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Land Tenure Dynamism in Yam Farming in the Atebubu- Amanten District, Ghana

Kwasi Sarfo

Lecturer, Department of Languages and General Studies,
University of Energy and Natural Resources, Sunyani, Ghana

Charity Odumale Roberts

Lecturer, Department of Languages and General Studies,
University of Energy and Natural Resources, Sunyani, Ghana

Abstract:

Land tenure system in Africa has received extensive research coverage. For years the customary tenure system was regarded as contradictions to development. Researchers and donor organisations, particularly the World Bank, pushed this agenda and called for its replacement with a more efficient land tenure regime that would promote exclusive land use right through land title registration. After decades of the failure of the land title registration agenda to achieve the perceived investment in land, there is a shift to recognise the customary land tenure practices as evolving, negotiable, fluid, efficient and capable of promoting investment and development in land. This paper examines the effects of land tenure dynamism on yam farming in the Atebubu- Amanten District of Ghana. The paper situates the land tenure debate within the context of the evolutionary theory of land rights which argues that land tenure is evolving from communal landholding to atomistic family and individual landholding. The paper argues that the transition to the individual land rights affects the farming system based on shifting cultivation and land fallowing as practiced in the study area. The study concludes that there is a relationship between the land tenure system and the system of cultivation. Therefore, any attempt at land tenure reforms geared towards exclusive land use right through individual titling should take into consideration the prevailing farming system.

Keywords: Atebubu-Amanten, communal ownership, Ghana, individual land rights, land tenure, yam farming

1. Introduction

The pressure from population growth emanating from the influx of migrant farmers and the rising birth rate among the inhabitants have altered the demand for land and landed resources in the Atebubu-Amanten District of the Bono East Region of Ghana. In a society where land tenure arrangement was mainly based on communal ownership (Sarfo 2020), recent demand for land has affected this tenure system to the extent that atomised family and individual ownership is fast emerging as land becomes a scarce resources (Amanor and Ubink 2008). Yam farming in the Atebubu area is carried out under the system of shifting cultivation and land fallowing. The hoe and cutlass remain the main farm equipment and the method of land clearance and mounds making has remained intact. As observed by Kasanga (2002: 28), the question of whether the communal land tenure system restricts or reduce agricultural development cannot be adequately answered without reference to the farming system. The system of yam farming in the Atebubu-Amanten District does not easily fit in individual control and privatization of land. This paper seeks to unearth the effect of land tenure dynamism on yam farming in the Atebubu-Amanten District of the Bono East Region of Ghana.

Ghana has experienced several changes in the agricultural sector and in the exploitation of natural resources. The campaign for afforestation and the desire for farmers to cultivate cash crop have increasingly led to the cultivation of tree crops like teak, mango, orange, and cashew nut. These crops, unlike yam, require that land should be in the hands of a farmer for a very long period of time if not permanently. Hence, such lands become alienated from the yam farmers. There are calls for mechanization of agriculture in Ghana where machines and chemicals like pesticides, and fertilizers will be used to enhance agricultural production instead of depending on manual and old-fashioned production system based on cutlass and hoe. As a result, large tracts of land have been brought under intensive and continuous cultivation. The trees on such plots are stumped and such lands because of the intensive nature of cultivation do not allow for longer fallow period that would ensure land regeneration essential for yam cultivation. Consequently, the larger the land converted to mechanized farming, the smaller the land left for yam farming because yam is still cultivated under the traditional system.

The Atebubu-Amanten District is located in the north-eastern transition zone of the newly created Bono East Region of Ghana. The district is characterized by an estimated population of 105,938 inhabitants (GSS 2012). The Atebubu-Amanten District covers an area of about 2,624 square kilometres. It shares boundaries with the Pru West District to the north, the Sene West District to the east, Kintampo South and Nkoranza North Districts to the west, all in the Bono East Region. To the south, it is bounded by two districts in the Ashanti Region namely Ejura Sekyedumase and Sekyere Afram

Plains Districts¹. The vegetation of the study area consists of guinea savannah woodland, characterized by many sparsely distributed small trees and grassland, and transitional environments consisting of mosaics of high forest and savanna woodland vegetation (Amanor 2009:137). The mean annual temperature ranges between 26.5°C and 27.2°C². These conditions give rise to sunny conditions for most part of the year. These characteristics have made the Atebubu-Amanten District an ideal place for yam farming.

1.1. Research Question

This paper seeks to answer the question: How do changes in the land tenure system in the yam producing communities of Atebubu-Amanten District affect yam farming?

