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The Prospects of Land Tenure Systems on Smallholder Agriculturists in Tanzania: A case of Mbozi District

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Abstract

This article addresses the prospects of land tenures systems on agricultural productivity in Songwe Region, Tanzania. The study is based on both secondary and primary data. The sample size involved was 307 of which 300 were randomly sampled to respond to questionnaires and seven were selected by snowball technique. Primary data were collected by questionnaires, in-depth interviews and observation method and secondary data were collected by documentary review. Findings indicate that there were mainly two systems of land occupancy in Mbozi District, the traditional or customary and statutory land occupancy which were influenced by cultivation systems, capacity building, population increase, in-migration and land leasing. Further analysis revealed that the customary land occupancy is dominant in the district. The study found that land tenure influenced agricultural productivity though the inclusion of other factors such as migration, technology, the use of chemical fertilizers and capacity building were necessary to reach such conclusion. Variation between rural and urban based on the influence of land tenure on agricultural productivity was also observed in such a way that factors like in-migration and population growth led to the decline of agricultural productivity in urban as opposed to rural areas. It is concluded that the influence of statutory and customary land tenure systems on agricultural productivity is significant when other factors of production remained constant. The study recommends that policies, laws and regulations that guide land tenure and agricultural production should be re-set based on recent changes.

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Introduction

Land is the single most important resource for agricultural production. In the context of rural Sub-Saharan Africa, where communities depend largely on agriculture, land tenure systems are important in agricultural productivity (Cross, 2002). Changes in land tenure systems have critical implication to peasants in Sub-Saharan Africa whose economic wealth is founded on occupancy of agricultural land. Historically, land has been communally owned which in practice lead to misuse of the resource (Bruce, 1988). Hardin (1968) observed that the most effective way to eliminate misuse of land is to change from communal to private land occupancy. In all, the changes of land tenure systems, among other factors such as technology and capacity building, is expected to influence the agricultural productivity for peasants.

In Asia particularly China, land tenure system and agricultural productivity is obviously of primary importance since there is a high density of population which requires a legal occupancy of various resources including land. Where land resources are scarce, the principal means of raising production in order to keep pace with the growth of population is by raising yield per hectare. However, raising the productivity of land does not mean only raising the yield of individual crops. It encompasses the whole output of a farm or country in relation to the total area of farm land, and which may also be raised by changing the pattern of crop production and toward more intensive system of cultivation or toward higher value crops (Morgan et al., 1971). Therefore, productivity is sometimes determined by many variables rather than land tenure itself. Thus, a study on land tenure system should also take in consideration other variables as indicated in the conceptual framework.

Similarly, in America land tenure system has significant influence on agricultural productivity since it is one of the key variables of production in agriculture economy. A study by Janelle, Smith, Abler and Trevelli (2003) in Peru indicated that different measures are taken to enhance sustainable land tenure systems. Some measures which were taken are the creation of proper land tenure systems and other land policies such as registering land rights, arbitrating land disputes, checking land use development, spatial orderliness and providing basic services. Besides this, the size and kind of land owned by a peasant have been among determinants of agricultural productivity to many peasants and farmers which include other variables like capital, labour, skills and knowledge that determine the output in production (Dharmasiri, 2008; Cross, 2002; & Pandit, 1965).

Other cases are observed in Jean-Marie et al. (2007) who observed that in developing countries there are substantial evidences that access to land for the rural poor is essential for agricultural productivity. Since agriculture is the principal means of livelihood for many peasants then they should be facilitated

to own land in order to increase productivity if other factors of production remain constant. Actually, there is evidence that agricultural productivity is largely determined by the number of peasants who own land. For example, Fraser (2002) observed that in Colombia 48 percent of grain farmers who occupied land had higher agricultural productivity compared to 42 percent of those who were renting land. Similarly, in Ethiopia, 90 percent of the occupied land is better managed and results to high agricultural productivity. Other cases were like those observed by Mwakubo (2002) in Kenya Machakos and Kitui County that statutory and private land tenure system influenced agricultural productivity compared to traditional and communal land tenure system

In pre-colonial, colonial and after independence in Tanzania, there has been a number of policy instruments were used in an attempt to improve land ownership regime and agricultural productivity. After the German colonial regime in Tanzania (1888 to 1916), in 1923 the land laws came into force whereby the British colonial legislative assembly enacted the “Land Ordinance cap 113” to guide and regulate land use and ownership in Tanganyika which was their protectorate colony (Shivji, 1998; HAKIARDHI, 2005). Prior to this law, all the land in Tanganyika was owned under customary tenure governed by clan and tribal traditions (ibid.).

Various challenges have been happening towards land tenure systems and agricultural productivity. Land conflicts have been very common to the vast majority of sub-Saharan African countries. Such land conflicts are being induced by the inability of land tenure systems to respond to challenges and faulty state policies. Such a grave situation leads to low productivity which causes peasants continue being rooted into poverty situation. For example in Tanzania, there has been poverty rate of 49.7 and 82.3 percent which is associated by low productivity caused by poor land tenure systems that results to lack of secure land use rights and equitable access to finance, insurance, and education (United Nations, 2009).

To enhance proper land tenure systems and agricultural productivity, another land reform after Tanganyika independence in 1961 was formed with slight changes. The only notable change made was the replacement of the word governor with president. Later, in order to avoid the creation of a small landed class freehold titles were converted into leaseholds under the freehold titles and government lease Act (cap 523) of 1963. Leaseholds were later changed into right of occupancy under the government leaseholds (conversion of right of occupancy) Act No. 44 of 1969 (Kayuza, 2006; HAKIARDHI, 2005).

Again, various laws and declarations were enacted during 1962 to 1989 period to reinforce decisions in land administration. For example the Land acquisition Act number 47 of 1967 which gave the president powers to acquire land in any

part of the Republic of Tanzania for the national interest. Other laws included were under the 1967 Arusha Declaration, the Village and Ujamaa village Act of 1975, the Land Regularization Act of 1982 and the Local Government District Authorities Act number 7 of 1982. All these laws had a bearing on the rights to land for the majority small producers. One of the weaknesses of these laws is that they did not transform the land tenure system into a better form that could allow the increase of agricultural productivity in such a way that it would not bring the reflection if or not agriculture is the backbone of the nation (HAKIARDHI, 2005).

