Journal of Sustainable Development Studies
ISSN 2201-4268
Volume 6, Number 2, 2014, 260-293

Uncontrolled Urbanisation in Ghana: A Concern for Food Systems in the Wa Municipality

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Abstract. Even though food remains a basic need of man, the world still battles with food insecurity due to persistent constraints with food production systems especially in the Global South. The 2007/2008 food price hikes globally re-energised investment in innovative strategies of food production including urban agriculture. Unfortunately, uncontrolled urbanisation, incomprehensive and unsustainable land use systems have impacted gravely on food production in African cities. The effectiveness of food systems depends on efficient spatial and infrastructure planning mechanisms for spatial allocation to various land uses. This study was undertaken in the Wa Municipality in order to assess the impact of urbanisation and land use allocation strategies on the food production component of the food system within the context of existing land tenure systems and farming practices of the local people. Both explorative and descriptive research approaches were used to address the study objectives. The study revealed that indeed large tracts of hitherto agricultural land are indiscriminately being converted to urban infrastructure especially housing; yet the authorised planning institutions remain unable to formulate, implement and enforce land use plans that safeguard agricultural lands. Based on the general findings, strong policies and institutions are necessary to reserve high potential agricultural zones for agricultural purposes even within the city enclaves.

Key Words: Urbanisation, land use, land allocation, food systems, Wa Municipality, Ghana.

1. Background to the Study

Even though food remains one of the most basic needs of man, the world has never been completely free from hunger due to persisting constraints with the various aspects of food systems – production, distribution, storage, processing, consumption and waste management. The need for efficient and effective planning systems that ensure that people have access to all their food needs in close proximity and at affordable prices cannot be over emphasized. All over the world today, hunger is a worrying issue. The recent food price hikes which began in 2007/2008, has further spotlighted the nature of fears and concerns regarding food security. The link between food systems and food security therefore remains critical in resolving the persistent global food lag. This explains why Tacoli et al (2013) are of the view that food security is the product of effective food systems.

The food system is one that concerns itself with all the processes involved in putting food on the individual's table beginning with food production, through distribution and acquisition until consumption (Cassidy and Patterson, 2008). It also deals with issues pertaining to food waste management along the food chain. In the context of production, planners and planning interventions have the potential to initiate changes in the quality of resources that go into food production particularly, land and labour. For an efficient food distribution system, planners have to ensure appropriate and effective infrastructure systems for transportation, storage and processing. Effective food acquisition comes with ensuring easy access to places where food is marketed through appropriate allocation interventions. With this background, it is apparent issues regarding food have gone beyond the context of agriculture to proper land use and infrastructure planning. The effectiveness of the food system is actually vastly dependent on efficient spatial and infrastructure planning mechanisms that will make spatial allocation to various aspects of the food

system especially the production zone for farms and the road networks for food distribution. Hence the role of planners in both policy and physical planning is indispensable in smoothening food systems.

The food system begins with food production. In the same vein, food security is anchored on food availability as may be produced directly by local farmers in accessible locations. Although existing policies for curbing food insecurity globally have tended to focus mainly on food production, optimum local food productivity is yet to be achieved in Ghana. Slowing agricultural productivity has been labelled as one of the key factors responsible for the recent food crises (Tacoli et al. 2013). It is therefore important to realize that food must first and foremost be abundantly produced before it can be made available in the markets. Yet, in the context of land use planning, rapid and uncontrolled urbanization and unsustainable land use practices threaten global and local efforts geared towards increasing food productivity. In Ghana vast portions of viable agricultural land within peri-urban fringes are unscrupulously being converted to residential and other physical urban infrastructure. Uncontrolled urbanisation has consumed hitherto agricultural lands and has dispossessed majority of farmers from the peri-urban interfaces of their productive agricultural lands and livelihoods. While this is pushing some determined farmers farther into the hinterlands, others have totally abandoned farming as a livelihood and have taken up non-farm jobs in the cities and peri-urban areas. Efficient planners and effective planning processes are essential if these undesirable trends are to be reversed.