2. Literature Review

Farming system is the product of the appraisal by individual farmers of the biological and economic resources at their disposal and the decisions taken by them on what to produce and the technique of production to adopt in the light of resource assessment (Benneh 1973:135). The ecological conditions and the level of technology are useful criterion for classification of farming system in Ghana. The ecology and the level of technology determine the land use patterns, capital inputs, yields, intensity of cultivation and the permanence of rights in cultivated land. Two broad categories of small-scale farming systems have been identified in Ghana. These are the bush fallow system and the permanent tillage (Benneh 1973). According to Benneh (1993), the bush fallow which is the most widespread farming system in Ghana is where a farmer cultivates a piece of land and after two or three seasons abandoned the land for the fallow vegetation to regenerate for its nutrient to be restored. The main characteristics of bush fallow system are easy acquisition of land for cultivation, use of fire for clearing vegetation, dependence on muscle power, use of simple implements for cultivation, and the restoration of fertility of the soil by fallow vegetation (Benneh, 1973:136). The permanent tillage on the other hand is characterised by the application of compost, manure, and fertilizer in restoring soil fertility. In Ghana, yam is cultivated under the system of shifting cultivation and land fallowing (Coursey, 1967 and Acheampong, et al 2019). It is therefore pertinent that to understand the farming system, there is the need to establish the relationship between the farming system and the changing tenurial practices in the Atebubu-Amanten District of Ghana.

The two approaches to land tenure discourse in Africa, the static and the evolutionary theory of land rights are discussed here. According to Platteau (1996), the static interpretation of African land tenure sees the African land tenure practices as 'fundamental disequilibrium which embodies a long tradition' (Platteau 1996:30). He added that communal rights in the sense of general rights to use a resource that fail to include the right to exclude others from using it except by prior and continuing use, generally predominate in traditional societies (Platteau 1992:112). The literature on this discourse presents African land tenure system as historic and a legacy from Africa's pre-colonial period. According to Austin (2005:26), the static argument is premised on the traditional belief that African traditional institutions are precisely traditional, original, and hostile to market forces and individualizing economic activity. In the same direction, Boni (2005) argued that in the Akan areas, the legal or the conservative analyses have stressed the continuity in tenurial regimes and have claimed that land issues have always been addressed according to customary law. He added that this argument is based on an 'idealised modelled and static reconstruction of tradition and on the assumption that customary norms can be written down within the general framework of western legal terminology.' (Boni 2005:7).

The 1975 World Bank land reform was based on the static interpretation (Bassett 1993:4). According to Deininger and Binswanger (1999:4), the World Bank Land Reform Policy Paper of 1975 set out four guiding principles for land reforms. The desirability of owner-operated family farms; the need for market to permit land to be transferred to more productive users; the importance of the egalitarian asset distribution; and the importance of secure rights to land in eliciting efforts and investment and in providing the basis for land transaction. It further argued that 'enhanced individual tenure offers the freedom of action and economic incentive to conserve resources' (Bruce 1993:38). The World Bank and other donor agencies called for the abolition of the customary tenure system in favour of land management that is considered to be more secure forms of individual tenure through the issuance of land title registration (Quan 2000:34). It was further argued that individual holding through land title registration is the main instruments for increasing tenure security, empowering a flourishing land markets and facilitates the use of land as collateral in credit market (Deininger and Binswanger 1999:259). Though, Bassett (1993:5) argued that land tenure reform is the panacea to African's agrarian ills, it ignores critical social dynamics that strongly influence how productive resources are acquired, utilized, contested, and mobilized. Land tenure is conceptualized as a political process and that, in matters of competition for land, people sought to strengthen their access to markets and purchasing power by fostering relation of loyalty and dependance (Berry, 1984; Ubink, 2009).

The static interpretation has been criticised for the idea of permanency embedded in it. According to Berry (1997), this approach portrays African communities and institutions as stable entities whose ability to cope with externally introduced change is rooted in time-honoured habits of resource management and conflict resolution. Platteau (1996) argued that the advocates of the static view ignored or down-played the dynamic potential of indigenous African land tenure partly because they have failed to recognize that private ownership can exist under a general system of corporate ownership. Another criticism is the argument that market transactions cannot be expected to be automatically triggered by the establishment of secure private rights in land. As observed by Hoekema (2009:33), such decisions are based on prevailing pattern of life, the institutions, and the cultural and social set-up of the society. Hence, in areas where

¹<https://www.ghanadistricts.com/Home/District/35>: Retrieved on 21st September, 2020

²Metrological Services Department. Atebubu District Weather Station Report, 2009

extensive land registration has taken place such as in Kenya, subsequent transfers remain unregistered and majority of plots continue to follow the path of customary channels (Hoekema, 2009). The critics of the static interpretation often fault indigenous tenure systems for their reluctance to recognize sales (Bruce 1993). They also assumed that the market would transfer land to those with the capital and skills to utilize it effectively. However, Musembi (2007) argued that 'market in land is understood narrowly to refer to only formal market and that any asset whose economic and social aspects are not fixed in a formal property system is extremely difficult to move it in the market (Musembi 2007:1459). Amanor (1999:85) has indicated that land sales are not alien to the traditional African, and that from the second half of the nineteenth century, Akyem people began selling land to migrants. Hill (1963) argued that in areas where sale, mortgage, and credit long anti- dating the advent of the modern market economy, corporate landowning can serve as a spur to expansionary enterprise. She added that this serves as a form of banking economic resources and often promotes rather than impedes individual economic achievement.