In the 1990s land reforms marked a very significant turning point in the development and administration of land tenure system in Tanzania. However, National land policy of 1995 and the land acts of 1999, (Land Act Number 4 and Village Land Act Number 5) still gave the president power to own land rather than decentralizing it to the lower organs of people's representation like the village assemblies, district councils, village committees and councils as well as peasants and farmers (Mugabi, 2014). Recently, the driving force behind recent land reforms in Tanzania which appears to cut across the entire East African region is the commercial interests that capitalize on commoditizing land to attract foreign investors (HAKIARDHI, 2005). Thus, there has been a phasing out of community occupancy. Recent commercialisation of land draws greatly on the theory of the tragedy of the commons which posits that the situation in a shared-resource system (land inclusive) where individual users, acting independently according to their own self-interest, behave contrary to the common good of all users by depleting or spoiling the shared resource/land through their collective action (Hardin, 1968).

The findings by Lokina, Nerman, and Sandefur, (2011) indicates that the most important source of consumption growth in Tanzania between 1991 and 2007 has been structural change, there has been low agricultural productivity in such a way that people are moving out of agricultural sector. Within the smallholder agricultural sector, yields of the most important crops like maize have been declining during the 2000's, and total factor productivity and adoption of technologies such as improved seeds and inorganic fertilizer have been stagnant at best. This means that despite various structural changes on land tenure still agriculture is lagging behind regardless of being a backbone of the country (Tanzania). Within the farming sector, Lokina et, al. (2011) observed that the very modest gains in maize output, for instance, are due entirely to area expansion rather than any increase in average crop-level productivity. Reinforcing this point, crop-level production functions for 2001 and 2007 indicate strong declines in total factor productivity for maize and other crops. Basing on this view there is a need to study the association between land tenure and agricultural productivity; land tenure associated determinants towards agricultural productivity; and the potential for policies promoting inorganic

fertilizer and hybrid seeds for staple crops to raise farm productivity and household incomes. Some technologies such as application of industrial fertilizers appear profitable on average land tenure security that may enable peasants to get high yield.

In Tanzania up to 2000's land has been under the dual land tenure system, landholder with certificate of occupancy have explicit security of tenure. But security of tenure for landholders in informal settlements without certificates of occupancy remains ambiguous. There is no clear provision in the legislation that confers security to land holdings in unplanned areas except for certificate of validation that can be issued on the application by the occupier. Moreover, land occupiers in unplanned (urban) areas do not qualify for security of tenure under customary tenure system as this applies only in rural areas or to registered villages within the urban areas. Such lack of clear land legislation and unplanned land security reduces annual agricultural productivity among peasants (Kayuza, 2006). In Kampala Uganda, 20% of the land is planned while 80% is unplanned land occupancy of which all these are in four ways of occupancy which are leasehold, freehold, private hold and customary land occupancy whereas in Kenya there is leasehold which falls within the domains of the central government and the mode of occupancy is strongly statutory than other East African countries (Akello, 2008). Such variations of land tenure leads to variations in agricultural productivity because issues like financial assistants are mostly granted to holders whose occupancy is statutory that has formal documentations. So there is still a question on whether such patterns of land tenure has also triggered the productivity in rural or not.

The conceptual development of change in land tenure systems from customary to statutory and the evidence for which of the two systems is dominant on agricultural productivity seems to be weak in various parts of Tanzania (Barrett, 2008). Since the 1920s Mbozi District has been facing the influx of various ethnic groups like Nyakyusa and Second World War Veterans and the introduction of new cultivation systems which have tremendously influenced the land tenure system and agricultural productivity. For example in rural areas where land was commonly occupied, the situation had changed to individual occupancy of which its value towards agricultural production and productivity has not been well known due to shortage of related literature. Besides this, the increase in urban population in centres like Vwawa, Mlowo, Itaka and Ihanda seems to change the patterns of land tenure in the district by turning formal food crops like finger millets to cash crops and more land selling even in rural area to accommodate urban settlements and urban agricultural population.

Although there are various literature in this section that shows land and agriculture issues, different studies related to land tenure systems and agricultural productivity have been conducted in various parts of Tanzania as

well as the rest of East African Countries. For example, Mugabi (2014) who conducted a study about the challenges of land ownership in rural Tanzania and what needs to be done, but did not focus on agricultural productivity also the term ownership was supposed to be phrased as “occupancy” because the land is owned by the state of which the President may revoke the right of occupancy. Another study is that of Shimwela (2018) about the effects of indigenous land tenure titling on agricultural investment among smallholder farmers in Mbozi District, Tanzania. This study focused on land tenure titling rather than tenure and agricultural productivity. These cases indicates that the influence of land tenure on agricultural productivity has not well addressed.

Theoretical perspectives

Three theories explaining the concept of land tenure system and agricultural productivity are discussed in this section. These theories provide insights into the changes of land tenure and its prospects on agricultural productivity.

Labour theory

In 17th and 18th Century, Locke (1690) observed that the right of individual to own and dispose private property including land was a natural right of an individual. The ownership of resources such as land was the natural right of an individual and later governed by the principles of natural justice, governmental interference or interventions or re-organization. The theory is important to this study because it provides procedures for legal land tenure system though the use of such land may not be smooth because the theory insists that peasants should start occupying and use the land before legal tenancy. Thus, the time before legal tenancy, agricultural productivity can drop down due to occupancy of land without legal procedures which could enable peasants to get loans from various financial stakeholders and capacity builders which was also observed in Zimbabwe by Dube and Guveya (2013).

Utilitarian theory

Utilitarian theory proposes that property is regarded as a positive right created instrumentally by law to achieve wider social economic objectives. The essence of a positive right is that it is prescribed by state, the right to own such resources like land is given and protected by the government. Bentham (1830) and Little (2004) observed that the total or average happiness of society cannot be maximized unless there is the right to use and transfer the object of the value of land for this case. Baaing on the adoption from Little (2004), this theory is useful for this study because it provides a guideline for the formulation and evaluation of various intervention measures of land tenure on agricultural productivity. The principle of land tenure system should be used by the state and sovereignty and its law-making authorities to command rules over land use and agriculture among peasants.

Economic theory

In this theory Bassett (2007) observed that as population pressure increases and land becomes an increasingly scarce resource, rights to land are individualized until the private property rights exist. The move from public to individual land occupancy is inevitable because as the population grows the struggles to occupy land due to the increase of food demand increases eventually agricultural productivity also increases (modified from Boserup, 1965). The theory is applicable in Mbozi District by having dual effects on productivity. Taking urban and rural areas into account, the rapid increase of population in the urban areas leads to high demand of land but reduces agricultural productivity due to urbanization since areas previously used for farming are later used for constructing human settlement. On the other side, in rural areas the increasing population increases land demand and use for farming which in turn raises agricultural productivity.

