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Land Tenure Security on Tanzanian Agricultural performance – A Case of Banana Based Farming System in Bukoba

Amos Mwijage

Faculty of Science and Technology, Teofilo Kisanji University, P.O. Box 1104, Mbeya, United Republic of Tanzania.

Correspondence: amwijage@yahoo.com

Abstract

This paper reviews scholarly literature on impacts of accessibility to communal land and tenure security to productivity of the farming system. The article focused on the structure of the farming system in which land use units are interrelated to each other for agricultural performance of the entire system. We observe that land registration and institutional imposed policy measures for land uses may lead to uneven distribution of benefits to farmers if the historical perspective of a farming system in question is ignored. The article argues that any land tenure reform is unlikely to succeed if it is founded on inadequate information or based upon inaccurate assumptions about actual rural, agricultural, and tenure conditions for a particular farming system. Before any policy formulation, adequate research is necessary, and research should be maintained at the implementation and evaluation stages to permit proper monitoring of outcome including important role of particular local traditions for sustainable development. Finally the paper suggests that more research on tenure security and farm productivity while putting into consideration of local tenure arrangements is needed.

Keywords: Land tenure security; Farming system; Agricultural productivity

1. Introduction

Despite the fact that sub-Saharan Africa (SSA) is relatively well-endowed with natural resources, the regional has the lowest land and labour productivity in the world (IFPRI, 2016; Mwangi, 1997). While the population growth rate is among the highest in the world with average of 3 percent per year, the annual increase in food production is only 2 percent (UNDP, 2012; Breman & Debrah, 2003). The major challenging task therefore is to promote a balanced and efficient use of natural resources including land and its resources at farm and community levels in order to intensify agriculture production in a sustainable manner.

Bukoba is one of five Districts of Kagera Region in northwest Tanzania with a typical East Africa highland banana-coffee-based farming system, considered as one of highly intensive system in SSA. Smallholder farmers in the district make about 85% of the population living in rural areas (Mwijage, Gimbi & Nyomora, 2016). Farmers divides their land use into three main functional land-use types (LUT) namely (for convenience) in local parlance as (i) Kibanja, (ii) Kikamba, (iii) Rweya, (Figure 1). Here, a land use type is defined not only as the actual cover of the land with vegetation, but also the functional use of land and the social values attached to different uses. This explorative analysis was to provide an understanding on the role of land tenure

system on productivity of banana-coffee-based farming system in relation to the use of common property resources in this case, the Rweya.

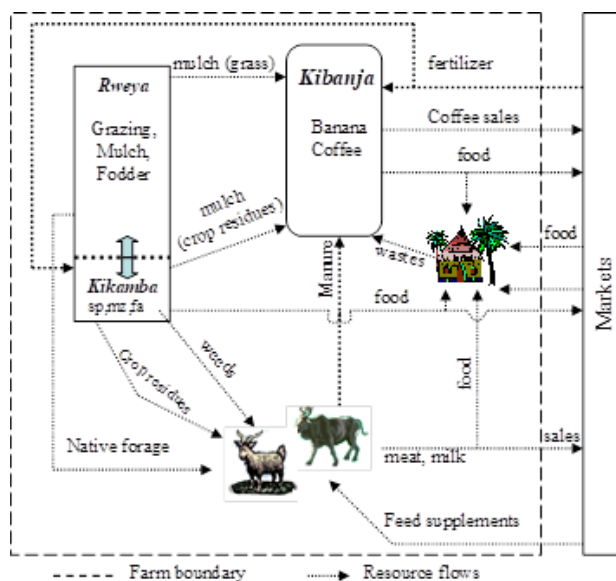


Figure 1: Hypothetical model showing relationship between three main land use types existing in the

coffee-banana-based farming system in Bukoba. The three LUT have traditionally different tenure arrangements. The model represents a typical virtual farm of the smallholder farmer in the system and nutrient flow between land use types. Key: Sp = sweet potato; mz = maize; fa = fallow.

2.1 Hypothetical Model

The Kibanja (approximately 28% of land cover) is a home garden, dominated by banana and Coffee (Coffee canephora) with mixed-crops. The Kikamba (approximately 7% of land cover) is intrinsically a piece of land adjacent to the Kibanja with relatively low fertility status, dominated by seasonal crops such as maize, sweet potato, cassava and yams. The Rweya (approximately 25% of land cover) is basically for cattle grazing and is located between villages mainly with shallow rock outcrops or steep slope gradients with deep-rooted grass species, few trees and shrubs (Mwijage, 2015: 11). In recent years, this LUT is encroached by pine tree plantation under different tenure arrangements.