Another aspect of this approach that has resulted in further research is the argument that the individual title registration is a boost to agricultural development. The work of Place and Hazell (1993:10) based on surveys from Ghana, Kenya, and Rwanda has demonstrated that land rights are not found to be a significant factor in determining investments in land improvements, use of inputs, access to credit, or the productivity of land. This argument has been supported by another work by Place and Migot- Adholla (1998) based on evidence from Nyeri and Kakamega in Kenya. They argued that there is no relationship between tenurial practices and agricultural investment, access to credit and agricultural output (Place and Migot-Adholla 1998:372). The importance of these works lies in their call for restraint in the implementation of expansive reform in land tenure in Africa that aims at promoting individual title registration. However, they did not consider the interaction between land tenure system and the system of production. According to Kasanga (2002:28), the question of whether the communal land tenure system restricts or reduced agricultural development cannot be adequately answered without reference to the farming system.

Faced with criticism against the static interpretation of land tenure in Africa and the failure of the attempts of land title registrations at achieving the expected outcomes, the academia and development partners began to look for an approach that will best suit the African situation. The solution was found within the New Institutional Economics (NIE) approach, the evolutionary theory of land right (Austin, 2005). According to Platteau (1996), the most dominant framework used by the mainstream economists in describing land tenure system in developing countries is the evolutionary theory of land rights. He argued that:

A central tenet of this theory is that under the joint impact of increasing population pressure and market integration, land rights spontaneously evolve towards rising individualisation and that this evolution eventually leads the rights holders to press for the creation of duly formalized private property right... (Platteau 1996:29).

The rapid population growth and increased commercialisation of agriculture will lead to increasing land scarcity and growing land values. This will result in increasing uncertainty about land rights, leading to multiplication of land disputes and rising search or litigation costs which further result in growing demand for more specific and more secure property rights in land (Platteau 1996:35).

There are accommodation and convergence of approaches which has resulted in the incorporation of a framework supporting the recognition of customary tenures within the evolutionary theory of property rights (Amanor and Ubink 2008). The proponents of the evolutionary theory of property rights argue that customary land systems are dynamic and changing, and are evolving towards individual property rights systems in response to economic changes. It was argued that communal land right will give way to extended family rights which will further give way to what has been referred to as the 'individuals and atomistic nuclear families holding' (Amanor and Ubink 2008:11). The proponents further argued that customary tenurial practices are not a set of unambiguous rules which define rights clearly from onset because particular rights are acquired through negotiation and arbitration (Boone 2015, Toulmin et al 2002:10). The evolutionary theory of land rights hinges on a new outlook in land tenure reforms which shows the viability of customary system of landholding and the need to promote land policies that are more human centred, less driven by economic prescription and pro-poor. According to Peters (2004: 275), although the World Bank and other aid agencies now subscribe to the new evolutionary theory of land rights, they still retain the old premise that land titling is seen as the major avenue for promoting land reform and security of tenure as these enable farmers to have access to credit.

The major criticism of the evolutionary theory of property is the idea that the customary land tenure system is historic. Amanor (1999:18) opined that in the changing political and economic environment, the institutions that have emerged in the peasant communities to cope with strains on their livelihood cannot be regarded as 'traditional' pre-colonial institution. He was of the view that with the integration into the global market and the presence of social stratification, it has become possible for tradition to be reinvented to suite the powerful in the society. Hence what is considered customary might not be a fair interpretation of the rural communities. 'Tradition has been fashioned in the modern world of commodities' (Amanor (1999:19). According to Boni (2005:19) land issues are viewed as part of historically dynamic social, economic, political and demographic environment rather than as an immutable corpus of legislation. He added 'what constitute customary is often the states and the chiefs' stance' (Boni 2005:237). Drawing on a case study of land rights and agricultural practices in Kumawu a rural community in Ghana, Berry argued that:

Right to productive resources have been subject to on-going processes of negotiation, access to property and power depends on participation in these processes, rather than denying or suppressing them (Berry 1997:1226)

However, Ubink (2009) has warned against the overemphasis on the negotiability of the customary tenure and stressed that 'generalising the power of negotiation of local actors in contestations over land obscures the limits to the agency of some people...' (Ubink 2009: 49)

In spite of the criticism against the evolutionary theory of land rights, it offers a flexible and broader approach to the study of land tenure system in Africa. According to Austin (2005) the evolutionary theory of land rights provides a valuable framework expressing important hypothesis on how property rights affect economic activity, how they change and why efficient changes may occur. It is therefore within the evolutionary theory of land rights debate that this study postulates that there is a relationship between land tenure changes and yam farming and that any land tenure arrangement that promotes individualization of land rights have effects on farming systems based on shifting cultivation and land fallowing.

2. Methodology

The paper is a case study and the study site is the Atebubu-Amanten District. Through purposive sampling, two farming communities, Mem and Seinti were selected for the study. The main characteristic feature of these farming communities is the composition of the inhabitants, whether the community is dominated by the *indigenous*³ or the migrant farmers. The purposive sampling rather than simple random sampling was employed to enable the researcher include in the sample both the *indigenous* and migrants. This is to ensure that both the views of the *indigenous* and the migrant farmers were captured. In the Atebubu-Amanten District, farming communities are formed based on the origin of the farmers. Therefore, distinction can be made in the farming communities, in the form of *indigenous* farming community and migrant farming community. Though the element of each can be found in any of the communities, one of these is always dominant. Mem represented the *indigenous* community and Seinti represented the migrant community. A total of 75 farmers were selected through purposive sampling of which 40 and 35 farmers were selected from Mem and Seinti respectively. In addition, 7 traditional rulers and heads of government institutions related to land tenure were interviewed.

