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Peri-Urban Agriculture and Land Tenure Dynamics in Southern Ghana

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Abstract

Peri-urban zones are characterised by strong urban influences including increased possibilities for marketing of farm produce, provision of inputs and services, and non-farm employment but also exacerbated competition for land, inequalities in its distribution and risks from pollution. In developing countries, the positive elements generally are less than the negative influences. Peri-urban areas – lying in the interface between the urban and the rural – therefore tend to experience the development problems associated with 'both worlds'. Rural problems of inadequate social facilities still occur at the same time that land pressures and poor environmental health problems associated with growing urban areas create typical urban problems. This study used structured interview schedules to collect primary data from 504 randomly selected households in 50 randomly selected peri-urban communities. These communities were sampled from five purposively selected districts, namely Cape Coast, Ho, Sunyani, Koforidua and Accra. The issues examined related to agriculture in the context of the increasing tendency towards freehold land titling. It was concluded that all the zones are facing severe land shortage, which is affecting agricultural production, given the deficiencies in agri-support services. Women tended to have even smaller farm sizes. The trend towards land title registration is putting women in disadvantaged positions as landholders bequeath their lands to sons, even in matrilineal societies. It is therefore recommended that any policy on land, especially the LAP project, should consider the interests of women and the peri-urban poor.

Key words: Agriculture, land tenure dynamics, peri-urban.

Introduction

The FAO (1999) estimated that at least 800 million people are involved in urban and peri-urban agriculture. This is happening amidst increasing poverty and malnutrition in cities due partly to the increasing numbers of poor rural migrants and impoverished urban families (Mougeot, 1999). Correspondingly, peri-urban agriculture has assumed increasing importance in the drive to food security as nations' populations grow and cities become larger and larger, and this is helping to feed the estimated 50 percent of the world's population who now live in cities (Brook & Davila, 2000). It is also estimated that by the year 2015 about 26 cities will have populations in excess of 10 million, and each of these cities will need minimum food imports of 6000 tonnes. Current estimates also indicate that 250 million hungry people in this world live in cities. The food security implications of these statistics have drawn attention to the practice of urban and peri-urban agriculture.

Peri-urban agriculture is practised generally for income-earning or food production (Fraser, 2002). It contributes to food security by increasing the amount of food and also allows fresh vegetables, fruits and meat products to be made available to urban consumers. Through these, it reduces food insecurity by providing households with direct access to home-produced foods and adds to the informal economy. It thus contributes to cities' economic base through production, processing, packaging and marketing of consumable products, resulting in increases in entrepreneurial activities, job creation opportunities, and reduced food costs. According to Lee-Smith (2004), rapid urban population growth is a factor in peri-urban agriculture, and this activity will grow further as the world's population approaches 7.5 billion by 2020 with 57 percent being urban. Lee-Smith adds that there will be 500 million urban Africans in 2020 and 200 million Africans will be practising urban and peri-urban agriculture.

The significance of peri-urban agriculture can be seen in the opportunities that it provides for productive employment through its low

barriers to entry, and the consequence ease of access allows women and other underprivileged people to partake in the informal economy, leading to empowerment (Mbiba, 1995). Women are able to combine this activity with their household tasks (Hasna, 1998), and the proximity of the farms to the consuming centres makes it energy efficient by reducing the costs of transportation (Pirog & Benjamin, 2003; Urban Agriculture Network, 1996). This significance is seen in the practices of peri-urban agriculture in both small and large cities across the world, including Cape Coast, Ho, Sunyani, Koforidua and Accra in Ghana.

However, the starting point from which to analyse the issue of peri-urban agriculture is from the dynamics of land ownership and use, produce quality and environmental damage. This is so because agriculture in Ghana, even for peri-urban areas, still remains relatively land extensive, though this is changing very fast in many peri-urban areas, and water availability is also a problem. Access to the use of land and other agricultural support services remains important in the quest for food security for low-income families, and land use rights therefore become essential to poverty reduction in these settings.

Peri-urban agriculture takes place mostly on vacant lands. These lands are owned by individuals (especially speculators), and the government, or may be held under customary practice. Land title registration enforcement in recent years implies that land belonging to individuals and the government that were purchased or acquired (with due compensation) are registered and have clearly demarcated boundaries. The use of such land for agricultural purposes by low-income peri-urban farmers throws up various risks. The farmer stands to lose all the crops if the landowner decides to develop the property. Customary lands on the urban fringe face even more intense pressures resulting from the urge to sell to speculators at the same time that such lands are required for food production. There is also the issue of clear ownership with respect to the sale of such lands. Situations where different family members sell the same plot of land to different buyers abound and account for a large share of the land litigation cases in the law courts.

