of land conflict is it?
 - 3.1 Boundary dispute
 - 3.2 Inheritance dispute
 - 3.3 Rival dispute
 - 3.4 Divorce dispute
 - 3.5 Land rent contract dispute
 - 3.6 Land use related dispute
 - 3.7 Others, please specify, _____
4. With whom was your land tenure dispute?
 - 4.1 With another individual farmer
 - 4.2 With governmental bodies such as municipalities
 - 4.3 With private developers
 - 4.4 Others, please specify _____
5. Why you became to such land dispute _____
6. In your kebele, which segments of the society are more victim to land conflicts
 - 6.1 Females
 - 6.2 Poor farmers
 - 6.3 Others
 - 6.4 No difference
7. On which property regime types land disputes are more frequent
 - 7.1 Private property regimes
 - 7.2 Common property regimes
 - 7.3 Communal property regimes
 - 7.4 State property regimes
8. What do you think the reason might be for such property regime dispute to be more frequent?

Part II: About land tenure conflict resolution mechanisms and transparency

9. How are the land tenure related conflict cases resolved?
 - 9.1 By formal (legal) procedures
 - 9.3 Through administrative decisions
 - 9.4 By alternative dispute resolution mechanisms (ADRM),
 - 9.5 Others, specify _____
10. If your answer to the above question is ADRM, what type of alternative dispute resolution mechanism/s is used to solve your problem?
 - 10.1 Negotiation
 - 10.2 Mediation
 - 10.3 Arbitration
 - 10.4 Others, specify _____

-
11. Why this method is mostly preferred? _____
-
12. If via administrative bodies, which one of those resolved your disputes?
- 12.1 Kebele administrative bodies,
 - 12.2 Kebele land administration committees
 - 12.3 Woreda administrative office
 - 12.4 Woereda land administration office,
 - 12.5 Others, specify _____
13. How do you evaluate the decision made by the administrative bodies?
- 13.1 Very good
 - 13.2 Good
 - 13.3 Poor
 - 13.4 Very poor
 - 13.5 I don't know
14. If your answer to the above question is poor and below, what do you think the reason might be?
- 14.1 Lack of accountability
 - 14.2 Lack of equity
 - 14.3 Inefficiency
 - 14.4 Others, please specify _____
15. When you compare the decision by previous social courts and shimaglewoch shengo, which one you prefer and why?
-
-
-
16. How do you evaluate the conflict resolution ability of shemaglewoch shengo?
- 16.1 Very good
 - 16.2 Good
 - 16.3 Poor
 - 16.4 Very poor
 - 16.5 I don't know
17. If your answer to the above question is poor and below, what do you think the reason might be?
- 17.1 _____
 - 17.2 _____
 - 17.3 _____
18. If your answer to question number 9 is litigation, which court gives you decision
- 18.1 Social courts
 - 18.2 Wereda courts,
 - 18.3 Others, specify _____
19. What is your satisfaction by the decision of courts?
- 19.1 Very satisfied
 - 19.2 Satisfied
 - 19.3 Fair
 - 19.4 Unsatisfied
 - 19.5 Very unsatisfied
20. If your response to question number 19 is fair and below, what do you think the reason may be for this low service delivery? _____
-
-
-
21. How do you rate the cost of litigation

- 21.1 Very expensive
 - 21.2 Expensive
 - 21.3 Fair
 - 21.4 Cheap
 - 21.5 Very cheap
 - 22. How do you rate the time of decision making for litigation
 - 22.1 Very high
 - 22.2 High
 - 22.3 Fair
 - 22.4 Low
 - 22.5 Very low
 - 23. What about the appeal cases for unsatisfied party in decisions?
 - 23.1 Transparent and responsive
 - 23.2 Time consuming and expensive
 - 23.3 No well-established appeal system
 - 23.4 Others, specify _____
 - 24. In general assessment, are you satisfied with courts' decision
 - 24.1 Yes
 - 24.2 No
- Part III: Please give your opinion about land registration**
- 25. Are all of your parcels registered
 - 25.1 Yes
 - 25.2 No
 - 26. Have you received certificate of holding for all of your parcels
 - 26.1 Yes
 - 26.2 No
 - 27. Were the land registration and your certificate of holding valuable in resolving the conflict?
 - 27.1 Yes
 - 27.2 No
 - 28. If no, why?
 - 28.1 Undefined boundaries
 - 28.2 Not well adjudicated
 - 28.3 Not being used by decision makers
 - 28.4 Others, specify _____
 - 29. Are you clear about the rights and responsibilities of land registration?
 - 29.1 Yes
 - 29.2 No
 - 30. If no why? _____
 - 31. During adjudication, have you participated in public hearings?
 - 31.1 Yes
 - 31.2 No
 - 32. If yes, did you notice land tenure double claims identified during public hearing?
 - 32.1 Yes
 - 32.2 No
 - 33. How do you evaluate these public hearings in reducing land disputes
 - 33.1 Very good
 - 33.2 Good
 - 33.3 Fair
 - 33.4 Poor

- 33.5 Very poor
34. If your response to the above question is fair and below, what do you think the reason is? _____
-
35. When you compare land disputes before the land registration and after registration, how do you evaluate the land dispute situation?
- 35.1 Strongly improved
- 35.2 Improved
- 35.3 Moderately improved
- 35.4 Not improved
- 35.5 Worsened
36. If your response for the above question is not improved and below, what do you think the reason may be for this?
- 36.1 Multiple claims
- 36.2 Undefined boundaries
- 36.3 Reducing the role of conflict resolving local institutions
- 36.4 Others, specify _____
37. What is your opinion in order to reduce these land related conflicts easily? _____
-

IV. Personal data questions

38. General description of the respondent?

- | | | | | | | | | |
|------|-------------------|----------------------|----------------------|--------|----------------------|----------|----------------------|--------------------------|
| 38.1 | sex | Male | <input type="text"/> | Female | <input type="text"/> | | | |
| 38.2 | Age | 30–40 | <input type="text"/> | 40–50 | <input type="text"/> | 50–60 | <input type="text"/> | >60 <input type="text"/> |
| 38.3 | Marital status | Marrried | <input type="text"/> | Single | <input type="text"/> | Divorced | <input type="text"/> | |
| 38.4 | Landholding in Ha | <input type="text"/> | | | | | | |

Thank you very much for your contribution and patience!

Notes

- ¹ Kebele is the lowest administrative organization in Ethiopia, consisting of on average 5000 inhabitants.
- ² Wereda is the lower administrative organization in Ethiopia, consisting of many kebeles.
- ³ Judicial persons are a creation of the human mind and have legal personalities to exercise judicial acts.
- ⁴ There are debates about whether shimagle is the Amharic translation of arbitration or not, since shimagle covers issues wider than arbitration. However, in this research shimagle is used synonymously with arbitration.

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