Semi-structured interview was used to solicit information from the farmers. This was because majority of the farmers were illiterate, making the use of structured questionnaire inappropriate. In-depth interviews were used in gathering information from traditional rulers and heads of government institutions because detailed information was required from them. In addition to the interviews, the researcher engaged in active observation and informal discussions with the people of the study area. The researcher also attended traditional dispute resolution sections. This provided first-hand information about the nature and the methods of resolving land disputes in the study area. Presentation and discussions of findings of the study are descriptive, making the study wholly qualitative.

3. Findings and Discussion

The presentation and discussion of findings of the study are done under the following sub-headings; mechanized farming, emerging tree planters, commercialization and monetization of land, land disputes over land, and shortened fallow period.

3.1. Mechanized Farming

Agricultural mechanization in the proper sense of the word was very limited in the Atebubu-Amanten District. It was only at State Agricultural Station at Atebubu that modern system of farm mechanization was practiced. The majority of farmers depended largely on the traditional system of bush fallowing and shifting cultivation. Simple implements such as hoe and cutlass were used in land clearing and planting of crops. In recent times, the situation has changed and farmers are adopting sophisticated methods in their farming activities. This is however, not extended to yam farming. Yam farming is still carried-out in the old ways.

About 82% of the respondents were of the view that mechanized farming has influenced the land tenure arrangements in the Atebubu-Amanten District towards the direction of individual use right. Increasing population growth and the integration of the rural economy into the capitalist system, is making farmers to adopt means to gain effective control over the land they cultivate. The stable landholding and the innovative farming system are being achieved in the study area through the mechanized farming. In an interview with one yam farmer, he said,

until farmers began 'plotsoadwuma'⁴, I never had the experience of people claiming portions of land as their own which is subjected to their use alone except otherwise authorized by them (An interviewee remark, 5th November, 2019).

He added that in the past people protected the land around their homestead or backyard which others were excluded from cultivating but now the trend has changed and people are claiming use right over almost every plot they have ever cultivated. On his part, Opanin Fofie in an interview said 'now every land in this area has a user and one needs some form of permission before he or she can cultivate such a land even if the land is lying idle'. This assertion is true for the major towns of the study area, but the communal tenure system is still in practice in the hinterland.

The rate at which large tracts of land are being converted to mechanized farming is alienating land from the yam farmers. Under the current system of yam cultivation, plots converted to mechanized farming are not ideal for yam farming. The trees that would have been used for staking in the case of yam farming are cleared off to make way for

³ Indigenous is used not as a derogatory term but to distinguish local population from the migrants

⁴ plotoso is a corruption of the English word plot and is used by the local people to refer to the place where mechanized farming is done, adwuma is an Akan word which literally means work. Therefore, plotsoadwuma is used to refer to the mechanized farming.

mechanized farming. Such plots are also under constant cultivation and may have lost soil fertility required for yam to do well. Unlike other crops such as garden eggs, maize, groundnut, and pepper, where fertilizers and insecticides are used, yam cultivation in the Atebubu-Amanten District is done devoid of fertilizers and insecticides. About 75% of the respondents said they do not want to use fertilizer on their yam farms because it affects the taste of the tubers produced. Thus, yam produced with fertilizer was considered tasteless and can also rot easily. Under the current circumstances, the larger the land converted to mechanized farming, the smaller would be the land available for yam farming. This assertion was echoed by about 80% of the respondents. One respondent noted that because the New Konkrompe people started the *photosoadwuma* long time ago, they do not have land for yam cultivation. Those who wanted to cultivate yam have to travel a long distance to secure fertile land. He added that Mem has also taken the path of New Konkrompe and very soon there will be no land for cultivation of yam at Mem. It was observed that yam farmers at Mem now have their farms located far away from the community and this could be a sign that mechanized farming is encroaching on yam farming.

The perceived advantage that the mechanized farming has over the traditional farming is also making many yam farmers to abandon the yam farming in favour of the mechanized farming in cultivating crops like maize, garden eggs, pepper and okro. The farmers under the mechanized farming have some stable land use right. This assertion was supported by many of the respondents and one notable garden eggs farmer eloquently stated that:

Once you are able to stump the trees on the land you could cultivate it so long as you are alive and even when you die, your family will take over the right to use such land (An interviewee remark, 20th September, 2019).

In relation to yam farming, once a farmer leaves the land, and does not cultivate any other crop on it, the land reverts to the entire community. Therefore, such lands are subjected to frequent contestation from other land users. This makes the right of yam farmers over land more precarious and ambiguous and places them in a disadvantaged position. It was also argued that the crops cultivated under mechanized farming have two planting seasons annually unlike the yam which is cultivated once a year. One farmer, in an interview said that crops like maize, garden eggs, pepper and okro are economically viable than yam. He added that 'yam provides us with food whilst the other crops provide us with money'. About 98% of the farmers interviewed at Mem claimed they have reduced the size of their yam farm in order to cultivate other crops under the mechanized farming.