The theories which have been employed in this study draw various significance to this article. Theories permit the reader to evaluate the data in the study critically, connects the researcher to existing knowledge, theoretical perspectives create the basis for proving the hypothesis. For example, the relationship between land tenure and agricultural productivity has been best explained by right of land occupancy in the labour theory, the role of the state in land tenure in the utilitarian theory, as well as population in the economic theory. Finally they facilitated the researcher to articulate the theoretical assumptions of the article which permitted the transition from simply describing the observed phenomenon to a limited generalised aspects of that phenomenon, land tenure and agricultural productivity in this regard.

Study objectives

General objective

The general objective of the study is to investigate the influence of dynamics in land tenure systems on agricultural productivity in Songwe Region, Tanzania.

Specific objectives

Specifically, the study:

- i. explored the land tenure systems in Mbozi District.
- ii. assessed the influence of land tenure system on agricultural productivity in Mbozi District and
- iii. identified the determinants of land tenure systems in Mbozi District.

Materials and Methods

The study was conducted in Mbozi District in 2018. It was the best case study because it experienced a regular influx of various tribes and settlers who to large extent have brought different patterns of land tenure which in turn have influenced agricultural productivity (Mulungu, et al., 2018). So far, basing on the economy, agricultural sector was studied because agriculture plays a crucial role within the critical triangle of the district and national development goals. Agricultural sector plays a crucial role to individual livelihood, to the district and nation and good enough Mbozi is one of the Southern Growth Corridor of Tanzania. More so, in the district it is obvious that the trend of statutory land tenure system especially in the urban areas is increasing with time and place. These changes have significant influences on agricultural productivity as it was also observed by Baron (1978) in Sub Saharan Africa that there is ample evidence that the incidence of land disputes and land grabbing by larger or more powerful farmers increases as the potential return to land rises. Thus, the understanding of existing systems of land tenure is essential for better planning and sustainable agricultural productivity in Mbozi District.

The study was both qualitative through interviews and quantitative through questionnaires in order to complement the gaps of each other. It involved secondary and primary data through literature reviews and field work because it was a descriptive (involvement of quantitative techniques) and explanatory (based on qualitative approaches) case study. Based on the title, the data were collected from peasants through questionnaires, interviews and observation in Mbozi District particularly at Mponela, Ndolezi and Matula Village which are among agricultural dominant villages in the rural and Mlowo, Vwawa and Ihanda which are more urban centres compared to other centres like Iyula which is one of sub-urban in Mbozi District. An individual smallholders based on different sex, residence, education level and age was taken as a unit of analysis. In order to get instant data, the data were collected by administering questionnaires to 300 (200 males and 100 females) participants. As adopted from Cohen (1977), since this study involve quantitative approaches, its sample size is larger in order to provide a satisfactory data which clearly answered the specific objectives. These respondents who were randomly selected to avoid biasness in the findings responded within thirty to sixty minutes for each participant which was seen valid during pilot study. Prior to their selection, researchers introduced themselves by releasing the research permits and stating the significance of this study to individuals and national as well until the respondent reached the *ahaaa* stage of being able to provide the data. To enrich the data from questionnaires, observation (participatory and non-participatory) was also involved in which the study observed various land tenure and agricultural issues some of them were the size of land, boundary identification and inputs involved in agricultural production. Further in-depth interviews with

seven key informants who were selected by snowballing technique from each area except Vwawa where two interviewees participated in this study. Each interview was lasting for 60 to 90 minutes. To maintain equal representation, interviews which included experienced villages and street leaders as well as one extension officer from the district council and Tanzania Coffee Research Institute (TaCRI) were conducted by Swahili language which were later translated to English language. Data collection took place at three levels, namely, the peasants' or smallholders' level, the stakeholders like TaCRI and District Council level, individuals were selected from these levels in order to prove the validity and reliability of findings about land tenure and agricultural productivity.

The study involved the respondents with different demographic characteristics. The characteristics which were involved are sex, residence, education level and age of the respondents. In terms of sex, there were 200 (66.7%) male and 100 (33.3%) female respondents who participated in filling the questionnaires of the study. With residence, 100 (33.3%) respondents were in the urban and 200 (66.7%) in the rural areas. Education level was also considered, 165 (55%) respondents had primary education and 135 (45%) had secondary education. In terms of age, 133 (44.3%) were aged between 15 and 45 years and 167 (55.7%) were 46 years or above.

In terms of analysis, the collected data were analysed by descriptive through Statistical Package for Social Sciences and content analysis methods by using words, themes, and concepts. Quantitative data from the questionnaires were analysed through descriptive statistics of which the Statistical Package for Social Sciences Version 20 was used to analyse the data from the field. In the course of discussion, primary data were supported by the findings from the reviewed related literature.

By referring to Downe-Wamboldt (1992), qualitative data from reviewed literature, interviews and field observation were analysed by content analysis which allowed researchers to identify various recorded data during field communication between researchers and respondents. In this study, the unit of analysis was an individual peasant. Since the study based on the prospects of land tenure systems on smallholder agriculturists in Tanzania, it used accounting technique, and econometric estimation models to measure productivity per farm size. It based on the perceptions from peasants who were involved in questionnaires. Both participatory and non-participatory observations were also used to add more data to questionnaires and interviews.

The ethical consideration was insured through requesting the permit from the district administration in data collection. More so, Authors ensured confidentiality of participants as well as freedom to withdraw from responding

to questionnaires and interviews. During this study, pilot study and the use of triangulation or more than one technique in data collection and analysis was employed in order to ensure validity and reliability of findings.

Findings and discussion

Land tenure systems in Mbozi District

The study explored the dominant land tenure system in Mbozi District. The study identified two land tenure systems, namely, traditional and statutory land tenure systems. The exploration showed that the dominant land tenure system in Mbozi District was customary or traditional land occupancy which accounted for 85 percent (255 respondents) and only 15 percent of respondents said statutory land tenure system is dominant in the district. In all systems of land occupancy, peasants acquired land either by inheriting it freely from their ancestors or by purchasing it (see Table 1). Almost 280 (93.3%) smallholder farmers obtained arable land by means of purchasing from others whereas the other 20 (6.7%) were of the view that peasants inherit arable land from their relatives. Such systems of land acquisition influenced agricultural productivity differently. Perceptions of many peasants (75%) said peasants who purchase land incur double cost when preparing inputs whereas others said it has no influence on productivity because in some cases peasants who are given land freely do get high yield but in some seasons they get low yield as well.

