

# Perceptions of Ndiwa and Chamazi farmers on Land Tenure Systems in Crop Production in Lushoto District

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## Abstract<sup>1</sup>

An assessment of Ndiwa and Chamazi farmer's perceptions on land tenure systems in crop production was conducted in Shashui, Nkukai, Lunguza and Kivingo villages located in Lushoto District, Tanga region. The main objective of the research was to investigate perceptions on land tenure systems in crop production among farmers engaged in Ndiwa and Chamazi traditional irrigation farming. Primary data were collected using household surveys, interviews and focus group discussions. Analysis involved descriptive statistics for quantitative data, content analysis for qualitative data and the use of index. The study results revealed that Ndiwa and Chamazi farmers had a positive perception on the existing land tenure systems on issues related to social status and increase market and value of land. However, their perception on cost of titling, access to formal credit and protection of vulnerable group were higher for statutory land tenure than that of customary land tenure system. Although statutory land tenure was observed to be more important for irrigation development, still very few farmers had title deeds due to high cost of titling, lack of awareness on the procedures among farmers and long distance of relevant offices. The study thus recommends, increase awareness campaigns on procedures and advantages of formalizing land, reviewing the procedures and the cost of land registration especially in rural areas, and relevant authorities in local and central government to bring their services close to the people especially in rural areas. In addition, Financial Institution should review the requirement for rural farmers to acquire loans using their farm land as collateral.

## 1. Introduction

Tanzania is one of the Sub-Saharan Africa (SSA) countries in which agriculture is the backbone of the economy (URT, 2012b). Tanzanian agriculture is the major source of food and accounts for about 45% of GDP, 60% of merchandise exports, 75% of rural household income and 80% of employment (URT, 2012b). Despite the relatively large proportion of

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the population which depends on agriculture, it is yet dominated by smallholder farmers with low guarantee on security of tenure for their land used for farming activities (FAO, 2005). Lack of guarantee of security of tenure is one of the most serious obstacles to increasing rural farmers' agricultural productivity and income.

Land is a fundamental issue for economic development, food security and poverty reduction for most rural households (Alden, 2011). This is due to the fact that land supports livelihoods and income through farming, livestock production and industries related activities (Cotula *et al.*, 2009; FAO, 2010). According to ECA, (2009) over 70% of Africa's population derives its livelihood from land and natural resources exploitation. Land is considered important in promoting rural livelihoods because access to land and security of tenure are the main means through which sustainable development can be realized (Cotula *et al.*, 2004). Agricultural production and development in general needs a critical management of land resources that is; how access to land is regulated, how rights to it are defined and conflicts around land ownership as well as its use are resolved (Kironde, 2009).

Land tenure systems determine who can use what resources (land) for how long and under what conditions. This makes land tenure an important part of social, political and economic structures (UN, 2011). For most developing countries including Tanzania, land tenure system is usually portrayed as either customary or statutory (Dekker, 2003). Customary land tenure is characterized by its largely unwritten nature, is based on local practices and norms, and is flexible, negotiable and location specific (Kombe, 1995; Tuladhar, 2006; Silayo *et al.*, 2008). Statutory or formal tenure system is a system whereby the rights to ownership or occupancy of land are defined according to formalize national legal or constitutional processes (Lamba, 2005). In this type of land tenure, under written laws, land rights are allocated and confirmed through the issuance of titles or other forms of registration of ownership. In any given type of land tenure system, the question of land tenure security is of great important as it enable an individual to perceive that he or she has right to a piece of land on a continuous basis, free from imposition or interference from

outside sources, as well as the ability to reap the benefits of labor and capital invested in that land, either in use or upon transfer to another holder (Roth *et al.*, 1993; Pyne, 2007).