3.2. The Emerging Tree Planters

Another characteristic feature of the land tenure practices in the Atebubu-Amanten District is the rate at which land for food crop production is being converted to plantation development. This trend has serious consequences for food security in the Atebubu-Amanten District and Ghana as a whole. It is worth noting that a number of wealthy subjects and people from outside the district are embarking on serious plantation development in the study area. Some corporate institutions and individual farmers were also engaged in tree plantation. The study revealed that of the 75 farmers interviewed, 52 representing 69.3% said they have developed tree plantation in addition to yam cultivation, and 23 representing 30.7% said they have not developed plantation. The major tree crops cultivated in the district include cashew nuts, mango, teak and orange. With the launch of the Government of Ghana's plantation development programme, the Planting for Export and Rural Development (PERD) on 23rd April, 2019, many more farmers in the district are taking up tree planting. The PERD programme is a decentralised National Tree Crop Programme to promote rural economic growth and improved household incomes of rural farmers through the provision of certified improved seedlings, extension services, business support and regulatory mechanisms⁵. Under the programme, Government of Ghana provides free cashew seedlings to farmers in the Atebubu-Amanten District to cultivate. Even though this paper is unable to ascertain the exact hectares of land under tree plantation in the district, a casual observer would acknowledge the rate at which tree plantations are springing up in the district.

The activities of the new tree planters have several effects on yam farming in the Atebubu-Amanten District. These effects include, increased alienation of land from yam farmers and loss of soil fertility. The data gathered indicated that 56 farmers, representing 74.7% of the respondents said the main effect of plantation development is increased alienation of fertile land from yam farmers. Plantation development limits land available to yam farmers, because the plantation occupies the land for a long time. Nineteen (19) farmers, representing 25.3% of the respondents also said that tree plantation leads to loss of soil fertility in areas closer to the plantation. This was elaborated by comments from some respondents familiar with the activities of tree planters. Kwadwo, a yam farmer and tree planter stated that land converted to the cultivation of tree plants takes not less than 50 years before the trees are cleared from the land. He added that usually tree planters replant the plot when they realize that the old trees have become weak and do not give them the required yield. In the case of teak trees, once the trees are harvested, it regenerates by its own and only requires the farmer to clear the weeds and to prune the canopies for another plantation to emerge. Additionally, the shadow of the trees and the roots destroy the land around the plantation making such plots unfertile for yam farming. It is imperative that the tree planter by virtue of having the trees on a plot of land assumes exclusive right over such plot to the extent that on the death of such a planter, the plot is passed on to his or her close relatives. Yaw, a yam farmer at Mem commented in an interview that plantations are springing all over Mem and its surroundings. The more farmlands are converted to tree plantations, the more yam farmers find it difficult to access fertile land for yam cultivation.

Amanor (2009) in his work on Banda and Kintampo stated that there were arrangements to ensure that land that has been exhausted for food crop cultivation are used for tree plantation. He further argued that farmers used their old farmlands for tree plantation and in some cases the landlord gave out parcel of land on the agreement that the tenant will

⁵www.agrihousefoundation.com Retrieved on 21st September, 2020

cultivate food crop whilst the landlord cultivates tree crops on the same parcel of land. The situation in Atebubu-Amanten District, however, is quite different. About 78% of the respondents were of the view that tree plantations are emerging indiscriminately. It was mentioned that neither the Forestry Services Commission nor the traditional authorities regulate tree planting in the area. This makes the competition for land in the Atebubu-Amanten District more intense and to the detriment of the peasant yam farmers who have limited resources to engage in such competition.

3.3. Commercialisation and Monetisation of Land

The high rate of commercialisation and monetisation of land in the Atebubu-Amanten District was also highlighted by respondents. The increase in population resulting from the high birth rate and influx of migrant farmers and other land users like the tree planters, commercial farmers from the urban centres, multi-national and international farming companies, and multiple land users like the Fulani pastoralists, and the Sisala charcoal burners in the study area have brought about increase in land value. The chiefs and landowners have also taken advantage of the situation to maximize their own benefits by exploiting the land for monetary gains. Therefore, the land that was used in the past to establish social and political control over the people by the institution of tribute to chiefs and landowners has become the means of establishing economic domination.

Respondent argued that even the autochthonous farmers who hitherto obtained land use right upon rendering services to the Paramount Chiefs are now paying cash for the land they use. There is a complete shift from payments of land tributes in kind in the form of tubers of yam, schnapps and sheep by the migrant farmers to payment in cash. About 87% of the migrant farmers interviewed were of the view that the shift from payment in kind to cash affects them very much. This was intimated by respondent at Seinti that,

The payment in cash is not helping us the yam farmers. Someone will think that GHC250.00 annually is a small amount but with yam farming, some years are bad years and sometime it becomes very difficult for a farmer to get his or her daily bread let alone to get some tubers to sell in order to pay land rent (An interviewee remark, 11th December, 2019).

Comparatively, yam farmers pay much more with the payment in cash than they were paying in kind. In the days when they paid tributes in kind, the whole village contributed 100 tubers of yam, two bottles of schnapps and a sheep. It should be noted that small villages with small population were sometimes put together as one entity when it comes to the payment of land tribute. Migrant yam farmers stated that the payment of land rent in cash has brought an untold hardship on them. The leader of the migrant farmers in an interview said:

Many of us have ever been arraigned before a magistrate court at Atebubu for non-payment of land rent and some of us have ended up in police cells for up to three days on the same charges. He added that it is not our intention not to pay the rent but with yam farming some years are very difficult for us and the landlord does want to hear any excuse (An interviewer remark, 11th December, 2019).