Thus, increasing commercialisation of land, speculation and the breakdown in traditional land ownership patterns create new dynamics for land ownership and land use. It is in the peri-urban setting that these contradictions are more intense as all urban land would have been sold out and ownership established. However, it is also in the peri-urban setting that farming and other agricultural pursuits still provide a substantial portion of household income. The contradictions and pressures negatively affect incomes under conditions of difficult labour markets where off-farm and non-farm activities or employment opportunities are not easily available. The pressures and tensions affect land productivity in diverse ways. The effects could be negative as tenure insecurity reduces the willingness to invest in land and soil fertility improvements. It could also be positive if the lack of security and the limited land availability lead to more intensive land use, which is often the case, especially for vegetable cultivation and poultry farming.

Peri-urban areas, lying in the interface between the urban and the rural, therefore tend to experience the development problems associated with 'both worlds'. Rural problems of inadequate social facilities still occur at the same time that land pressures and poor environmental health problems associated with growing populations create typical urban problems in these areas. The Natural Resources Institute (see Blake et al., 1997) characterised the peri-urban interface as comprising the following:

- It is dynamic in space and time
- Areas within the zone are heterogeneous
- Competition for land between agriculture and non-agricultural uses
- Changing social and economic balance between indigenous and immigrant inhabitants
- Increasing dependence on the urban centre
- Increased facilities which may speed up development
- Increased pollution and waste disposal problems

Applying these characteristics to a study in the Kumasi metropolitan area, the peri-urban zone of the city was found to exhibit the following characteristics (Blake et al., 1997):

- Land tenure insecurity
- Short-term cropping systems predominate
- Women especially were under poverty threat
- Waste management systems were haphazard but improving
- Information gaps for planning and institutional hiatus.

The peri-urban zone, approximately 30 kilometres from the city centre, is characterised by strong urban influences, including increased possibilities for marketing of farm produce, provision of inputs and services, and non-farm employment, but also exacerbated competition for land, inequalities in its distribution and risks from pollution and other environmental problems. The peri-urban farmer is also likely to be an immigrant, farm sizes are small and the traditional large farm holdings of the mixed-crop, bush fallow, land rotation type are breaking down fast. These characterisations of the peri-urban zones relflect interesting issues that necessitate the examination of land dynamics and its influence on farming systems, food security, protection of the environment, and improvements in the incomes of women.

Peri-urban communities increasingly find that the lands on which they depend (for farming purposes) are appropriated for urban purposes. Residential construction, vegetable cultivation and commercial poultry farming are some of the new uses to which peri-urban lands are often required. High demand for land provides opportunities for land sales, which ultimately deprive poor farmers of their land. Women, in particular, find themselves at a disadvantaged position as land availability declines. Traditional forms of control over land break down in the face of the increasing demand for land. There is also the issue of the use of peri-urban lands as dumping grounds of the garbage produced in the city. The landfills in use for the cities in developing countries are not properly constructed and protected. The associated health burdens are realised by residents in these locations.

The land question in peri-urban locations throws up complex issues that require attention. These issues relate to the competition for land and the extent of land availability for farming – the main economic activity

in peri-urban zones, women's access to land, and the operation of land markets - customary patrilineal and matrilineal property rights and the statutory systems. Consequently, this study:

- evaluated the extent to which small farmers' access to agricultural land-holdings in the peri-urban areas under customary patrilineal and matrilineal property rights systems are preserved in the face of rapid urbanisation, active land markets and compulsory land title registration, and environmental problems, and
- examined the contradictions and frictions that exist in land transfer under customary and statutory systems and how they constrain agricultural investment in low-income peri-urban communities, including the inability of women to keep and control agricultural lands.

In the subsequent sections of this paper, we have discussed the conceptual issues that guided the study, and the methodology. These are followed by the discussion of the results, conclusions and policy implications.

Conceptual issues

Browder, Bohland and Scarpadi (1995) reviewed French literature on African cities regarding the peri-urban interface and used the phrase 'metropolitan fringe areas' in explaining urban and rural relationships and linkages. Nonetheless, the term 'peri-urban' has been used and explained in the literature as featuring a diversity of land uses that vary in relation with their urban and rural linkages. In their explanation, Browder et al. state that the land uses are transitional and show a pattern that becomes increasingly agrarian as one recedes from the city centre on the one hand, and on the other hand gives way to urban oriented activities near the city. They continued that such areas are mostly populated by poor residents who have migrated from rural areas and who engage in multiple income generating activities, predominantly in the informal economy.

Through literature reviews, Nottingham and Liverpool Universities (1998) encapsulated Browder et al.'s explanation in their definition of peri-urban as:

> A zone or area where urban and rural development processes meet, mix and interact on the edge of the cities. It is often not a discrete area, but rather a diffuse territory identified by combinations of features and phenomena, generated largely by activities within the urban zone proper. The development of a peri-urban area is an inevitable consequence of urbanisation. As cities in developing countries continue to grow, the peri-urban area moves outward in waves. (pp. 8-9)

Similarly, Adell (1999) cites Rakodi (1998) in using a definition of peri-urban area where the stress is on the relationship between the urban and the immediate rural areas over time. In this definition, the peri-urban interface is described as a dynamic zone both spatially and structurally. Spatially, it is the transition zone between fully urbanised land in cities and areas that are in predominantly agricultural usage. Such areas are characterised by mixed land uses and indeterminate inner and outer boundaries, and are often split among different administrative jurisdictions. This land area is dynamic as it shifts over time according as the cities grow. The area is also characterised by rapid economic and social structural change, with pressures on natural resources, changing labour market opportunities and changing land use patterns.