Despite the changing mode of land acquisition as indicated in Table 1 below, still traditional land occupancy has been dominant in many parts of the study area (Figure 2). There were peasants who were occupying land legally, others were occupying land traditionally or informally using traditional land lease or occupancy by both legal and non-legal procedures. The data in Figure 1 show that 292 (97.3%) respondents said peasants were occupying land traditionally and only six (2%) respondents said peasants owned land by statutory land tenure system which is mostly common in urban areas whereas two (0.7%) had a view that peasants occupied land by means of customary and statutory land occupancy.

Table 1: The way mode of acquiring land influences land tenure system by sex, residence, education level and age of respondents

Some Demographic variables	The modality of acquiring land		
	Free of charge from relatives	Purchase from others	Total
Sex			
Male	13(65.0%)	187(66.8%)	200(66.7%)
Female	7(35.0%)	93(33.2%)	100(33.3%)
$\chi^2 = 0.27$, degree of freedom = 1 and p-value = 0.870			
Residence			
Urban	13(65.0%)	87(31.1%)	100(33.3%)
Rural	7(35.0%)	193(68.9%)	200(66.7%)
$\chi^2 = 96.70$, degree of freedom = 1 and p-value = 0.002			
Education			
Primary	10(50.0%)	155(55.4%)	165(55.0%)
Secondary	10(50.0%)	125(44.6%)	135(45.0%)
$\chi^2 = 2.16$, degree of freedom = 1 and p-value = 0.642			
Age			
15-45	8(40.0%)	125(44.6%)	133(44.3%)
46 or more	12(60.0%)	155(55.4%)	167(55.7%)
$\chi^2 = 1.63$, degree of freedom = 1 and p-value = 0.686			
Total	20(100%)	280(100%)	300(100%)

Other issues which made the customary land tenure to be dominants were shortage of legal officers or advocates who could set formal land contracts and mode of land acquisition and lease. For the case of mode of land acquisition and lease in rural areas for instance, peasants used to get land by various informal ways. Some were inheritance, being given as a gifted, traditional purchasing and

undocumented land renting systems. For example, land occupancy by inheritance made peasants to rely on customary land occupancy so as to retain inheritance to the next generation without official agreements which sometimes are longer and needs more awareness on legal procedures of land occupancy.

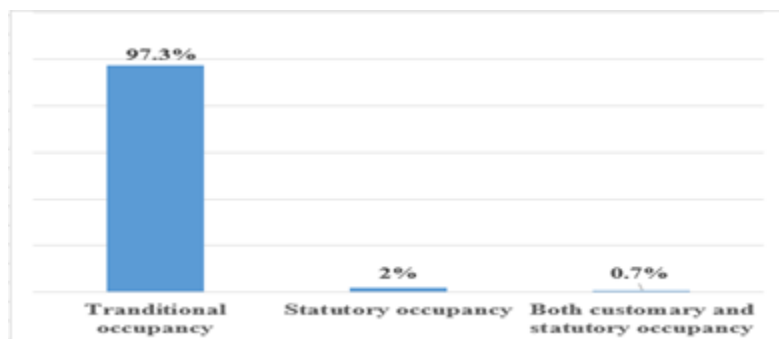


Figure 1: The power of manner of land occupancy on land tenure system (n = 300)

The results from interviews with key informant at Mponela Village in the aspect of manner of land tenure system indicated that,

The influence of the manner of land occupancy which also has significant effects on the size, freedom of land use, credit assistance, loans acquisition and on agricultural productivity depended on one's level of education, wealth status and awareness about the advantages and disadvantages between customary and statutory land occupancy. Really in the district majority own land traditionally in such a way that they miss some opportunities like qualifications of requesting loans from various banks including CRDB (Key Informant/Mponela Village/November, 2018).

The influence of land tenure system on agricultural productivity in Mbozi District

In the second objective, the paper assessed the influence of land tenure system on agricultural productivity in Mbozi District. It was found that 265 (88.3%) respondents agreed whereas only 35 (11.7%) respondents disagreed with the statement that land tenure had significant effects on agricultural productivity (Figure 2). Such results were also the same to the data obtained from non-participatory of nine years and participatory observation by farming for four years at Shanko Village in Mbozi District.

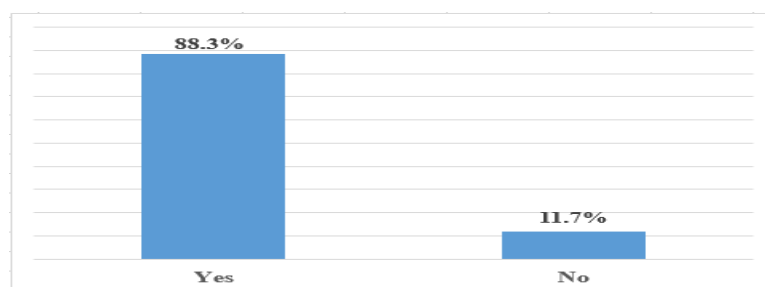


Figure 2: Does land tenure influence agricultural productivity? (n = 300)

In addition to the results in Figure 2, more correlation between land tenure and agricultural productivity were also observed in Mbozi District through observation technics. During observation the influence of land tenure on agricultural productivity was practically done by considering the farm size in terms of acres and productivity in tones, tins or bags respectively. The output was computed to the price of bag of which during the field study one bag of maize was being sold at 35,000 Tshs then the price was multiplied by total number of tins per acres minus the total cost of inputs. Such computation enabled the researcher to determine whether production processes yield loss or profit.

There has been some evidence of the decline of productivity in the urban due to the decline of arable land as compared to rural areas. For instance one of the key informants at Ichenjezya street near Mwenenzunda Forest had this to say:

Since the announcement of the new region of Songwe whose headquarter is Mbozi District, there has been influx of various tribes which has increased urbanisation in the urban. Such urbanisation has reduced agricultural productivity especially at Vwawa urban centre because some parts of arable land has been used for settlement construction (Key Informant/Ichenjezya Street/November, 2018).