With time and increasing population pressure, changes in socioeconomic developments, economic policies under different political regimes, altogether have forced changes of land tenure arrangements of the three LUT in relation to right of access and use of the Rweya. Consequently, the productivity of the farming system is currently under threat.

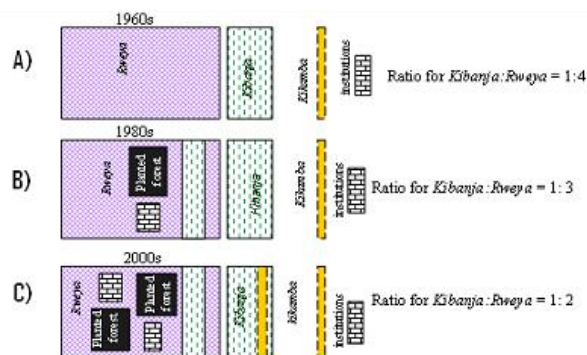


Figure 2: Conceptual model representing uniqueness of land use types in Bukoba District as perceived by the author over interval of 50 years period. Key: **A)** In 1960s, the ratio between the Kibanja to Rweya was estimated at approximately 1:4 considered as adequate; **B)** By 1980s, substantial area of the Rweya had been planted by state forests and some encroached by institutions; **C)** In 2000s, a significant area of the Rweya was privatized or grabbed by individuals who establish pine trees plantations, build institutions and Kibanja expansion thus reduced the ratio to about 1:2, considered as inadequate for sustaining the productivity of the Kibanja. (Source: Mwijage, 2015 “Role of Grassland in Sustainable Improvement of Land Productivity in Bukoba District, Tanzania” PhD Thesis.Pdf).

Apparently there is rapid decrease of land cover area under Rweya due to rapid population growth and changes in tenure arrangements. The Rweya has been fundamental for system sustainability being basis of organic inputs to farmers that has sustained the system for many generations. Basing on the above background information, this paper argues that any land tenure reforms is unlikely to succeed if it is founded on inadequate information or based upon inaccurate assumptions about actual rural, agricultural, and tenure conditions for a particular farming system. In order to defend the stated argument, the article discusses the following aspects: Hypothetical Model, Availability and access to common land resources in Bukoba, Traditional land tenure systems, historical perspective, Land policies and tenure security, Changes in means of land acquisition, Tenure security and agricultural performance, and a conclusion

2.2 Availability and Access to Common Land Resources

Accessibility and availability of common land resources is currently limited to a small number of farmers until appropriate programs and policies are put in place. This has significant impacts on land productivity to smallholder farmers in the system (Fischer, Hizznyik, Prieler & Wiberg, 2012). Consequently, crop yields fall short of their potential because of inadequate nutrient inputs.

The fundamental uses of the Rweya is for grazing and therefore source of manure, it is also a source of mulch for perennial crop fields and provide area for shifting cultivation of annual crops. This LUT has been a support especially for landless and households with inadequate land. The average area under Kibanja per household which is primarily for food security in the household has equally decreased over the last 50 years following population density due to expansion of farming families. Livestock management is gradually changing from free grazing system in the Rweya (communal land) to labour and capital intensive system that involve cut and carry under zero grazing system. Socioeconomic and policy changes in the country might have contributed to noted changes in traditional land tenure relations resulting to some households missing manure and other organic materials such as mulch for the Kibanja.

2.3 Traditional Land Tenure Systems

Land tenure revolves around issues of governance, as the regulation of the access to land as well as its use defines a tenure system. Despite unprecedented thinking on transformation of customary land rights by non-customary tenure and legislation provisions, customary tenure systems not only persists, but also is still by far the majority form of tenure in entire sub-Saharan Africa (Mwijage, Nyomora & Gimbi, 2016). None of the strategies adopted to ignore it have been successful in most Sub-Saharan African countries where in many cases, lands are vested in presidents and states. Thus, the tenure debate often becomes focused on the failure of central government to enforce legislation or to recognize particular local tenure arrangements, or on the need for government to implement tenure change policies. Land tenure arrangements tend to be seen as mutually exclusive, and ordered along a linear development path, and often

discussed without an appreciation of the local land use practices.