Peri-urban agriculture comprises various farming systems, from subsistence production and sometimes processing at the household level to fully commercialised agribusinesses of specialised production, processing and distribution units. These exist within heterogeneous resource utilisation situations, such as scarce as well as abundant land and or water resource conditions (de Zeeuw, Gundel &Waibel, 2000). According to de Zeeuw et al., peri-urban agriculture varies in terms of time and space, as well as in social and economic conditions. This is because it is transitory, interstitial, dominated by women and low income groups, and occurs or thrives where there are financial crisis and food shortages. It also occurs under a variety of policy environments relating to land use patterns, land tenure systems and land rights that can be prohibitive or supportive its existence and development.

There are implications of customary land tenure dynamics and land rights. Property rights economists argue that the flexibility and fluidity of customary land tenure arrangements is tantamount to tenure insecurity and leads to market inefficiencies (Dorner, 1972; World Bank, 1974). However, Toulmin and Quan (2000) also argue that land registration introduces simplifications which become difficult to implement within a complex and dynamic set of practices as occur in customary tenure systems. According to Kalabamu (2000), in the course of transmission over time, workable and key elements of the tenure system are retained and poor ones are dropped to suit new economic conditions. Such changes include the replacement of social value of land by economic value. Communal rights are also replaced by individual rights of ownership. In this regard, Torhonen (2004) explains that customary land tenure systems, like many social systems are subject to evolution, and reflect the changes in society and the pressure from the growth of urban areas.

Arko-Adjei, de Jong, Zevenbergen and Tuladhar (2009), in echoing Pottier (2005), explain that in customary land tenure systems, the people are linked to their land by virtue of membership in families and clans, which comprise the dead and living. Land is, therefore, held in custody for generations that are dead, born and unborn. As a result, the primary concern is about maintaining links with families and clans and not about rights to land per se. Arko-Adjei et al. conclude that links to people through whom land was acquired and by whom it could be used are crucial, and not the right to land itself.

Changing land use patterns introduce dynamics into land tenure systems and land rights, and these dynamics of land tenure, land rights and agricultural production in peri-urban areas reflect the important roles that tenure security can play in ensuring food security, improving incomes of farmers and enhancing environmental quality (De Soto, 2000). High urban population growth, active land markets and the rising phenomenon of speculation as well as the rapid decline of traditional forms of control over land are creating tensions with regard to land, especially in peri-

urban communities where modern social and economic values clash with the traditional ones. De Soto theorised that the granting of clear land tenure and property rights to the poor is essential to poverty reduction. Secure land tenure and property titles provide opportunities to access credit from the banks and to invest in better housing and soil improvements. He argues that it is precisely because poor urban dwellers (and this will include a significant proportion of peri-urban people) lack these rights that they are unable to utilise their properties as collateral for loans, and this perpetuates poverty.

Research on these issues has pointed to the complexity of the land issue and the need for caution in attributing poverty to the lack of security of tenure. First, it is important to point out that not one tenure system may operate in the same city, as for instance in Ghana. In Ghana, there are the customary and the legal systems, in addition to several other share-cropping arrangements that operate alongside each other in the same area (Micah & Kendie, 2002). The term land tenure refers "to how land is held or owned, or the set of relationships among people concerning the use of land. Land or property rights refer to what those who hold, own or occupy the land may do with that land and any development that takes place on it" (Payne, 2003, p. 1). These rights cover a whole range of issues including the right to occupy, enjoy and use; restrict others from entry; dispose, buy and inherit; develop or improve; cultivate or use for production; realise a financial benefit; sublet; and access services. Consequently, land titling has become a major policy issue and is supported in many developing countries by the World Bank. Ghana, for instance, has set up a Land Administration Project (LAP) with the view to passing a Consolidated Lands Act, which will govern land titling (Daily Graphic, October 13, 2007).

It has been argued that land and property titles per se are not sufficient collateral for securing bank loans as De Soto (2000) asserts, but rather a secure stream of income. Payne (2003), for instance, notes the advantages/disadvantages of these systems and that the tendency towards legal titles may disadvantage whole communities, women and

the poor, and disrupt cultural systems. Besides, as McLeod (2003) found, most bank lending in the developing countries is not asset, but rather revenue-based. Secondly, as Home (2003) and Djire (2007) point out, because of the bureaucracy and the associated costs involved in obtaining titles, not many households are interested in doing so.