Such results were similar to Pandit (1965) and Dharmasiri, (2008) whose supposition showed that there is a strong relationship between land tenure and agricultural productivity.

Meanwhile the forecast or prospects of land tenure system on agricultural productivity depend on various factors such as inputs invested on land on top of land tenure (Thomas et al., 1993; Shava, 2000). Thus, the outputs in agriculture depend on fertilizers, herbicides and mechanization and other variables. Similarly this study observed various variables that triggered land tenure systems eventually affected agricultural production and productivity. Some of them are migration, the increase of peasants who own arable land, the manner and time in which land is owned, availability of fertile land, financial support

from stakeholders, new knowledge and technology, the diffusion of culture, connectivity and contract farming. For example, the influx of in-migrants in Mbozi District affected land tenure and agricultural production by increasing pressure on land tenure, introduction of new cultivation systems like multi cropping, introduction of new crops like coffee, sweet potatoes known as “shangazi” and adoption of agricultural implements by phasing out the old cultivation systems like ntemele and etumba which involved slash and burn in order to get ash as peasants’ local fertilizers.

The study of land tenure systems is important in social structure of a country. In the study area, interviews indicated that the harmonious interaction between peasants and pastoralists though there were few pastoralists and between peasants themselves faced various challenges of land tenure security, and agricultural production. The expansion of pastoralism and harmony farming patterns were determined by the land tenure systems of the area. As such one of the peasant respondents at Mponela Village said that:

In areas where the land distribution pattern is skewed or uneven then the exploitation of land among smallholders and livestock keepers was poor as a result of low productivity and conflicts whereas in areas where smallholders had legal right over land use, peasants and pastoralists had equitable distribution of land resource and thereby all the society became comparatively peaceful and such harmonious relationship created a link between pastoralists and peasants in such a way that it created effective land use due to the fact that peasants could get even manure for activating their exhausted arable lands. In all land tenure systems affects agricultural productivity in our area (Key Informant/Mponela Village/November, 2018).

Traditionally, the land tenure issues were found to affect agricultural productivity in the context of traditions and customs. The observation at Mponela Village indicated the presence of spiritual prayers before the adoption of any new crop. At that village there was the common land with a big and thick forest (a land with spiritual prayers, grazing land, forests, fire wood) which is the land under the village authority where peasants and chiefs conduct spiritual prayers before starting any farming activities for the expectations of high productivity. For example the Hayombo forest at Mponela Village which was under Chief Hayombo. Such forests affected agricultural productivity in various ways as one of the interview from the Chief indicated that:

It was found that the newly introduced crops were supposed to be sent in that particular forest for spiritual prayers in order to yield high productivity of which without doing so one could yield low productivity. So far, such common land were significant during the rainy season, when it does not rain, we elders and chiefs were supposed to go in such forest

or land to pray to the gods until it rains (Key Informant/Mponela Village/November, 2018).

Another interview from the Chief of Mponela and one of the urban Street Leader indicated that

Land tenure influences agricultural productivity between rural and urban areas in different ways. In rural, productivity increased because the increased population has not led to the decline of arable land instead it has increased labour force and brought new crops like sweet potatoes whereas in the urban areas such increased population has reduced arable land due to urbanisation in some urban centres like Vwawa and Mlowo (Key Informant/Mponela Village & Ichenjezya Street/November, 2018).

In line with the study results, the experience drawn from numerous land studies in Tanzania and elsewhere has shown that land tenure systems have implication on agricultural productivity (Mulaku, 2000). So far a review of Feder et al. (1991) shows that African customary land tenure or the lack of legal land ownership restricts the farmers' access to credit which is required for improved land practices. This lack of access to credit forces them to go for traditional land-use practices, despite their willingness to change. Thus, national policies influence the land use systems by influencing institutional arrangements such as credit and marketing facilities, and infrastructure development. It is obvious that empirical evidence of poverty trends and tendencies in relation to land tenure insecurity is strikingly clear in Africa and cause poor agricultural productivity.

Some of evidences to support the findings are observed in Jayne et al. (2002) who estimate that more than 45% of Sub-Saharan Africa's population lives in poverty due to lack of legal land leases that can enable the access of credits. Further evidences are observed in UN DESA (2019) that in sub-Saharan Africa, more than 40 per cent of the population are still living on less than \$1.90 a day and the total number of extremely poor people is significantly higher today than it was two decades ago. Worryingly, the pace of progress in eradicating poverty has notably slowed in recent years. According to UN DESA estimates as of May 2019 the number of people living in extreme poverty has risen in several sub-Saharan African countries, where poverty levels are already very high. These countries include the Democratic Republic of the Congo, Madagascar, Mozambique and Nigeria. Land in urban and rural communities is a means of livelihood and also a source of wealth, tribal identity, social peace, and also source of conflicts in land whose boundary definitions are not clearly set aside.

Determinants of land tenure in Mbozi District

The study identified the determinants for land tenure towards agricultural productivity in Mbozi District. Land tenure is determined by various factors

which eventually influence agricultural productivity. The following five factors determined land tenure on agricultural productivity in Mbozi District.

Influence of cultivation system on land tenure system

Cultivation system is one of the factors which influence land tenure and agricultural productivity in various agrarian societies. In the study area, that is Mbozi District, peasants saw the introduction of new cultivation systems as having a significant influence on land tenure and agricultural productivity in relation to local cultivation system. In the factor of cultivation systems, two items were studied. These were local cultivation systems, and modern or new cultivation system. Among 300 peasants, 90 percent said the adoption of new cultivation systems from local to modern cultivation system influenced land tenure system and only 10 percent said local cultivation system influenced land tenure system.

The adoption of modern cultivation systems had an influence on land tenure system through various ways. Some of them are the increase of new crops, the use of tractors and plough in tilling the land, use of chemical fertilizers and herbicides. These were more likely to provide the room for peasants to increase the size of their farms in private and statutory form of occupancy more compared to when they could use local cultivation methods notably hand hoe, ashes as fertilizers, and so forth. One of the peasant key informants at Mlowo said:

The introduction of new cultivation system which needs fund to purchase implements forced peasants with land lease to request financial assistance from various banks like CRDB which was unlikely to those who owned land without formal documentation. Such benefits of having land lease has been slightly forcing other peasants to own land by statutory land tenure system (Key Informant/Mlowo urban centre/November, 2018).