Traditional irrigation farming (TIFs)<sup>2</sup> is among the smallholder farming systems in Tanzania that play a significant role in ensuring food security and income generation to farmers (Kaswamila and Masuruli, 2005; Sokoni and Shechambo, 2005; Tagseth, 2008a). For instance “*Mifongo*<sup>3</sup>” and “*Vinyungu*<sup>4</sup>” have been playing significant roles in livelihood of farmers in Kilimanjaro and Iringa regions respectively (Tagseth, 2008b; Majule and Mwalyosi, 2009). Like other farming activities, improvement in crop production, investment and development of traditional irrigation farming depend on secure land tenure system. According to Pyne, (2007) no investment in land or property is safe unless the right of ownership of that land is stable and secure in both laws and practice.

Available research information suggests that access to land for many farmers in different parts of Tanzania is often based on customs (FAO, 2010). This type of land tenure is said to limit the abilities of farmers to put land to its best use through sustainable investment and hence shrink economic opportunities among farmers (Deininger and Ali, 2007). Thus, the understanding of farmer’s perceptions on the available land tenure systems is important in improving, developing and implementing secure land tenure for farmers, as it highlight what challenges exist for the prevailing tenure system. Knowing where strengths and weaknesses exist allows land practitioners to take advantages of higher capacity areas and enhance lower capacity areas. This make the necessity of this study of assessing the

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<sup>2</sup> Traditional irrigation is the application of water to the farm using indigenous water harvesting techniques which are not based on scientific understanding but locally handed down.

<sup>3</sup> Mfongo (Plural, mifongo) denotes a furrow or ditch in Chagga language spoken at Mt. Kilimanjaro. It is used to describe traditional furrow irrigation through stream diversions in the hills.

<sup>4</sup> Vinyungu refers to traditional irrigation farming that utilizes natural moisture or water from either natural springs or diversions in valley bottoms or plains commonly practices in Iringa Region, Tanzania

perceptions of farmers engaged in *Ndiwa*<sup>5</sup> and *Chamazi*<sup>6</sup> traditional irrigation farming on land tenure system in crop production in West Usambara highlands.

## 2. Methodology

### 2.1 Study Area

This study was conducted in the four villages within Lushoto district, Tanzania. Lushoto district is situated in the Northern part of Tanga Region, Tanzania (Figure 1). The study villages were selected largely considering the criteria namely: (1) Existence and operation of traditional irrigation farming practices that to a greater extent represent the humid and semi-arid farming environment (2) Majority of population in the villages depend on agriculture as their major economic activity. (3) Accessibility of the villages for study by research teams (logistical constrains). The study villages were: Shashui, Nkukai, Lunguza and Kivingo. The District covers an area of 3,500 km<sup>2</sup> and accounts for about 24.07% of Tanga region population (URT, 2012a).

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<sup>5</sup> *Ndiwa* is vernacular word of the Smbaa people in West Usambara Highlands meaning “an overnight reservoir or farm pond

<sup>6</sup> *Chamazi* is a vernacular word of the Smbaa people in West Usambara Highlands meaning “use of residual moisture in valley bottoms for crop production



**Figure 1: A Map of Lushoto District Showing the Location of the Study Villages**

## 2.2 Research design

This study employed a cross-sectional explanatory research design which is the recommended design to be used in social science research (Brayman, 2001). The rationale for using this design include: ability to collect data and make inferences about a population of interest at one point in time, yield maximal information and provides an opportunity for considering many different aspects of a problem/issues at hand (Rubin and Babbie, 2007). The design offers a combination of qualitative and quantitative approaches in data collection (Yoshikawa *et al.*, 2008; Berg, 2009; Creswell, 2009). The design was complemented by collection of time series data through documentary review.

The sampling unit for this study was a household from which a household head was chosen; and the sampling frame was the list of households in the study villages (Shashui, Nkukai, Lunguza and Kivingo). This list was obtained from local authorities at village level. The list was checked for updating information before using in selecting sample. The study employed a total of 380 samples (Households) calculated using a formula developed by Yamane (1967), at confidence level of 0.05. The estimated sample size was used to compute the proportion of sample (households) in each village based on the number of households in each village.