Another aspect of the discussions is the fact that the growth of cities in the developing world is dynamic, diverse and disorderly, and increasingly space-intensive. The growth is occurring in the peri-urban areas, which often lack clear regulations and administrative authority over land use, and are characterised by pollution, rapid social change, poverty, land use changes and degradation of natural resources (United Nations Fund for Population Activities, 2007). The absence of clear regulations and administrative authority can create environmental degradation and health hazards as agricultural and industrial activities are mingled with residential use of land. This exposes residents to hazardous substances in the air, water and the food that they grow. This risk may be greater for the low income women and children who are more likely to spend most or all of their time in their homes and immediate environs. There is also land speculation, and the speculators hold on to land, expecting the values to increase. They do not bother to rent for fear that the users may gain some rights to continued use.

Historically and theoretically, land is communally owned in many parts of Ghana, and customary trustees such as chiefs and family heads hold the land in trust for their families, stools and skins (Arko-Adjei et al., 2009). These trustees hold the alloidal title from which all other rights are derived. Members of families have usufructory rights that allow them free entry. However, according to Arko-Adjei et al., pressure from modernisation has forced family heads to dispose of communal lands through sale or lease, and usufructory rights have been curtailed due to dwindling or non-existent idle lands.

It is important to note that one can have a high level of security to the land and yet be restricted in the use to which the land can be put, as the land cannot be sold or developed in ways departing from the original

intention. Security of tenure protects the user from forced eviction or forced loss of the property, but it does not confer unlimited use. Family lands under customary law have this characteristic, and under systems of law in many African countries, land ownership is anchored in patriarchy (Kameri-Mbote, 2005). Female access to and use of land is thus restrictive, though the women may have security of tenure when the land is under cultivation.

Methodology

The study incorporated one district each from Greater Accra, Eastern, Central, Volta and Brong-Ahafo Regions. The Natural Resources Institute study has advanced some understanding of peri-urban agricultural systems around Kumasi (Blake et al., 1997). Edmunson (1996) also studied the land and housing market in the urban fringe areas of Kumasi. Yankson and Gough (1999), on their part, examined the environmental impact of rapid urbanisation on the peri-urban areas of Accra. A wider spatial spread of such studies was deemed important to provide data for other types of cities and therefore permit comparison and broader understanding of the issues. This insight was the reasoning for selecting Cape Coast, Ho, Sunyani, Koforidua and Accra.

The very nature of the peri-urban areas made it difficult to ascertain the population that was engaged in agriculture. There was no sampling frame to use so a combination of probability and non-probability sampling procedures were used in the selection of a relatively small sample of peri-urban farmers for detailed study. The sampling was multi-stage. The first stage was the determination of the districts within the pre-selected regions. Five districts were purposively selected under the sponsorship of the Food and Agricultural Organisation (Ghana Office) of the United Nations. The Cape Coast Metropolitan Area (CCMA) has a large number of villages surrounding it. A large proportion of the population in these villages engages in agriculture purposively to serve the urban market. This situation is similar in Sunyani, Ho, Accra and Koforidua.

The second stage involved the listing of all communities within 30km radius of the cities and the random selection, using the lottery method, of 10 communities from each district. Thus, a total of 50 communities/villages were selected for the household survey. Given the resources available for the research, 10 households were selected in each community and this gave a sample size of 500 households. The field survey followed the methodology outlined as the agrarian systems diagnosis (FAO, 1999). A structured interview schedule was designed to capture the characteristics of the households, environmental issues, land tenure and land rights, land tenure dynamics, and peri-urban agriculture characteristics. The household heads or representatives were interviewed. Five hundred households were targeted, but four more were obtained in Sunyani* zone, so a total of 504 interview schedules were eventually returned as indicated in Table 1. The results and discussion are presented in the next section.

Table 1: The Distribution of Sampled Households

Peri-urban zone	Communities	Households	Total
Cape Coast	10	10	100
Sunyani	10	10	104*
Accra (Amasaman)	10	10	100
Koforidua	10	10	100
Ho	10	10	100
Total	50	50	504

Results and Discussion

The results are discussed along the lines of the characteristics of the households, environmental issues and land tenure and land rights. The other issues addressed relate to land tenure dynamics and peri-urban agriculture.

Characteristics of Farming Households

Household sizes varied marginally among the sampled localities with the largest family sizes occurring in the Accra zone (5.6) while localities around Koforidua reported low family size (4.8). There were more males (76% for Ho, 81% for Accra and 90% for Sunyani), and most respondents were married (76.8%) and aged between 31 and 60 years (82.9%). In addition, the study found that the majority (59.1%) of the respondents had some form of formal education up to the basic level, but Cape Coast (41%), Sunyani (25%) and Accra (Amasaman) (27%) zones reported more than 20 percent as without formal education, which were above the 24 percent for all the zones. Only seven respondents (1.4%) had tertiary level education.

One characteristic of peri-urban location is the changing social and economic balance between indigenous and immigrant inhabitants. The results do not reveal high levels of immigration, although the sample in the Accra zone showed more migrants (63%) than indigenous people. The communities around Ho (12%) and Cape Coast (13%) had the lowest proportions of immigrants in the population and this reflects the varying opportunities for economic advancement that the cities and towns in the sample offer. Accra has been a major attracting point for migrants compared to most other cities and towns in Ghana (Kendie, 1998). The low level of migration in the peri-urban locations was further revealed by the finding that 425 of the 504 respondents had lived in the communities for more than 20 years. The long stay in the villages by the majority of respondents implies some knowledge of the changing land market situation.