Historically, Bukoba farming system evolved in response to population increase. Natural causes intensified the competition between different land users as has been aggravated by government policies favouring new land uses and private ownership and control of common land resources. The state's policies disregarded the structure of the Bukoba farming system and, especially, the importance of what is considered to be 'unoccupied' common Rweya lands. The unprecedented tenure changes have been a predecessor to fundamental ecological imbalance among the key land use elements of the dominant farming system thus undermining smallholder agricultural productivity (Mwijage, 2015).

2.4 Historical perspective

In Bukoba, seasonal crop cultivation and cattle grazing was done in communally owned land (Rweya) and was

accessible equally by all community members and was centrally regulated (Mwijage, Nyomora & Gimbi, 2016). To do this, villagers would appoint a person known as 'mkondo', who was responsible for selecting grazing sites, supervising cattle herders, monitoring livestock and isolating diseased animals (Lorkeers & Baijukya, 1996). Such centralized control suggests that, despite its poor soil fertility, Rweya land was valued for its capacity to sustain the cattle, as well as very important asset in concentrating nutrients from the Rweya via manure and mulch for the Kibanja.

Individual families enjoyed fairly clearly-defined spatial and temporal use rights of common lands. Such family rights were passed on to succeeding generations, ordinarily by non-divisible clan-based inheritance with communal access to resources. Since land was relatively abundant and population density was low, fallow periods were long. Boundaries were poorly defined and hardly contested. Unlike the Kibanja, the Rweya lands were controlled by clans, rather than family households (Mwijage et al., 2011).

Table 1: Changes in the means of acquisition of land by households (per cent) in the high rainfall zone of Bukoba district, Tanzania, in 1965 and 2005

Means of access to land	1965 (N=53)		2005 (N=74)	
	<i>Kibanja</i>	<i>Rweya*</i>	<i>Kibanja</i>	<i>Rweya</i>
Inheritance	30		74	39
Purchase	13		12	24
Gift from relative	13		0	0
Tenant by acceptance from landholder	13		0	0
Tenant by inheritance	13		0	0
Contract tenant from landholder	8		0	0
Gift from the chief	6		0	0
Gift from landholder	2		0	0
Part inherited, part purchased	2		14	4
Allocation by village government	0		0	4
Renting	0		0	11
Do not have	0		0	18

*Means of access not measured. All households had, by custom, access to the common lands. (The data are from "Land tenure change and productivity of farming system in Bukoba district, Tanzania: Implication of population pressure and economic policies" by Mwijage A.N., de Ridder, N., Andersson, J., Baijukya, F., Pacini, C. & Giller, K. (2011). *Journal of African Studies and Development*, 3(3), (33-44).

2.5 Land Policies and Tenure Security

Historically, people's access to land and other natural resources depended on their membership to the village community. Neither the state nor the market channelled the distribution of common land in terms of use rights. The period of 1970s onwards, the customary land tenure arrangements have been increasingly undermined by socio-political and ideology changes influenced by macroeconomic policies. For Tanzania government, the customary tenure system were condemned as not only inefficient, but also were blamed of being potential catalyst to capitalistic class formation if allowed to evolve on their own (Nyerere, 1967). For example, in his article titled -The Basis of African Socialism), president Julius Nyerere (1962:5) explicitly states:

"The TANU government must go back to the traditional African custom of land holding. That is to say, a member of society

will be entitled to a piece of land on condition that he uses it. Unconditional or freehold ownership of land (which leads to speculation and parasitism) must be abolished".

2.6 Changes in Means of Land Acquisition

Access to land in contemporary Bukoba can take several forms. Although inheritance was already the dominant means of access to land in 1960s, there were also other means, such as purchase, gifts from the chief or relatives, and renting. However, land acquisition by inheritance to young farmers seems dominant (Table 1). Other means of access, such as the allocation by village government, leasing, renting, seems to be disappearing with time. Land purchase of Kibanja land is still important, as it already was in the 1960s (Mwijage et al., 2011). A significant change is observed for Rweya land especially after had gained the market value as is now sold to and controlled individually rather communal access.