## 2.3 Sampling Procedure

Non-probability sampling specifically purposive sampling was employed to select Lushoto District. In the selected district, wards were stratified based on the type of TIFs and location in semi-arid or humid area. From this stratification, four wards namely Soni and Sunga (Humid area), Lunguza and Kivingo (Semi-arid area) were purposely selected based on the criteria of being in humid areas or in semi-arid areas, from each ward one village was selected, with the consideration of type of existing TIFs “*Ndiwa*” or “*Chamanzi*”. This made a total of 4 villages under the study which were; Shashui and Nkukai (located in humid climatic condition practicing *Ndiwa* irrigation farming), Lunguza and Kivingo (located in semi-arid climatic condition practicing *Chamazi* irrigation farming). Besides,

the key informants including Agricultural Irrigation and Extension Officers, village leaders, leaders of irrigation group, District agricultural irrigation and cooperative officer, District Commissioner and officer dealing with irrigation farming activities were purposive selected. Their selection was based on positions, experience and knowledge on traditional irrigation farming system and duration of working and living in the study sites.

In addition, purposive sampling was used to select members for Focused Group Discussion (FGD) based on duration of staying in a particular village, age, sex and familiarity to the traditional irrigation farming practices.

Probability sampling specifically stratified sampling was employed to select the 380 household's heads from the study villages. Using this method, the sampling frame was divided into two strata based on the type of TIFs "Ndiwa" or "Chamanzi". Then basing on the proportion, a sample from each stratum was selected using systematic random technique.

#### **2.2.4 Methods of Data Collection**

Both primary and secondary data were collected. Primary data involved qualitative and quantitative data. Methods to collect qualitative data involved key informants' interviews and focus group discussions. To collect qualitative data, a checklist of items for in-depth interviews with key informants was used to gather information and focus group interview guide was used from 8 focus groups. To collect quantitative data a household survey using structured questionnaire was administered to 380 household heads to verify and quantify some of the findings from qualitative data. Among the questions administered were Likert scale items of five responses (strong agree, agree, undecided, disagree and strong disagree) prepared for indicators of assessing perception on land tenure system. The sources of secondary data were various documents/reports of published and unpublished materials related to the study topic. This included government, research and village reports on Traditional Irrigation Improvement Programme (TIP) that has been operating in the study

area, reports on crop yields from district irrigation department as well as village based extension workers reports submitted to the District agricultural office.

### **2.2.5 Data Analysis**

Analysis of qualitative data involved content analysis in which the data were broken down into smallest meaningful units of information and/or themes and summarized to supplement important information with respect to the objective of the study. Quantitative data analysis was based mainly on descriptive statistics including frequencies, percentages and cross-tabulations. In order to measure perception of farmers on land tenure system, this research adopted and modify the methodology used by Swai *et al* (2012) and Magayane (1995) which involve the use of indices. This method involved the use of six indicator statements in form of Likert statements. These statement indicators included; tenure security, protection of vulnerable group, social status, access to formal credit, land market value and cost of titling. In order to form indices (i) Likert statements were reverse coded to obtain dimensionality (ii) Reliability analysis was performed for each statement. Statements that counted Cronbach's alpha value of 0.7 and above were the only ones included in further analysis to develop indices. The value of alpha of 0.7 and above is accepted in social science as indicating reliable scale (Marshall and Marshall, 2007 in Swai *et al.*, 2012) (iii) Strong agree and agree responses were transformed into 1; strong disagree and disagree into 0 to form a scale of index of 1-0; and undecided responses were regarded as missing (iv) Scores for each respondent were then summed and divided by the number of statements (v) Furthermore, the scale was transformed into two categories of "not perceiving" for respondents that score 0.5 and below and "perceiving" for respondents that score 0.6 and above.

## **3. Results and Discussion**

### **3.1 Farmers' awareness on the Concept of Land Tenure**

Results on *Ndiwa* and *Chamazi* farmer's awareness on the available land tenure system show that large proportion (86.9% and 78.5%) of *Ndiwa* and *Chamazi* farmers respectively



were aware of the concept of land tenure (see table 1). However, during focus group discussions in the study area it was noted that majority of discussants were more aware of the customary land tenure system rather than statutory land tenure system. Moreover, respondents obtained information with regard to land tenure from; friends or relatives (87.3%), village meeting (74.6%) and television/radio (59.5%). Results also revealed that, the major means of understanding the concept of land tenure for farmers is by using information from friends or relatives followed by village meetings. Although using friends or relatives to some extent may help in creating awareness with regard to land tenure to farmers, but in most cases it is associated with number of challenges especially in obtaining the right information. In addition, the use of village meetings usually associated with challenges such as attendance and the frequency of conducting the meeting.