Most respondents (nearly 87%) were engaged in agricultural pursuits. Agriculture or farming was the only form of economic activity for about 58 percent of the 504 responding families as no off-farm employment was reported.

Environmental Issues

Peri-urban locations suffer some of the worst environmental health problems arising from the tendency of the city to dump its waste in these

zones. While this phenomenon was observed in the zones studied, the villages themselves lacked adequate waste disposal facilities. Most waste is dumped in public places, which are often not protected and controlled. Indiscriminate disposal or littering was also substantially practised. The waste disposal practices of the communities do not differ from what pertains in rural Ghana as a whole (see Kendie, 1990, 1996, 2002). Liquid wastes were equally not properly managed as wastewater was often left to run into soak pits or gutters. The use of wastewater in backyard gardening and the use of solid waste for composting were limited to only 10 and 27 cases, respectively. Although most households reported having bathrooms, these were usually rudimentary, the facilities being similar to bathroom systems in the urban low-income zones.

The health burdens associated with poor environmental sanitation manifest themselves in the nature of prevalent diseases found in the area. Malaria, intestinal worms, diarrhoea, bilharzia and skin diseases are the leading causes of morbidity and these reflect the national situation (Kendie, 2002). Intestinal worms and diarrhoea were particularly problematic in the Sunyani zone just as bilharzia and diarrhoea were of major concern in the Cape Coast area. These diseases are symptomatic of pollution, poverty, land use changes, and natural resource degradation. According to the UNFPA (2007), the absence of clear regulations and administrative authority can create environmental degradation and health hazards as industrial and agricultural activities mingle with residential activities. This mingling exposes residents to hazardous substances in the air, which can cause skin and respiratory diseases; and hazardous substances in water and food, which can cause diarrhoeal diseases.

Land tenure and Land Rights

While peri-urban communities would still depend to a very large extent on agriculture for their livelihood, the increasing competition for land would affect land access especially as speculation is often high in these settings (De Soto, 2000). Lands in southern Ghana are vested in stools and sub-stools occupied by chiefs and queenmothers who are the

custodians of the land. However, 'the custodians exercise (only) supervisory and administrative functions in respect of vacant and/or unallocated community lands and do so as titular holders, holding the land in trust for the whole community' (Arko-Adjei et al., 2009; Ben et al., 1997, p.87). Families and individuals hold the customary freehold in land so that these families must be the first 'point of call' when one is interested in acquiring land. The majority (51.6%) of the respondents acquired their lands for farming (Table 2) through the individual owners, the chief (25.6%) or the family head (21%). Access to available land was not a major problem as only 15 percent of the households said the land was difficult to acquire.

Table 2: Mode of Access to Land

Peri-urban zone	Chief	Individual land-owner	Family	LAC*	No.
Cape Coast	43	18	39	-	100
Sunyani	17	66	12	9	104
Amasaman (Accra)	36	48	16	-	100
Koforidua	23	71	6		100
Ho	10	57	33	-	100
Total	129 (25.6)	260 (51.6)	106 (21.0)	9 (1.8)	504

***Land allocation committee, which operates only in the Sunyani zone**

Land Rights

Long term knowledge of security in the use of land has implications for sustainable land management. In this study, we found that although it was quite easy to acquire land for farming purposes, this was not backed by the necessary security of tenure. Only 27 out of the 504 respondents had absolute rights to the land on which they farmed, and these were all in the Sunyani District. Twenty respondents had no rights at all and these were mostly in the Accra (Amasaman) and Cape Coast zones.

Also, 161 respondents (32%) had rights to the land for farming purposes only, and this occurred in all the zones with the highest incidence in Accra (40%) and Koforidua (41%). This finding of limited rights to the use of the land beyond agriculture was confirmed by the further finding that 403 respondents (80%) indicated that they had no right to sell the land. This was because 221 respondents (44%) had no outright ownership, 57 (11.3%) worked on family lands, 10 respondents (2.0%) worked on lands belonging to the chief and three respondents were occupying government lands. These findings suggest insecurity of tenure, which according to De Soto (2000), limits opportunities to access credit and invest in housing and soil improvements since they cannot use the land as collateral.

Mode of Land Acquisition

Most respondents operated on family lands (229 or 45.4%), but a substantial number operated on a leasehold basis (138 or 27.3%), which is the usual mode of land acquisition in urban Ghana. Other modes of land holding are the traditional 'abusa' and 'abunu' sharecropping systems.