Before a farmer who has a problem with the landlord finishes in solving his or her problem, the next planting season might be over if not, the migrant farmer may not have full attention to take good care of the farm. This leads to over-grown weeds, and rodents and insects which usually destroy the farm. The leader of the migrant farmers said three migrant yam farmers in Seinti left the village after they were arrested for failing to pay land rent. One respondent aptly said 'with the payment in kind, we gavewhat wehave but with the payment in cash, we give what we do not have'. This makes the situation of the peasant yam farmers precarious.

One Divisional chief noted that the migrant farmers were reluctant in paying the land rent but not because they do not make enough money from their yam farms. He added that:

Some farmers could be in arrears for more than three years and when I take legal action against them, they complain that I am harassing them but the only sign of ownership of the land is this small token they pay to the stool (An interviewee remark, 25th September, 2019).

The main issue here is not to examine whether the holder of the allodial title is exploiting the migrant yam farmers or the migrant yam farmers are not fulfilling their responsibilities to the landholder. What is clear from the above discussion is that the change from payment of land tribute in kind to cash emanating from commercialisation and monetization of land has some consequences for yam farming.

In a related development, the alienation of large tract of land to commercial farmers and international companies is affecting yam farming in the Atebubu-Amanten District. A notable example of such companies includes the African Plantation for Sustainable Development (APSD). APSD has secured and is developing a large concession of up to 82, 000 hectares. The project is growing eucalyptus as a biomass fuel to produce 60MW of power⁶. The Amantin Agro-Processing Company Limited has also acquired large track of land for producing and processing cassava into starch and ethanol for national and international market. The leasing of such large tracts of land in the interior has a negative consequence for the farmers, particularly the yam farmers. A farmer interviewed at Seinti said:

We have come across some surveyor's marks on the land around our settlement and I am afraid if the land is not leased to international farming company. I have heard that the Paramount Chief has sold a large tract of land to a foreign company and the company is evicting the migrant yam farmers from the plot they have acquired (An interviewee remark, 1st November, 2019).

It was argued that the chiefs do not make enough money from the autochthonous and migrant yam farmers compared to what they get from the large commercial farmers and the international companies. The chiefs therefore prefer transacting

⁶Newsforestforafrica.org. Retrieved on 22nd September, 2020

land with the commercial farmers and the international companies than the yam farmers thereby alienating yam farmers' land use right.

3.4. Land Disputes

In the era of increasing competition for land and landed resources, disputes related to land ownership and use have increased in the study area. Farmers in the study area argued that access to fertile land is declining at a faster rate creating a situation of land scarcity. The people, therefore, implore several tactics to obtain some advantage of land use over others. This struggle for access to land sometimes leads to misunderstanding between individuals resulting sometimes to conflicts, litigation, and open confrontations.

Land disputes in the Atebubu-Amanten District can be viewed from three levels: inter- traditional area boundary disputes, inter- divisional area boundary disputes and disputes among individuals land users. Inter- traditional area boundary disputes relate to disputes between two or more Paramount Chiefs regarding the boundaries between them. The claims to allodial right by traditional authorities in the study area just like many other traditional political authorities in the Ghanaian society are based on historical narratives. As observed by Lentz (2002), 'the legitimate initial establishment and the transmission of property rights is stated implicitly in the form of migration- and- settlement histories, which elders narrated in order to explain local boundaries' (Lentz 2002:36). Several historical narratives concerning the claim by the Paramount Chief and his royal lineage regarding the boundaries of the traditional area exist. Due to the increasing value of land, these provisions are sometimes challenged. The boundaries are usually natural relief features such as rivers, streams, lakes, mountains, trees, and forest. Some of these natural features are not always permanent and do not always serve as a precise boarder, creating misunderstanding between traditional areas. It is difficult for two parties to agree on a specific relief feature that served as the boundary between them because each party has its own historical narratives. For example, the Paramount Chief of Atebubu sets the boundary between his area and that of Prang at the Pru River. However, the Paramount Chief of Prang disagreed, and this has brought long standing tension between them and the case is still pending in the law court. It should be noted that at the height of the land dispute, farmers were sometimes prevented from cultivating the disputed land.

The disputes that individual land users in the Atebubu-Amanten District are confronted with involve the right to cultivate a particular field or plot of land, the right to exploit natural resources and the right for grazing. OpaninFofie in an interview at Atebubu narrated that in times past, every individual farmer had the right to cultivate any cultivable piece of land if such land is not under cultivation by another farmer or if the land does not lie closed to another person's farm. He added that this provision did not create any problem in the past but with the increase in population, it has become difficult to apply this arrangement or provision. In the abundance of land, farmers spaced their settlement and farms to avoid clashes over land use right. In the state of land scarcity, this practice is declining and farmers are employing several tactics to obtain greater advantage over land use right. This has resulted in a number of disputes among the land users. The court of the Divisional Chiefs and the Paramount Chief of Atebubu Traditional Area are filled with cases related to land use.