**Table 1: Awareness of Ndiwa and Chamazi Farmers on land tenure systems**

Village	Awareness (%)		Major Sources of Information (%)				
	Aware	Not aware	Friends/relatives	TV/Radio	Village meetings	Seminar/trainings	News papers
Shashui (n=173)	88.2	11.8	97.5	56.4	82.6	25.8	10.3
Nkukai (n= 75)	85.6	14.4	96.2	54.7	79.8	24.3	9.8
<b>Average</b>	86.9	13.1	96.9	55.6	81.2	25.1	10.1
Lunguza (n= 57)	80.2	19.8	89.7	60.1	76.4	30.2	8.9
Kivingo (n=75)	76.8	23.2	84.9	58.8	72.7	21.4	6.7
<b>Average</b>	78.5	21.5	87.3	59.5	74.6	25.8	7.8

*Results on sources are based on Multiple Responses*

### 3.2 The Types of Land Tenure for Ndiwa and Chamazi farmers

Payne, (2001) defines land tenure as the mode by which land is held or owned, or the set of relationship among people concerning land or its product. According to UN (2011) pointed that land tenure is an important part of social, political and economic structures of any given community. In order to assess *Ndiwa* and *Chamazi* farmer's perceptions on the land tenure systems in the study area, the identification of the types of land tenure systems existing in the study area was one of the most important steps in achieving the objective of this study.

### 3.3 Customary land Tenure System

The results in Table 2 show that about 67.3% and 71.9% of *Ndiwa* and *Chamazi* farmers respectively did not have Certificate of Customary Right of Occupancy (CCROs). Moreover, the results show that about 32.7% and 28.1 % of *Ndiwa* and *Chamazi* farmers had CCROs respectively. The results indicate that large proportional of *Ndiwa* and *Chamazi* farmers did not have CCROs for their land used in irrigation farming. The major reasons associated with this observation were CCROs being considered not important by farmers and the procedures are bureaucratic and unclear majority of farmers (Table 2). However, key informant interview with District land officer revealed that to a greater extent CCROs played a significant role in reducing cases related to land ownership in the study area. Contrary, during focus group discussion in the study area, most of discussants felt that CCROs does not have any added advantage especially when it comes to loan acquisition. This was evidently by the statement of one discussant in Shashui village who said that

*“I do not see the importance of following up certificate of customary right of occupancy for my shamba, the boundaries of my shamba are traditionally known without any difficulties. On my side certificate of customary right of occupancy does not help me in anything, even when I would like to use it as collateral to get loan from Bank to invest in agriculture it is not accepted”.*

The results indicated that even though majority of farmers are aware of customary land registration and the cost of registration is affordable to majority of farmers, still few of *Ndiwa* and *Chamazi* farmers had CCROs mainly due to the reasons that it is not important especially when it comes to requesting loan from formal financial institutions. The results imply that customary land registration does not promote access to credit to make necessary agricultural investments for majority of *Ndiwa* and *Chamazi* farmers. The results are in line with the findings that famers having customary registration were not able get credit from formal financial institutions based on the requirement of the financial institutions (Sanga,

2009). This calls for government and relevant authorities to review the requirements so as to motivate farmers to register their land.