As an urban centre expands outwards, the demand for land in peri-urban areas intensifies (Adell, 1999; UNFPA, 2007), and traditional modes of land acquisition are gradually replaced by the modern methods (Arko-Adjei et al., 2009). This situation is typified in Accra where only 27 respondents worked on family lands, the leasehold becoming the most frequent mode of land acquisition. Also in Accra, 53 percent of the respondents complained that they did not have enough land for expansion, as compared to Ho (15%), a comparatively smaller town. Respondents who had difficulty expanding their farmlands complained that much of the land was given out for residential purposes (23% for Accra, and 8% in Cape Coast). The land available, therefore, had become too small for the whole community (13% for Cape Coast and Accra, 18% for Koforidua and 14% for Ho).

There is a substantial increase in leasehold land titles, especially in Accra, and this, as was found out also for Bamako (Djire, 2007), does not

imply that peri-urban populations are registering their lands. Farm sizes are reducing because the urban middle classes (bureaucrats, businessmen and non-resident Ghanaians) are securing land in the peri-urban zone. The problems associated with the increasing appropriation of peri-urban land were manifested also in the sizes of farmland. Most farmlands were below four acres, the mode being two acres. This situation occurs in all the peri-urban zones except the Sunyani zone, where the mode was nine acres. This is to be contrasted though with the modal values of one acre in Cape Coast and Ho.

One constraining factor with regard to access to land generally was land shortage, which had to do with the gradual encroachment on peri-urban land for urban purposes, tantamount to what Nottingham and Liverpool Universities (1998) explain as the inevitable consequences of urbanisation. This restrictive access in the study areas was gender neutral. Over 54 percent of households in all the surveyed districts complained of the threat of urbanisation on the availability of land, the most pressure being in the Amasaman area of Accra. Residents of the peri-urban areas of Ho and Koforidua were also greatly affected by urban expansion as 70 percent and 63 percent respectively agreed that their communities were being threatened by urbanisation. The urban population growth rate in Ghana (about 4.8%) is generally higher than the national population growth rate (about 2.7%). This high rate of population growth in urban areas has implications for urban land use, and these have generally been in the direction of land acquisition in peri-urban locations for the purpose of home construction.

Peri-urban locations are often ideal for home construction by the rich in society. As the urban population increases and densities rise, there is the tendency to 'escape' into the suburbs. The peri-urban respondents see the pressures in the declining availability of land for farming and for the construction of their own homes. In the Accra and Cape Coast zones particularly, the signs of land shortage for farming purposes were obvious, and this also manifests itself in the small sizes of land available to female

farmers in all the peri-urban areas visited. Indeed, the tendency of the landowners (chiefs and clan heads) to sell to the highest bidder squeezes out the average peri-urban resident from the land market.

Private acquisition of lands occurred mainly for people from outside the peri-urban communities. Peri-urban families still operated under the customary law with the complaint that the registration processes were too costly and cumbersome. Where land titles had been secured, succession was tending towards patrilineal lines even in matrilineal societies as fathers bequeathed the lands to their sons. This finding makes it difficult to accept the conclusion by Benneh et al. (1997) that "the independent operation of women in the agricultural land market in all the study areas is progressive. The logical policy implication is that, as the social and economic systems change and given market opportunities, women (in the study areas) are well positioned to take initiatives and respond to the challenges towards improving their lot and that of their families"(p.65). Urban residents acquire land titles in peri-urban zones more easily and so the increasing conversion of customary holdings into the freehold system disrupts the cultural patterns of land acquisition and land use, and women in these zones are the hardest hit.

Women's Access to Land

The dependence of the peri-urban populations on farming in the study districts was obvious. Since farming is largely land extensive in Ghana, any activity that takes land from the household has implications for food security. In general, the external pressures on land (government acquisition, sale for residential and industrial development) have reduced the available land supply. Women are always the hardest hit in such conditions (Kameri-Mbote, 2005), and the very small farm sizes of the women farmers in the sample bear ample testimony.

Benneh et al. (1997) examined women's access to land in the peri-urban zones of Kumasi and also in the Wa and Nadowli Districts of the Upper West Region. The study found that tenure issues have often been

convenient scapegoats to explain low agricultural yields because most women had little or no difficulty in acquiring land for farming purposes. Thus, the independent operation of women in the agricultural land market in all the study areas was found to be progressive.

The present study found that women generally had access to farmland. Indeed 453 respondents asserted that there was no form of discrimination against women in so far as access to land was concerned, which is in line with the findings of Benneh et al. (1997). Nevertheless, the actual percentage of women engaged in agriculture was low, as only 35 percent (156) of the 448 households who responded to this question reported that their women had farms. Most farm sizes were small, the modal size being one acre and there was little variation among the districts. While, there appears to be no discrimination against women with respect to access to land, the actual size of farm-land was rather small, and rights were limited only to cultivation (80%).

Land Tenure Dynamics

The 50 communities surveyed in the five regions showed the conventional ownership patterns. These patterns are:

- Stool lands
- Family lands
- Private lands, and
- Government/public lands.

In some cases, there were ownership overlaps such as stool lands co-existing with family and public lands. In the Sunyani and the Koforidua zones, there were overlaps of all the four ownership patterns. The complex systems of ownership unearthed may be categorized into two land tenure systems as legally recognized in the 1992 constitution of the Republic of Ghana. These are the public and the customary (including private) land tenure systems.