It is very correctly that any financial institutions do not offer fund without any legal property ownership unless it proves a physical existence of things like quality house(s) of which many peasants especially in the rural their houses did not meet the quality to the extent of being offered loan for increasing arable land and buying agricultural implements. Such situation raised productivity differences between those who owned arable land legally and those with customary land occupancy. These findings are similar to those observed in Swaziland by Dlamini and Masuku (2011) that improvement in food production systems is associated with the changes of dualistic patterns of the land tenure system from traditional tenure system and cultivation to modern cultivation systems which is linked to changes of land tenure systems from customary to statutory land tenure system.

In addition, the cultivation systems and the size of arable land which were cultivated by land occupancy through permanent land occupancy or through land renting differed between one peasant and another. Such differences of cultivation and size of arable land led to differences in agricultural productivity. In local cultivation systems, peasants who persisted using traditional farming systems due to various factors including shortage of fund their main tools were hand hoes, machete, slashers etc. which actually led to cultivation of small size of land eventually low agricultural productivity. On the other side, those who adopted new farming systems of which some were using tractors, ploughs and modern and treated seeds like “HYSUN”, “RECORDS” and “KENYA FEDHA” kinds of sun flower, chemical fertilizers, herbicides, attending trainings about farming and were eager to get farming networks about market, price of implements and knowing the crop whose market will profit them. Thus, the probability of cultivating large farms and harvest high productivity was higher to those who adopted new farming technologies than those who persisted using local farming technologies. The adoption of modern farming systems like tractors enabled peasants to cultivate large size of a farm within a single cultivation season whereas peasants who continued using local tools such as hand hoes were able to cultivate small farm within a season. Likewise the use of modern and treated seeds influenced high productivity which in one way or another encouraged the ownership of more land for the purpose of profit maximization among peasants.

Contribution of capacity building on land use and tenure system

In the study area, capacity building are efforts that make an efficiency use of land and raises agricultural productivity (Mabaya, et al., 2010). Respondents were asked to state whether or not there are such agencies who influenced land use and tenure system. The findings are presented in Figure 3.

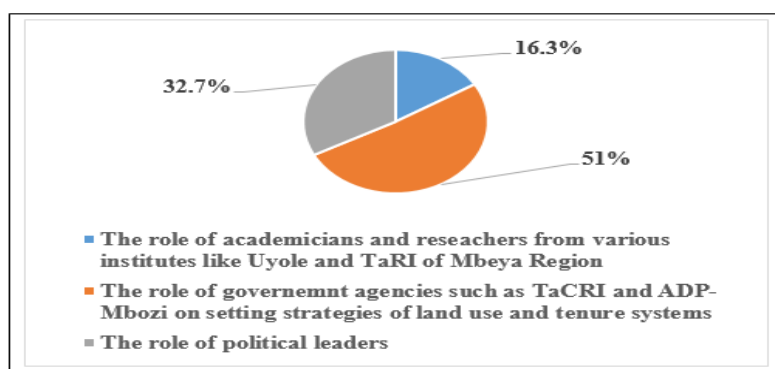


Figure 3: The contribution of capacity building on land use and tenure system (n = 300)

The findings in Figure 3 indicate that 153 (51.0%) respondents said that different agencies like Tanzania Coffee Research Institute (TaCRI) influence land use and tenure systems by setting strategies of land use and security systems among peasants but also TaCRI is doing several researches and it is doing ten year research for evaluation of farmers in Mbozi District. Other agro-dealers who also contributed to land tenure by collaborating with the government were Action for Development Program (ADP) and Tanzania Chamber of Commerce, Industries and Agriculture (TCCIA) of Mbozi. Moreover, 98 (32.7%) respondents said political leaders influence land tenure due to their efforts of insisting each peasant to own plot(s) of arable land for agricultural productivity in order to control hunger and famine. Furthermore, 49 (16.3%) respondents said the academicians and researchers from various institutes like Uyole and TaRI of Mbeya Region also contribute to improvement of land use and tenure systems. It was stated by one of the peasants at Mponela Village that:

There are different agencies who are playing a varied roles related to building capacity to peasants for the purpose of better land use and transforming their tenure systems from customary to statutory land tenure system so as to be trusted by various stakeholders including banks and agricultural implements providers regarding to how large arable land a peasant owns and which amount of agricultural implements like chemical fertilizers he/she deserves to be given (Key Informant/Mponela Village/November, 2018).

It was obvious that the trainings delivered by the government, political leaders, academicians and researchers from Tanzania Coffee Research Institute (TaCRI), advice and guidance influenced land use and production systems among peasants in the district which in turn raised the awareness of peasants about legal land occupancy. These agencies played different roles including training peasants on proper seasons of production in relation to kinds of crops, providing agricultural implements and ways to use such implements, linking peasants with agro-dealers and the like. Such influences from agencies modernised peasants in the point of changing from customary to statutory land tenure systems in order for them to be able to request loans and address various requests officially through various cooperation such as Agricultural Marketing Cooperative Union (AMCOS) which preferred peasants with legal land occupancy for membership.

Through capacity building peasants got enough knowledge about the occupancy and use of arable land and boundary definition in order to avoid land conflicts, the use of chemical fertilizers, the adoption of modern seeds and the importance of growing cash crops like coffee. Other aspects that peasants benefited from capacity builders were skills about land rights. Also the village government land council and committee ensured the legal land transaction and legal boundary

verification in order to ensure peace and harmony among peasants; and the management and adjudication of doubts and disputes regarding rights and parcel or plot boundaries, in this regard peasants were insisted not to use informal boundary verification which involved channels or planting trees or banana alongside, but rather opt for authorised bench marks of which some were using them.

Moreover, trainings increased the awareness of peasants on value of arable land. Since some peasants especially in the rural areas were not considering land as one of financially valuable resources which can be transferred into financial resource, training was being conducted by some agencies like TaCRI in order to make those peasants aware. The institute was training not only peasants of Mbozi District but also peasants from other regions such as Katavi, Rukwa, Songwe and Mbeya regions. Thus there needs to add more workers so that to insist better land tenure issues and influence agricultural productivity. More so, TaCRI officials have been working smoothly due to their link with other nations. Its staff have been attending various international meetings in order to make sure that local peasants gain better skills related to land use, tenure systems, production systems and agricultural productivity of which all these intended to transform from subsistence to more commercialised farming systems and agro-business farming systems in order to raise the quality of products that can fit the world market. Such capacity building initiatives has increased and changed the systems of land use and tenure by reducing the rate of customary land occupancy and increasing agricultural productivity among peasants in Mbozi District.