**Table 2: Customary land tenure system for Ndiwa and Chamazi Farmers**

Village	Farmers with CCROs (%)		Reasons for Not having CCROs (%)				
	Have	Not have	Procedures unclear	Very expensive	Office Distance	Bureaucracy	Not important
Shashui (n= 173)	40.9	59.1	14.3	10.1	9.2	30.4	79.6
Kivingo (n=75)	24.5	75.5	17.2	12.5	10.6	39.8	83.8
<b>Average</b>	32.7	67.3	15.8	11.3	9.9	35.1	81.7
Lunguza (n=57)	39.3	60.7	16.9	9.8	11.2	42.1	87.3
Kivingo (n=75)	16.9	83.1	19.4	11.6	12.9	59.5	89.4
<b>Average</b>	28.1	71.9	18.2	10.7	12.1	50.8	88.4

*Results on reasons are based on Multiple Response*

### 3.4 Statutory Land Tenure System

The results in Table 3 show that majority (84.6% and 87.2%) of *Ndiwa* and *Chamazi* farmers did not have title deeds for their farms. The reasons associated by lack of title deeds for both *Ndiwa* and *Chamazi* farmers include procedures not being known (97.5%), Office distance (96.2%), the exercise is very expensive (91.9%) and bureaucracy (84.9%). In addition, key informant interview with District land officer it was revealed that farmers are just reluctant to formalize their land. However, challenges such shortage of experts, lack of enough budget and equipment are some of the challenges facing the process of land surveying and registration in the study area. During focus group discussion in the study area, discussants manage to point out some of the importance of having title deeds such as allow them to use during loan processing in financial institutions and security against land disputes. However, they pointed out that the procedures for obtaining title deeds still are not clearly known by majority of them. Furthermore, they pointed out that cost associated and distance of the offices when they making follow up of the process are still the challenge. This was evidently, during an interview with Kivingo village executive officer

who pointed out that, to access services on land registration one had to travel to Lushoto town a distance which took one day. Apart from transport challenges, accommodation and the two-way bus fare are another limit factors for these farmers.

**Table 3: Statutory land tenure system for Ndiwa and Chamazi Farmers**

Village	Farmers with Title deeds (%)		Reasons for Not having Title Deeds (%)				
	Have	Not have	Procedures unclear	Very expensive	Office Distance	Bureaucracy	Not important
Shashui (n= 173)	17.6	82.4	90.8	83.6	64.6	76.2	9.1
Kivingo (n=75)	13.2	86.8	94.7	91.4	78.9	79.3	11.5
<b>Average</b>	15.4	84.6	92.8	87.5	71.8	77.8	10.3
Lunguza (n=57)	14.2	85.8	96.9	89.6	93.9	83.2	13.9
Kivingo (n=75)	11.4	88.6	98.1	94.2	98.4	86.7	21.4
<b>Average</b>	12.8	87.2	97.5	91.9	96.2	84.9	17.7

*Results on reasons are based on Multiple Responses*

The results indicated that despite of the fact that majority of farmers recognize the importance of having title deeds, still very few of them have acquired it due number of challenges. This calls for the relevant authority and the government at large, to address these challenges so as to encourage farmers to formalize their land used in farming activities.

### **3.5 Perceptions of Farmers on Land Tenure Systems for Crop Production**

Perception is a process by which individuals receive information or stimuli from the environment and transform it into psychological awareness, in order to learn about the environment and respond to what is perceived (Bridgeman and Tseng, 2011). Perception of *Ndiwa* and *Chamazi* farmers on land tenure systems in the study area is of great importance in understanding their decision towards crop production. This is due to the fact that land tenure systems play a pronounced role in shaping the manner in which economic agents (Farmers) make decisions in relation to land use and transfer. It has been claimed that land tenure systems in developing economies are insecure, therefore impeding

agricultural investments, soil conservation efforts, productivity improvement, and development of land markets (Gavian and Fafchamps, 1996). Thus assessment of *Ndiwa* and *Chamazi* farmer's perception on land tenure system for their land used in irrigation farming enable to understand their decisions and challenges in crop production. Awundu *et al.*, (2008) argued that land tenure differences influence farmers' decisions to invest in land improvement and conservation measures.

### **3.5.1 Perception of farmers on Customary Land Tenure System**

The results in Table 4 show that 84.8% and 72.2% of Chamazi and Ndiwa farmers perceived high tenure security respectively; 83.3% and 70.6% of Chamazi and Ndiwa farmers perceived increase social status respectively; 82.6% and 69.8% of Chamazi and Ndiwa farmers perceived increase land market and value respectively. In addition, the results show that 67.4% and 65.3% of Chamazi and Ndiwa farmers did not perceive protection of vulnerable group (women and children) respectively. Furthermore, 90.2% and 72.9% of Chamazi and Ndiwa farmers did not perceive high cost of titling while 91.7% and 77.8% of Chamazi and Ndiwa farmers did not perceive access to formal credit with respect to customary land tenure system.