In the public land tenure system, lands are vested in the President of Ghana on behalf of and in trust for the people of Ghana (Gough &

Yankson, 1997). Such lands may be acquired from stools with lump sum compensation, and administered by the Lands Commission. Significantly, all zones indicated government acquisition of lands in the peri-urban fringes. These lands were all registered at the Lands Commission and permanently lost by the stools.

The customary land tenure system retains its traditional characteristics of communal ownership and administration. It has, however, taken on the new characteristic of having to be registered at the Lands Commission. This further required that the exact boundaries, hitherto related to streams, trees etc. have to be determined and described. The registration is in response to the Compulsory Land Title Registration Law (1986) by which all land transactions have to be registered at the Lands Commission.

Private land ownership, which has become widespread in Ghana, has evolved from the customary land tenure system through the freehold sale of land to individuals who also offer portions of such lands for sale to other private individuals. In all the zones studied, family ownership and stool lands were the norm, implying the dominance of customary land tenure systems. Land titling (private ownership) is increasing, following the passage of the Law and is dominant in the Accra zone. The situation in the Accra zone affirms Kalabamu's (2000) conclusion that over time workable and key elements of the tenure system are retained and poor ones are dropped to suit new socio-geopolitical conditions.

Security of Tenure

The pressures and tensions of land tenure arising from the activities of the major actors in the land market produce varied degrees of tenure insecurity (Dorner, 1972; World Bank, 1974). In a positive vein, lack of tenure security and limited availability of land are known to have led to more intensive use of land in vegetable production and poultry farming often with knowledge and capital intensive technologies such as the use of agro chemicals and battery cage systems. However, it is the negative effects of tenure insecurity that are widespread in the peri-urban environs.

Tenure insecurity reduces the willingness of peri-urban farming households, which are generally resource poor, to invest in land and soil fertility improvement (De Soto, 2000).

Farming households surveyed demonstrated an understanding of the essence of land registration, which they asserted, helps to avoid litigation and land disputes, and provides the basis for legal action when there is a dispute. The respondents also indicated that a deeds registry document may be used as collateral security and this reason was prominent in Koforidua (26%) and Ho (18%) zones. Over 66 percent of farming households showed a general awareness of the Land Registry Act, (Act 122) of 1962. However, the survey revealed that in spite of farming households' awareness of the enforcement of the Land Registry Act and their recognition of the extreme importance of land registration, only a small proportion had undertaken the registration exercise (7% in Sunyani, 8% in Cape Coast, 12% in Accra, and Ho and 20% in Koforidua).

Various reasons assigned in order of importance for this low rate of registration were:

- the costly nature of the exercise (too expensive);
- ignorance of the procedures;
- procedures are cumbersome, and slow, and,
- corruption on the part of the state registration institutions.

Constraints identified in the land market that bring about tenure insecurity included:

- Prevalence of illegal and multiple sales, especially for family lands
- Share cropping arrangements which are not favourable
- Government acquisition of land without adequate compensation
- Land sold to sand winning contractors without concern for land degradation.

A development in the land market with many consequences for security of land tenure is the activities of land guards. Land guards act as

community watch dogs against illegal encroachment on land and thus enhance security of tenure. The concept of land guards was familiar to households in all the five zones, with the Accra zone showing the highest degree of awareness (70%), and lowest in Sunyani (31%). The activities of land guards are limited to the Accra, Koforidua and Ho zones, and to a lesser degree, the Sunyani and Cape Coast areas.

A major factor that determines the security of land tenure is the issue of succession. The evidence shows that the inheritance patterns conform to the traditional patrilineal (Greater Accra and Volta (Ho) Regions) and matrilineal (Central and Brong Ahafo Regions) systems. The Eastern Region (Koforidua), because of its multi-ethnic composition, was found to be partly matrilineal (Oyoko, Akwadum) and partly patrilineal (Adawso, Okorase, Nkurakan). There was a noticeable shift from matrilineal to patrilineal system of inheritance for privately acquired farm lands, and this was significant in the Accra and Cape Coast zones. This was attributed to the operation of the PNDC intestate succession law. This was to the disadvantage of women as patrilineal inheritance follows male lines. The implication is that as more lands get registered and private titles secured, females may lose out as even families in matrilineal societies will inherit land along patrilineal lines. This finding corroborates Kameri-Mbote's (2005) argument that under systems of law in many African countries, land ownership is anchored in patriarchy, and that while females may have security of tenure when the land is under cultivation, they experience restrictive access.

Generally, the study found that land in the peri-urban areas is sold and bought through several avenues:

- private purchases from individual land owners, which ranked first in Sunyani, Accra, Koforidua and Ho and second in Cape Coast.
- the chief as the focal point of contact, which ranked first in the Cape Coast area, second in Sunyani, Greater Accra and Koforidua but ranked third in the Ho zone.