The effects of land dispute on yam farming in the Atebubu-Amanten District are enormous. The study revealed that about 77% of the farmers interviewed had ever been confronted with land disputes. Farmers who found themselves in dispute over land sometimes end up losing the land altogether. This was evident in an interview with Nyapena at Seinti. He narrated that, he surveyed a plot of land to be used for yam cultivation only to realize that, one Sando has also surveyed another plot of land closer to Nyapena's plot to the extent that part of Nyapena's plot was included in the Sando's. According to Nyapena, he confronted Sando and informed him that he had already surveyed that plot by making marks on the trees and by putting grass in the stems of trees. But Sando refuted the claim by Nyapena. The case was brought before the Village Head and elders of Seinti for settlement, but they could not find an amicable solution. The case was, therefore, referred to the Divisional Chief and his elders who eventually settled the dispute and ordered that both farmers should leave the disputed land and find land somewhere else to cultivate. Nyapena complained that 'I suffered very much because of the dispute over the land. I had to find land somewhere else. The land I found was not as fertile as the previous one' He added that 'by the time the case was settled, the planting season was almost over'. The low soil fertility and late planting of yam eventually resulted in poor yields. Nyapena complained that since that year he has never recovered fully and that it has affected his fortunes as a farmer. This was not just an isolated case as many respondents expressed similar sentiments.

The issue of land disputes is a major problem for the land user particularly when the dispute is inter- boundary, between two Divisional Chiefs. In such a situation, a ban was placed on a whole territory to the extent that farmers were prevented from cultivating such areas. A typical example was the disputed land around Mem where two Divisional Chiefs were claiming ownership. The Paramount Chief placed a ban on this portion of land and requested that no farmer should cultivate that land until the case is settled and the land is reverted to the rightful owner. There were also instances where farmers are subjected to double taxation when a territory is in dispute. This usually happens when two groups of people are claiming allodial right over a disputed territory at the same time.

The argument regarding the effects of land dispute on yam farming raises a legitimate question that needs to be addressed. Could one say that the problems discussed above affect rural agriculture in the Atebubu-Amanten District in general or they do affect yam farming only? The answer to this question could be found in the system of yam cultivation and the areas where yam is cultivated in the study area which make yam farmers the worse victims. It has already been established that yam farming in the study area is based on shifting cultivation and bush fallowing. Under this system a farmer cultivates a piece of land for a number of years and leaves that plot of land for another place where the soil is considered to be fertile. Once the land regains its fertility any member of the society could cultivate it. Therefore, the land

under shifting cultivation or bush fallowing is subject to constant contestation and claims from different land users, because there is no exclusive use right over such lands once they are not under cultivation. This system is contrary to the system of permanent cultivation under which cereals and vegetables are now cultivated. In the case of permanent cultivation, farmers obtain some form of exclusive use right over a piece of plot they cultivate because the plot is under constant cultivation and hence are not subjected to the increasing claims of use right by other people which might engender land disputes.

The areas where yam is cultivated also make farmers prone to frequent land disputes. It was observed that yam farmers were mostly found in the hinterland of the Atebubu-Amanten District where migrant farmers are attracted. In these areas, there is no clear demarcation between Traditional or Divisional areas. These areas are always subjected to frequent contestation and competition from the traditional authorities who claim allodial rights over such lands. Yam farmers are usually confronted with two groups of traditional authorities who are locked-up in dispute over who owns a particular piece of land. These areas are also attractive to other land users such as the Fulani Pastoralists, the new planters, and commercial agriculturalists. These land users are more resourceful than the yam farmers which make the competition from these groups more difficult for yam farmers to cope. Though other small-scale farmers in the Atebubu-Amanten District are affected by the recent trends of land tenure changes and the resultant land disputes, yam farmers bear the worse brunt.

3.5. Shortened Fallow Period

Findings also revealed that fallow period in Atebubu-Amanten District has reduced drastically due to increasing demand for agricultural land emanating from the influx of migrant farmers, the emerging tree planters and commercial agriculturalists. About 76% of the farmers interviewed said fallow period currently is less than 6 years compared with only 16% who said fallow period in 20 years ago was less than 6 years. It was in this vein that OpaninNsiah in an interview related that the fallow period in the Atebubu-Amanten District has reduced drastically. He stated that in recent times, fertile land for yam cultivation has been difficult to find. He added that:

In the past, land could be allowed to fallow for not less than ten years for the land to regenerate before anyone would cultivate it, but in recent times you will be lucky to find a plot that has been allowed to fallow for four years (An interviewee remark, 3rd August, 2019).

In the same direction Akua, an elderly woman and yam farmer stated that the land she cleared for yam cultivation had traces of old yam mounds and some cassava plants. This shows that the land has not rested. OpaninKunta of Seinti said that:

When I arrived in this area, we were cultivating fresh land which had never been cultivated before but in recent years, it is difficult to find a land that has been allowed to fallow for six years or more (An interviewee remark, 11th December, 2019).

It should be noted that the majority of the respondent agreed that the fallow period in the study area has reduced. The bush fallow system works satisfactorily only if there is enough land to ensure that each abandoned clearing is allowed an adequate period of rest to regenerate (Benneh 1973:138). Thus, in the face of increasing demand for land, yam farmers cannot afford to allow the land enough rest.