In the late 1980s, public discontent with the government's land policies triggered the formulation of a new policy in line with the liberalized market economy. In 1991, President Ali H. Mwinyi appointed a commission of inquiry into land matters, mandated to review laws and policies and to make recommendations to the government for necessary reforms. Following the land commission's report, the National Land Policy (NLP) was formulated in 1995 (Shivji, 1996), and this was followed by the Village Land Act of 1999. The policy recognizes a dual system of tenure i.e. the customary and statutory rights of occupancy and supports household farming through decentralized land administration at village level. Under NLP, individual title deeds are supposed to be issued by the village government for a piece of land they occupy after a formal application to the village council, whereupon the applicant is supposed to pay a fee. The title deed granted under this procedure is regarded to have equal status to that granted by the commissioner of lands who is responsible for issuing land titles in Tanzania. The aim of this provision in the law was to provide peasant farmers with tenure security so that their land could be used as collateral in financial institutions. However, the impact of such provisions in the new land policy on tenure arrangements was limited. Apparently, tenure arrangements for Kibanja land are not regarded as insecure by the farmers, which contrast with the tenure arrangements pertaining to the Rweya land.

At village level, rural land grabbers are rewarded with strong, non-formal, individualized land rights, particularly in the Rweya. In most cases planting pines and eucalyptus trees is done as ways to legalize the ownership of land in the Rweya, thus imposing restrictions for access by cattle grazers and grass cutters. Hence, contrary to conventional argument that privatization of common land could potentially benefit the entire community (Lesorogol, 2005). In fact, for Bukoba these changes have induced unfair land distribution which particularly benefits local elites. Although the NLP recognizes "communal village land", and requires that any allocation to individuals must be blessed by the village assembly, in practice this rarely happens. Lacks of awareness of official policy documents and/or deliberate negligence by local actors are often the cause of communal land grabbing in rural areas. Not surprisingly then, land conflicts are on the rise in relation to ownership, access and use of Rweya areas.

With respect to open grassland resources to which Rweya belong, there is neither deliberate protection nor legal restriction regarding the use of these resources. Although Tanzania's 1997 land policy recognizes so-called "sensitive areas", such as beaches and national parks, it says little on communal grassland, which is merely classified as "general land". The general tendency for (local) authorities is to allocate large amounts of this land, considered to be vacant, to investors. Thus, the role of these lands in the farming system is neglected, in the name of "public interest".

As argued above, the neo-liberal era promoted policies that disregards the traditional land tenure arrangements since are often perceived to be impediments to private investment in agricultural productivity (Sutherland, 2000). There is, however, substantial historical evidence that contradicts this perception. For example, the introduction and adoption of commercial crops such as coffee, cocoa, oil palm, and coconut during colonial times whose integration into the communal African tenure systems proved for flexibility of indigenous land tenure arrangements. This counters the view

that communal tenure arrangements are incompatible with agricultural intensification. Moreover, the inherent tenure complexity as regard to Rweya land and use in Bukoba brings distinctive tenure relations with another land use types.

2.7 Tenure Security and Agricultural Performance

Agricultural performance can be conceptualized in two dimensions: (1) productivity and investment impacts; and (2) Environmental sustainability through positive nutrient balances in the agrarian system. Greater tenure security increases the likelihood that the operator will capture the returns from investments. Secondly, increased tenure security is likely to reduce the incidence of disputes among community members and according to Roth & Haase, (1998), should there be viable technologies, access to inputs and extension advice, and the availability of household labor and financial resources, enhanced tenure security will lead to higher investment and improved agricultural performance.

For the case of Bukoba farming system, nutrient balances for selected important soil nutrients particularly N, P, K, Ca, Mg, and S in the Kibanja, that are often managed without adequate organic farm inputs (manure and mulch) were reported negative (Mwijage et al, 2016). Organic materials that are vital in Kibanja management are often obtained from communal lands the Rweya. Estimated yield for selected crops per unit area for 50 years interval between 1960's and 2000's indicate decline a significant decline (Figure 3). The reported negative nutrient balances for most important soil nutrients entails threats to sustainability of the system.