During focus group discussion it was noted that, Ndiwa and Chamazi farmers who perceived high tenure security felt that a recognized ownership on land gives one the right to invest and plant anything without fear of losing the land. Moreover, one can also sell a part of a plot in times of crisis such as sickness that require a lot of money or child schooling. Moreover, they felt that ownership of land makes one to be respected in the community like those who are employed (a social- culture identity). Furthermore, FGD results revealed that the cost, procedures and time for acquiring customary right are reasonable for majority of farmers to afford. This was acknowledged during an interview with district land officer who pointed out that under customary land registration the cost of titling are prescribed in the village land act registration No 81 of 2001, average titling cost per parcel irrespective of the size was Tshs 11000 which was affordable for most of the farmers.

Farmers who did not perceive protection of vulnerable group felt that customary land registration reflect the cultural aspect of the community that does not provide women with equal right to own and make decision on land like men. Farmers who did not perceive access to formal credit felt that customary land registration does allow the opportunity of using land as collateral to secure loans from financial institutions in order to invest on irrigation activities or reducing income poverty. During an interview with district agricultural irrigation and cooperative officer (DAICO) pointed out that one of the challenges facing majority of farmers engaged in traditional irrigation farming is poor investment on equipment's, seeds and irrigation infrastructures, this is due to lack of financial capital among farmers. This was also supported by the results from the FGD that *“Irrigation farming require a lot of investment but customary land tenure did not allow to secure loan from financial institution using land as collateral as many financial institutions accept land title deeds as collateral for loans”*.

The results indicated that most Ndiwa and Chamazi farmers felt that customary land registration prevented loan access from formal financial institutions necessary for agricultural investments. This implies that by using customary land registration it will be difficult for Ndiwa and Chamazi farmers to acquire financial capital for agricultural development. This calls for government and relevant authorities to look on the challenges of customary land registration so as to realize its importance in agricultural development. Dale and Mclaughlin, (1998) argued that the benefit of tenure security are clear when people are private owners, free from fear of dispossession and can convince lenders to provide capital to make investment.

**Table 4: Perceptions of Ndiwa and Chamazi Farmers on customary land tenure system**

Scale Category of Perception	Ndiwa (n= 248)		Chamazi (n=132)	
	n	%	n	%
<b>High tenure security</b>				
Perceived	179	72.2	112	84.8
Not perceived	69	27.8	20	15.2
<b>Provide Protection of Vulnerable group</b>				
Perceived	86	34.7	43	32.6
Not perceived	162	65.3	89	67.4
<b>Increase social status</b>				
Perceived	175	70.6	110	83.3

Not perceived	73	29.4	22	16.7
<b>Allow Access to formal Credit</b>				
Perceived	55	22.2	11	8.3
Not perceived	193	77.8	121	91.7
<b>Increases land market and Value</b>				
Perceived	173	69.8	109	82.6
Not perceived	75	30.2	23	17.4
<b>High costs of titling</b>				
Perceived	67	27.0	13	9.4
Not perceived	181	72.9	119	90.2

### 3.5.2 Perceptions of Ndiwa and Chamazi Farmers on Statutory Land Tenure System

The results of Ndiwa and Chamazi farmer's perceptions on statutory land tenure are presented in Table 4. The results show that 87.1% and 86.4% of Ndiwa and Chamazi farmers perceived high tenure security respectively; 84.1% and 73.4% of Chamazi and Ndiwa farmers respectively perceived increase social status respectively; 87.9% and 84.8% of Ndiwa and Chamazi farmers perceived increase land market and value respectively. In addition, the results show that 76.5% and 71.8% of Chamazi and Ndiwa farmers perceive protection of vulnerable group (women and children) respectively. Furthermore, 90.9% and 88.3% of Chamazi and Ndiwa farmers perceive high cost of titling respectively while 89.1% and 87.1% of Chamazi and Ndiwa farmers perceive access to formal credit respectively.