Perceptions over population increase on land tenure system

The population of Mbozi District is not static rather dynamic with time and place. This study examined the perceptions of peasants about the influence of population on land tenure system and agricultural productivity. Population increase influenced peasants to see the need for arable land for different reasons such as the need for food to feed the increased population. The respondents had different views about the influence of population increase on land tenure system and how that affects agricultural productivity (Figure 4).

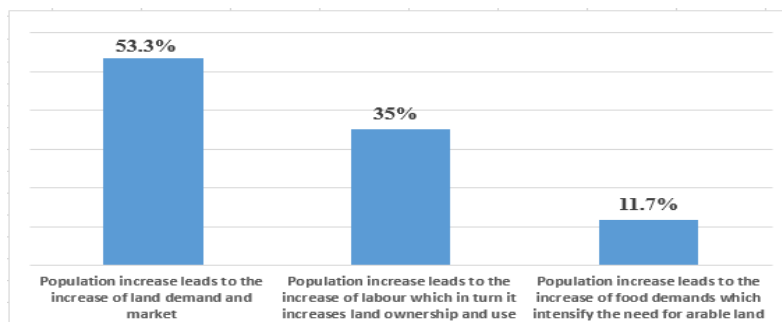


Figure 4: Perceptions over the population increase on land tenure system (n = 300)

The responses in Figure 4 about the influence of population increase on land tenure system indicate that 160 (53.3%) respondents with different demographic characteristics said population increase leads to the increase of land demand and market. On the same, 105 (35%) respondents viewed that population increase leads to the increase of labour which in turn increases land ownership and use whereas 35 (11.7%) viewed population increase as leading to the increase of food demand which intensify the need for arable land. Such increase of land demand had great influence to the transition from customary to statutory occupancy though the extent of transition was still very low during this study. In an interview conducted at Ndolezi Village regarding the influence of population increase on land tenure system, one of the participants stated that

population increase has multiple contributions on land tenure and agricultural productivity, it leads to the increase of land demand and agricultural productivity because in-migrants increase population density, increase market of some crops which therefore increase the demand for arable land in legal basis. It also increases labour power on agriculture production and introduce modern cultivation systems which phase out the traditional cultivation and tenure systems by shifting to modern tenure and cultivation systems. In our village, many in-migrants are coming from Ileje District because of its less fertile land to Mbozi District for the purpose of occupying fertile land. The need trend of land demand in Ileje district is lower due to many ups and downs and grits, thus it is not much suitable for agricultural production as compared to that of Mbozi district(Key Informant/Ndolezi Village/November, 2018).

The findings of this study concur with Boserupian optimism theory anticipated by Boserup (1965), whose suppositions indicate that the growing population increases population density. Such increase leads to intensive land demand or scarcity of land for agricultural production such situation changes land tenure systems particularly from traditional to statutory land tenure system. So far the increased population increases labour force in various places and markets of

goods including agricultural products though these major changes in case of Mbozi District had happened more in urban areas than rural areas. Similarly, these results concurs with that of Malthusian pessimism population theory proposed by Malthus (1798) who projected the events of scarcity of natural resources including arable land being the results of growing population. Such scarcity may change even the systems of occupancy from public to private land tenure systems. Generally, the increase in population which increases the rate of innovations, advancement of farming technology and the increase of market of agricultural products has significance influence of land tenure system.

Effects of in-migrants on land tenure system

This study also examined perceptions of peasants about the role of migration on land tenure systems and agricultural productivity. It was found that 64.3 percent of the total respondents affirmed that migration in Mbozi District through the coming of various tribes influenced land tenure systems by the introduction of new crops, new cultivation systems, agro-business skills and changing from subsistence to agribusiness farming systems which also changed the systems of land occupancy from small to large size of land demand.

Moreover, the influx of various tribes such as the Ndali from Ileje, Nyakyusa from Mbeya particularly Rungwe and Kyela district, Kinga from Makete, Safwa from Mbeya urban and the rest brought different land use systems which been slightly changing land tenure systems from traditional land occupancy to statutory land tenure systems which could add more bond for requesting loans in various financial institutions like banks. Additionally, 35.7 percent of the respondents said migration through the coming of war veterans influenced land tenure by increasing cash crops production. These observations are similar to Todaro (1984) and Lesire (2001) who also observed similar results during colonial and pre-colonial times. Their observation indicated that in-migrants and war veterans who moved as labour in plantation farms, after the end of colonial period, opted to continue living by depending on land for agricultural productivity which increased the pressure on land and changes of cultivation systems.

In studying migration as a factor for land tenure eventually agricultural productivity, the researcher asked whether or not it influences the systems of land occupancy and agricultural productivity. One of the views is reported below:

In-migration has led to population growth which results to high demand for arable land for agricultural production in order to suffice the existing population, in-migrants have also led to new farming technologies which are unlike to those which were applied during various slogans such as “kilimo ni uti wa mgongo” [agriculture is a backbone], “kilimo ni uhai”

[agriculture is life] and “kilimo cha kufa na kupona” [agriculture as a matter of life and death]. In this regard, despite the presence of agricultural unions like Tanganyika Association Union in Mbozi District, peasants are still in insolation which becomes difficult to mobilise them to adopt new agricultural technologies brought by in-migrants. That is why you will find many in-migrants have modern farming systems than indigenous especially in the rural (Key Informant/Ihanda Village/November, 2018).

So far, the intensive in-migration of various ethnic groups like the Nyakyusa, Ndali, Sangu and Kinga from Rungwe, and Ileje made the district to adapt different land tenure systems which to some extent affected land and agricultural productivity due to the increase of population. Similar results were observed by Chachage (2010) and Hall (1945) who observed the land acquisition in Tanzania and local migration in Tanganyika respectively.

The role of land leasing on land tenure system

The type of land lease is one of the factors which determine land tenure system in agrarian societies. In this study, various ways in which land lease influenced land tenure system and agricultural productivity were studied. The results are presented in Figure 5.