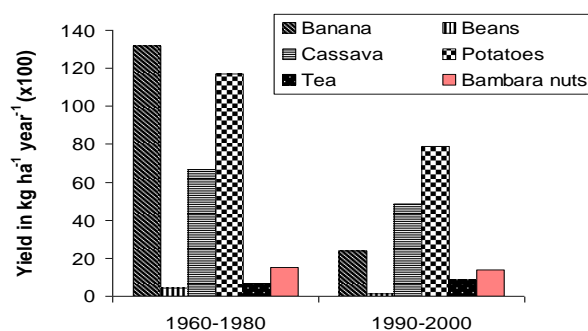


Figure 3: Estimated productivity per unit area for selected crops grown in different LUT in Bukoba in an interval of 50 years. Banana and beans are often grown in the Kibanja; whereas cassava, tea and bambara nuts are grown in the Rweya. Sweet potatoes are grown in the Kikamba (Source: Mwijage et al, 2009).

During such period, a significant portion of communal land has been grabbed by economically powerful individuals and the government through establishment of institutions and some commercial plantations. Government acquisition of some communal land for other private uses has accelerated land degradation. (Shivji, 1996)

Communal property rights for grazing are, in most cases efficient and sustainable. While conducting a comparative study in Malawi, Seubert (1989) found that state owned farms in communal lands are not sustainable especially because of soil erosion, and farms under customary tenure

arrangement are diverse and protective to the environment. Tenure reform policies that aim at increasing the productivity should therefore be encouraged but has to take into account of the structure of the existing farming system, which ultimately shapes the productive use of the land.

Farmers with livestock get access to manure which have maintained productive Kibanja for a long time and only about 15% of farmers own cattle in this farming system in recent years (Mwijage et al., 2009). This means 85% of farms are maintained without manure. There are no inorganic fertilizers available in the market for use in the Kibanja. Often, only mulch grasses from the Rweya with low nutrient value are applied. Although most farmers depend on initial quality of the soil, which apparently explains the inherent variations in Kibanja productivity, without external inputs, nutrient deficiencies will continue to hamper the productivity in the system.

3. Conclusion

This article defended the thesis that any land tenure reform is unlikely to succeed if it is founded on inadequate information or based upon inaccurate assumptions about actual rural, agricultural, and tenure conditions for a particular farming system. Assessing local realities and locally-set institutions is crucial when seeking to understand the effects of land registration on agricultural productivity.

In literature, there is contradicting arguments concerning established effects of land registration and agricultural productivity. Land titles or other legal related papers may be helping individuals to obtain loans from banks, using land as collateral, and to invest in agriculture. On the other hand, land certification may have contributed to increased tenure insecurity to other majority poor farmers, with possible negative consequences on agricultural productivity.

In most studies, land registration is mentioned as affecting land tenure security, but studies that deal directly with the relations between land registration and agricultural productivity are scanty. Factors besides land titles that are important in tenure security must be identified because land registration is not simply a legal paper, but rather complex social phenomena. Therefore, social-economic relations that have existed in particular system must be taken into account to achieve the desired results.

Any land tenure reforms is unlikely to succeed if it is founded on inadequate information or based upon inaccurate assumptions about actual rural, agricultural, and tenure conditions for a particular farming system. It is suggested that, adequate research prior to policy formulation is necessary, and research should be maintained at the implementation and evaluation stages to permit proper monitoring of outcome of the important role of particular local traditions for sustainable development.

According to Tanzania Village Land Act, the maximum limit is set at 20 ha per person residing in a village, yet there is no legal minimum limit of land holdings under Tanzanian land law. Given that population density is increasing rapidly in Bukoba, as in other regions of Tanzania, land fragmentation or landlessness is increasing. Hence, measures to encourage out-migration to places where land pressure is less and to

provide alternative employment outside agriculture are needed.

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Conflicts of Interest

Author declares that there are no conflicts of interest that may arise regarding the publication of this article.

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Authors' Biographies



Amos Mwijage began his career as an agricultural researcher in the Ministry of Agriculture and Cooperatives later; he worked as development practitioner before becoming an academician for over 20 years now. Before he started research career, Amos got a graduate degree in Agriculture from Sokoine University of Agriculture (SUA). After that, just to shake things up, he went for MSc. in Pest Management at Imperial College of the University of London. After he graduated, Amos resumed research in Agriculture before becoming a rural development worker for three years. In the year 2000, Amos joined academia cum researcher and since then, he has held various academic positions at various universities. He earned his Ph.D. in Production Ecology and Resources Conservation over six years now. He is currently a senior lecturer at Teofilo Kisanji University where he heads the department of Science and Technology. He is the author of several articles in Agriculture and Rural Development.