Results of focus group discussion conducted in the study area revealed that Ndiwa and Chamazi farmers who perceived high tenure security felt that having title deeds on land gives one the right to make decision on investment such as constructions of irrigation canals and water storage dams, digging of deep wells and buying of water pumps to facilitate irrigation activities. In addition, discussants pointed out that it is easy for one with a title deed to secure loans from formal financial institutions using land as collateral. Moreover, they felt that having title deed on land used in farming makes one to be respected in the community but also by using title deeds even women have a chance to own and make decisions on land. Furthermore, it was revealed during FGD that title deeds on land help to increase the market and value of land in case one needed to sell.

However, they pointed out that high cost of titling such as fees, procedures and time for acquiring are too complex for majority of farmers to afford. This was evidently during an interview with Lunguza ward executive officer, who pointed out that in order to acquire title deed one had to travel to Lushoto town a distance that took 1 day, apart from transport inconveniences, the procedures, processing fees and the two way bus fare are the limiting factors to majority of farmers.

The results indicated that majority of *Ndiwa* and *Chamazi* farmers have positive perception on statutory land tenure especially on allowing access to credit from financial institutions. However, the cost, procedures and distance of relevant offices are the limiting factors for farmers to acquire title deeds. This calls for all stakeholder, government and relevant authorities on land registration to review the cost and procedures as well as to open offices at convenient distance to serve farmers. The results are in agreement with Weerawan, (1994); Williamson and Kerekes, (2008) argued that title deeds provide the holder more security and reliable evidence that gives more security to lender, hence a good access for the holder to formal credits at low interest because of low risks.

**Table 5: Perception of Ndiwa and Chamazi Farmers on statutory land tenure system**

Scale Category of Perception	Ndiwa (n= 248)		Chamazi (n=132)	
	n	%	n	%
<b>High tenure security</b>				
Perceived	216	87.1	114	86.4
Not perceived	32	12.9	18	13.6
<b>Provide protection of vulnerable group</b>				
Perceived	178	71.8	101	76.5
Not perceived	70	28.2	31	23.5
<b>Increase social status</b>				
Perceived	182	73.4	111	84.1
Not perceived	66	26.6	21	15.9
<b>Allow access to formal credit</b>				
Perceived	221	89.1	115	87.1
Not perceived	27	10.9	17	12.9
<b>Increases land market and value</b>				
Perceived	218	87.9	112	84.8
Not perceived	30	12.1	20	15.2
<b>High costs of titling</b>				
Perceived	219	88.3	120	90.9
Not perceived	29	11.7	12	9.1

#### 4. Conclusion and Recommendation



## 4.1 Conclusion

Based on the study observation *Ndiwa* and *Chamazi* farmers had a positive perception on the existing land tenure system on issues related to social status and increase market and value of land. However, their perception on cost titling, access to formal credit and protection of vulnerable group were positive for statutory land tenure than on customary land tenure system. It has been also observed that, even though statutory land tenure was observed to be more important for agriculture development, yet very few of *Ndiwa* and *Chamazi* farmers have title deeds due to high cost of tilling, lack of awareness on the procedures among farmers and long distance of relevant offices constrains majority of farmers to have title deeds for their land.

It is further observed, tenure security affects the availability of resources for financial investment on land (farms). Thus, in the study area there is a demand some immediate action to ensure security of tenure that promote irrigation agriculture. Doing this could positively improve farm productivity through irrigation farming which can then lead to reduction of household income poverty.

## 4.2 Recommendations

Based on the study findings the following are recommended:

- i. Awareness creation to farmers on the procedures and advantages of land formalization
- ii. Relevant Authorities on land issues should review the procedures and the cost associated with land registration especially to the rural area
- iii. Relevant Authorities in local and Central government should bring the service of land registration closer to the people especially in rural area
- iv. Financial Institution should review the requirement for rural farmers to acquire loans using their farm land as collateral in order to facilitate agricultural development

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