Figure 5: The role of Land leasing on land tenure system (n = 300)

The data based on the perceptions of peasants in Figure 5 show that 130 (43.3%) respondents said cash lease is applicable during land purchase, selling and renting, 103 (34.3%) respondents viewed that short term land lease is preferable in renting than to purchasing, 37 (12.3%) were of the opinion that long-term land lease has been applicable in selling and purchasing land and the rest 30 (10%) respondents said crop share lease influences land tenure system among indigenous peasants. The findings in Figure 5 indicate that many peasants preferred cash lease in order to occupy arable land rather than using and occupying temporarily. An interview conducted at Matula also provided the same findings with those in questionnaires:

Those with money are the ones who can get long term land lease for the formalized land tenure and be able to decide on land use, though the formalized land lease is costly because the minimum cost for a lease of one acre is not less than 400,000 Tshs (equivalent to 173.31 USD) in a very rural area. Moreover, there are other costs like transport costs from the farm to district offices (Bomani), the cost for witnesses, the cost for boundary verification and annual fee which ensure the occupancy (Key Informant/Mbozi Village/Matula/December, 2018).

In the study area, many peasants had no legal or formalised land lease rather traditional land lease were common to many peasants especially in rural areas. Some were often renters, sharecroppers, or simply squatters whose side effects were the displacement and lacking decision over the selection of crop to be cultivated affected productivity. For example many renters were unable to cultivate long term crops like coffee, avocados and banana due to lack of an elongated and strong ties on arable land ownership. Such complications forced some peasants to adopt a more formalised and legal land lease and avoiding renting arable land by preferring land occupancy by purchasing system. The problem toward the mode of ownership was the lack of awareness on the importance of legal lease and financial problems which limited peasants to make follow-up of more formalised land lease to land authority at the district council and land surveying companies. That is why up to the time of this study many peasants were still to relying on traditional land lease which had no value and were not officially recognised in some macro financial institutions where a peasant could get grants or loans.

In all the case of Mbozi District which is found in the Southern Highlands of Tanzania where various changes of land tenure happened and in turn influences agricultural productivity. For instance, the creation of a large scale plantations during the colonial period due to the need of raw materials to feed the metropolitan industries, changes in land tenure system due to influx of different tribes, war veterans and technology a few to mention have greatly influenced agricultural productivity in different ways. For example, one of the key respondent at Ihanda Village had this to say:

The resettlement of 2nd World War British Veterans led to a change in the patterns of land tenure leading to a change in agricultural productivity. The introduction of coffee as a cash crop in the district in the 1950s made local people revert to perennial crops and avoid labour migration to the mines in Tanganyika, South Africa and Zambia (Key Informant, Mbozi Village -Ihanda: December, 2018).

Such changes have brought tremendous changes in agricultural productivity up to the time of this study. The same observation was also revealed by Mulungu

and Myeya, (2018) who studied the in-migrants from Ileje to Mbozi district and their survival strategies in the district that one of the survival strategy was farming which of course led to high land demand and changes of tenure systems from customary to statutory especially in the urban areas. Generally, all these changes in land use and tenure systems in Mbozi District have influenced differently the agricultural productivity, land and crop marketing systems between rural and urban areas.

Based on the study results, the appraisal of the theory indicates the theories to be applicable in the district. For example, the study found the utilitarian theory to be useful throughout the findings. The theory explains about the property rights of using and occupying resources like land. This contributed to the exploration of various kinds of land leases and the manner or modality of land acquisition. As a whole the theory insists that land is a state property as it is directed in the National Land policy of 1995 and the land acts of 1999 which include the Land Act Number 4 and Village Land Act Number 5. Similarly, during this study the village land committees and councils, district councils through land and agricultural department and the respective ministry were in charge of all issues of land tenure and agricultural productivity. Additionally, the theory was useful for this study especially during the process of formulating, examining and evaluation of intervention measures for land tenure on agricultural productivity. But the theory lacks the directly statements about the extent to which legal and state policies should guide the use of land resource rather it focused generally on resources.

Conclusion and recommendations

Based on the qualitative and quantitative results from the respondents with different characteristics, there are dual land tenure systems in Mbozi District. Both customary and statutory land tenure systems existed in the district. Among those two major systems of land tenure, the data revealed that customary land tenure was dominant because many peasants were owning land by traditional ways particularly in rural areas.

So far, the study found that land tenure influenced agricultural productivity though the inclusion of other factors such as migration, the increase of peasants who own arable land, the manner and time in which land is owned, availability of fertile land, financial support from stakeholders, new knowledge and technology, the diffusion of culture, population pressure, connectivity and contract farming. For instance, the influx of in-migrants in Mbozi District affected land tenure eventually agricultural production by increasing the pressure on land tenure, introduction of new cultivation systems like multi cropping and introduction of new crops like coffee, avocados, some sweet potatoes like “shangazi” species and the like.

Furthermore, the study examined the factors influencing land tenure system based on different views from peasants. The results indicated that new cultivation systems was one of factors which influenced land tenure. Many peasants adopted the new cultivation systems which involved the use of chemical fertilizers, mechanized agriculture, agro chemicals, the use of hybrid and treated crops of coffee, maize, avocados and sunflower as well as crop rotation. Also, peasants adopted new farming technologies and skills which increased agricultural productivity even to peasants who were occupying small plots of land. Other factors that influenced land tenure eventually agricultural productivity are capacity building and modality of land acquisition and kinds of lease. For example the persistence of land inheritance made customary land tenure to be more dominant than statutory.

The study recommends that the government through its authorities like the ministry of land and agriculture should encourage various stakeholders like TaCRI to underwrite security of land tenure for peasants to adopt during capacity building. Such land security system needed for equitable and efficient land administration and, where necessary, intervening in the land market to make tenure changes related to land distribution among smallholder peasants and pastoralists is of important.

Additionally, land tenure and agricultural policy reforms that have been developed or need to be developed should be more participatory and comprehensive in scope, and should generally affirm more rights for individual citizens and fewer rights for the State. This will provide a chance for agricultural smallholders to maximize their agricultural productivity by widening their farm sizes and getting agricultural implements on time according to respective growing seasons.

So far, policies, laws and regulations that guide land tenure and agricultural production should be re-set based on recent changes that influences land tenure in order to effect agricultural sector and land tenure and use in Tanzania by focussing the aims of each agricultural board and bring them together as the agricultural pillar of the country. It should be noted that since the land policy of 1995 up to 2020 it is twenty five years in such a way that it so long and it cannot suffice the recent requirements. In addition to that, since the concentration of this study was on crop productivity as the results show then further studies are recommended to research on livestock sector in Mbozi District.

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