The reduction in fallow period has had a profound influence on yam farming in the Atebubu-Amanten District. This reduction of fallow period affects yam farming in two ways; it leads to low yields and change in the variety of yam cultivated in the area. Yam farmers in the study area do not use fertilizer in the maintenance of their farms as a means of restoring soil fertility. Over the years, yam farmers have depended on bush fallowing as a means to allow land to regain its fertility. However, with the reduction of fallow period in recent years, the land is unable to be fully regenerated to the level farmers required. Yam farmers commented that the fertility of the soil has gone down because the fallow period has reduced. This could be seen from the response of the farmers interviewed. One yam farmer said, 'Now the soil has lost its fertility because we cannot afford to allow the land to fallow for a longer time'. This, according to him has resulted in poor yields. OpaninNsiah complained that:

We have been experiencing poor harvest in recent years, though we have been blaming the rainfall pattern, I believe the greater problem comes from the soil fertility due to shorten fallow period. Though the rainfall pattern has never been stable, we had enjoyed good harvest in the past but now it is sometimes difficult to get what to eat (An interviewee remark, 3rd August, 2019).

Many other views were expressed by respondent to illustrate the point that shorter fallow period had led to the loss of soil fertility which in turn has resulted in poor yields for yam farmers in the Atebubu-Amanten District.

The reduction in fallow period and the resultant loss of soil fertility which engenders poor yields have made yam farmers to diversify their crops. The two main varieties of yam under cultivation in the Atebubu-Amanten District are the *Dioscorea rotundata* (white yam) and the *Dioscorea alata* (water yam). Within these two broad categories, there are several local varieties. For example, under *Dioscorea rotundata*, the local varieties include *pona*, *laboko*, *serwaa*, *kyerikumasi*, *dentehmpruka* and *muchumuduu*. On the other hand, the notable local varieties under the *Dioscorea alata* include *akaba*, *mantchesandbofi*. The varieties of yam in the *Dioscorea rotundata* group are relatively early cultivars and required highly fertile soil to obtain good harvest. However, members in the *Dioscorea alata* groups are late cultivars and can produce good yield even when the soil is not highly fertile. In the face of shortened fallow periods and the attendant loss of soil fertility, yam farmers tend to cultivate more of *Dioscorea alata* than the *Dioscorea rotundata*. In an interview with OpaninFofie, he said that when the soil was fertile, they were cultivating *bayerepa* (proper yam, in reference the *Dioscorea rotundata* family).

He added that 'in recent years, the soil has lost its fertility so *afasie* (water yam, in reference to *Dioscoreaalata* family) has taken over'. He continued:

Matches are everywhere now and *puna* and *laboko* are no longer the dominant varieties of yam in this area and if care is not taken, our grandchildren will not grow to know these varieties (An interviewee remark, 23rd October, 2019).

Yaw Mosi on his part, in an interview narrated that in the past the *bayerepa* constituted about three-fourth of his yam farm but now, the *afasie* takes more than half of the entire yam farm. Even though farmers argued that consumers preferred the *bayerepa* to the *afasie* and that the *bayerepa* has more commercial value, the *afasie* has now become the dominant yam cultivated in the Atebubu-Amanten District.

Yam farmers are not only switching from cultivating *bayerepa* as a dominant yam variety to *afasie* but rather some have adopted other activities. To cope with dwindling fortunes of yam cultivation, yam farmers have also adopted vegetable and cereal cultivation on mechanized farming basis. Yet still, some have adopted charcoal burning, trading and livestock keeping. It should be noted that this trend is not a new development in the economic life of the people of the Atebubu-Amanten District. The real threat is the rate at which these farmers are adopting new activities. In an interview, Akwasi, said that he was a great yam farmer, cultivating about six acres every year but now, he cultivates only one acre to feed his family. He added that much of his resources are devoted to the cultivation of cashew nuts, maize and groundnuts because it is now difficult to find fertile land for yam cultivation. It is clear that, with the current system of yam cultivation, the reduction of fallow period and the resultant loss of soil fertility are hampering yam farming in the Atebubu-Amanten District.

4. Conclusion

This paper, premised on the evolutionary theory of land rights, hypothesized that individual land right is detrimental to yam farming and that land tenure arrangements that tend to emphasize individual title holding over land are constraints to farming system based on shifting cultivation and land fallowing. The following are the conclusions of the present study. Yam cultivation in the Atebubu-Amanten District is carried out under the traditional method of bush fallowing and shifting cultivation. Agricultural innovation and technology have not had any serious effects on yam farming compared to the cultivation of other crops. Land tenure system in the Atebubu-Amanten District is evolving from the communal land holding to individual and atomistic family holding. The unhealthy competition from other land users such as the emerging tree planters, the mechanized farmers, multi-national and international commercial agriculturalists alienate yam farmers' right over land. This evidence corroborates the assumption that individual land right affects yam farming in the Atebubu-Amanten District and that land tenure arrangement that emphasizes individual title holding over land is a constraint to the farming system based on shifting cultivation and land fallowing. The study recommends that any attempt at land reforms aimed at individual land right titling should take into consideration the prevailing system of cultivation in the particular locality.

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