- Through contact with clan and family head, which ranked third in all zones.
- In the Sunyani zone, a regional plot allocation committee was found to be operative.

It was generally felt in the surveyed communities that peri-urban land was too expensive to acquire and the procedures cumbersome and frustrating.

Peri-Urban Agriculture

From the survey, households were engaged mostly in food crop production. Crops grown include cassava, maize, yam, groundnuts, plantain and beans. Vegetable production is prominent in all the areas but more predominant in the Accra zone. Cash crop production was almost non-existent in the Cape Coast zone, the Accra zone, and the Ho zone. The Koforidua zone produced cocoa, cola, oil palm, and oranges in addition to the food crops and vegetables grown. In the Sunyani zone, cocoa and oil palm in addition to food crops and vegetables were cultivated. Small ruminant production, especially sheep and goats occurred in all the zones. Household poultry keeping was generally low. However, commercial poultry farming is growing in all the zones. In all, 249 such farms were counted in the study zones as shown in Table 3.

Table 3: Distribution of Commercial Poultry Farms

Zone	Number	Percentage
Cape Coast	42	16.9
Sunyani	95	38.1
Amasaman (Accra)	47	18.9
Koforidua	40	16.1
Ho	25	10.0
Total	249	100

The Sunyani area had the highest number of commercial poultry farms (95) while Ho zone had the lowest (25). The variation can be explained by the fact that the Sunyani area is one of the leading maize production zones in the country. Maize is an important input in poultry production and location in a production zone could lower costs substantially. It was further revealed that livestock production in the peri-urban areas was not properly integrated into the existing cropping systems. One could not therefore talk of mixed farming as a farming system in the peri-urban areas. In a few cases in Accra, Sunyani and Koforidua areas, mixed farming was prominent in backyard gardens where vegetables and fruit trees were integrated with small ruminants and poultry production. Fish farming and piggery production also featured in backyard gardens.

Technologies of Production

Peri-urban agriculture essentially employs traditional technologies of production and management systems. Hence the traditional implements and tools such as hoes, cutlasses, mattocks, and chisels are used, along with the traditional methods of mixed cropping, crop rotation and shifting cultivation/bush fallow to a lesser extent. In a few cases, modern capital goods such as irrigation equipment and pumps, tractors and implements for land preparation as well as garden tools were also in use.

The survey revealed a selection of modern techniques of farming employed in the regions to varying degrees. The use of chemical fertilisers ranks first in the techniques of farming employed in the zones (32% of households). Compost (22%), mulching (15%) and the use of pesticides (10%) followed in that order. The use of improved seeds (8%) offers the greatest scope for scale-neutral technical change for productivity improvements in peri-urban agriculture but the spread is still low. Agro-chemicals – fertilisers, pesticides and weedicides were said to be in short supply and were also extremely expensive. Farm labour was also in short

supply and becoming more and was more expensive as it faces competitive demand from off-farm urban employment opportunities.

Rain fed agriculture was found to be the norm in the peri-urban environs. There was no systematic use of surface and underground water resources for irrigation. Food crop production was therefore seasonal and erratic, totally dependent on the vagaries of the weather. The sourcing of knowledge resources by peri-urban farmers from the extension services of the Ministry of Food and Agriculture was also found to be defective. Farming households complained of a general lack of extension services and government support.

Conclusions and Policy Implications

It is important to recognise that peri-urban areas can be important sources of food (especially vegetable) supply to the city. Thus, intensive cultivation to offset declining land availability could reduce the cost of production, and the proximity to the city could further reduce the price to the consumer. Urban development policy ought to recognise this role of the peri-urban communities.

A first step towards the effective (and mutually beneficial) integration of the peri-urban areas into the cities and towns would be to ensure sanity in the land market, in order to facilitate access for women and the poor. The current situation of multiple sales, illegal sales, government acquisition of land without adequate compensation being paid to the landowners and the use of government acquired lands for other purposes, does not encourage stability and security in the land market. While these issues seem to occur throughout the urban areas, peri-urban areas are much more affected. The rapid replacement of traditional land tenure regimes with modern systems displaces people who are ill prepared to participate in the urban economy.

The LAP is collating views nationally in Ghana towards a consolidated law on lands. The following ought to be considered in this review:

- Land rights and land tenure are rooted in culture, which has evolved institutions and norms/rules governing land use and ownership. It is important that this cultural dimension be integral to the reforms.
- Freehold titles may actually increase the cost of land (a reality in many urban areas in Ghana) and thus squeeze out the poor, and peri-urban communities are at risk. Indeed this study has shown the tendency to transfer freehold titles from father to son even in matrilineal societies, so that women are disadvantaged.
- The indigenous institutions governing land tenure ought to be firmly involved. In this respect various researchers have suggested hybrid systems in which trained land surveyors provide the boundaries of community lands (Home, 2004), women actively participate in policy reforms to understand gender concerns in land tenure (Mari, 2003), and community levels of governance (Unit Committees, District Assembly and local courts) to operate simple procedures for land transactions.

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