2. The Issue

Uncontrolled urbanisation and land use systems have implications for food systems and food security, particularly for food production. Food insecurity among the

Ghanaian population is increasing and so are urbanization and the resultant urban area expansion. As of 2009, approximately 1.2 million people, making up 5% of the entire Ghanaian population were said to be food insecure (WFP, 2009). In addition, about 2million people are said to be vulnerable of becoming food insecure. In total, it is estimated that more than 3million people in Ghana representing over 12% of the entire population do not have access to adequate, affordable, safe and nutritious food. The Ministry of Food and Agriculture (2007) believes that available agricultural land is declining due to population pressure and urbanization. A population census conducted in 1960 revealed that 23% of the country's population making up about 1.6million people were living in urban areas (Ghana Statistical Service, 2005). Subsequent censuses in the years 1970 and 2000 revealed that, 29% and 44% respectively of the populations in these years lived in urban centres (ibid). Today, more than half of the entire Ghanaian population live in urban centres. According to the 2010 Population and Housing Census (PHC), 51% of the entire Ghanaian population is urbanized with an annual growth rate of 3.4% (GSS, 2010). This rate of urbanization has serious implications on current and future land use and ultimately on agricultural production.

In 1960, a total of 61.1% of the Ghanaian population was engaged in agriculture (Ghana Statistical Service, 2005). This reduced to 60.6% in 1984 and by the year 2000, it was 51% (ibid). In 2008, the Ghana Living Standards Survey (GLSS) revealed that, a total of 55.8% of the working population between 2005 and 2006 were employed in agriculture (Ghana Statistical Service, 2008). The Ghana Statistical Service (2005) also believed that, agricultural production has not kept pace with the growth in population that took place in the 1990s. It further attributes this development to the fact that, the youth are leaving the farming areas for the urban centres while the ageing farmers, left behind in the rural farming areas, are

not energetic enough to increase agricultural production significantly.

Land is a prime resource for agricultural production but at the same time it is a very valuable asset to urban growth and development. As population growth in urban areas continues to soar, demand for land increases since cities have to expand in response to the pressures of the increasing demand for valuable urban infrastructure – housing, communication, sanitation, water and recreation. Thus, as cities grow and urban areas expand, adjoining rural and peri-urban lands, mainly prime agricultural land, are converted to urban uses. The observed trend in rural land capture in Ghana is not recent in nature though the extent of conversion is more pronounced. According Larbi (1996) as cited by Nunan (2001) approximately 2100 hectares of agricultural land was converted into urban uses on an annual basis in Accra alone between 1990 and 1993. With this background, the research sought to assess how urbanization and urban growth has impacted on food production in Ghana; and the factors that drive changes in urban land uses. It will hence identify the major factors accounting for the growth of the Wa Municipality, to give an overview of food systems and the area cultivated for major food crops in the Wa Municipality. The research therefore built on the premise that rapid and uncontrolled urbanization and growth are major contributing factors to the increasing levels of food insecurity in Ghana.

3. Methodology and Study Area Profile

The study was conducted using the Wa Municipality as a case study and employed both explorative and descriptive narrative research approaches to achieve the set objectives. Both qualitative and quantitative analysis procedures were used. Existing data on population and agricultural land use from the Wa Municipal Assembly (WMA) was used. Some development plans (local plans) were also studied

as part of attempt to examine spatial expansion dynamics. Interview guides were used to gather information from the Town and Country Planning Department and the Regional office of MoFA. The tools for the analysis largely depended on info-graphics. Due to the limited nature of various desirable data including the lack of up-to-date GIS maps covering the Wa Municipality, triangulation between various data sources was employed.

The Upper West region is the youngest region in Ghana. In 2010, the population of the region was pegged at 702,110 with a growth rate of 1.9% per annum. It had an urban population of 114,653 people resulting in an urbanised share of 16.3%. Wa is the capital city of the Upper West region and the Wa Municipality. The Wa Municipality was established in 2004 under the legislative Instrument (L.I) 1800 from the then Wa District. As of the year 2000, the population of the Wa Municipality was estimated at 98,675 people with a total urban population of 66,644 people representing a 65.8% share of the total population. A greater part of this urban population was in Wa. Subsequently, the 2010 population and housing census reported a Municipal population of 107,214 people with a total urbanized population of 71,051. This shows that, a total of 66.3% of the Municipality's total population is urbanized compared to the national urbanized share of 50.9% and the regional urbanized share of 16.3%. This also implies that the Wa Municipality alone accounts for a 62% share of the region's urbanized population in the year 2010. The Municipality is also reported as having an urban population growth rate of 4% as compared to the national urban growth rate of 3.4% (Wa Municipal, 2012; GSS, 2005; GSS, 2012). The Figure 1 (map) below shows the location of the Wa Municipality together with some of the peri-urban communities that would be discussed into detail below.

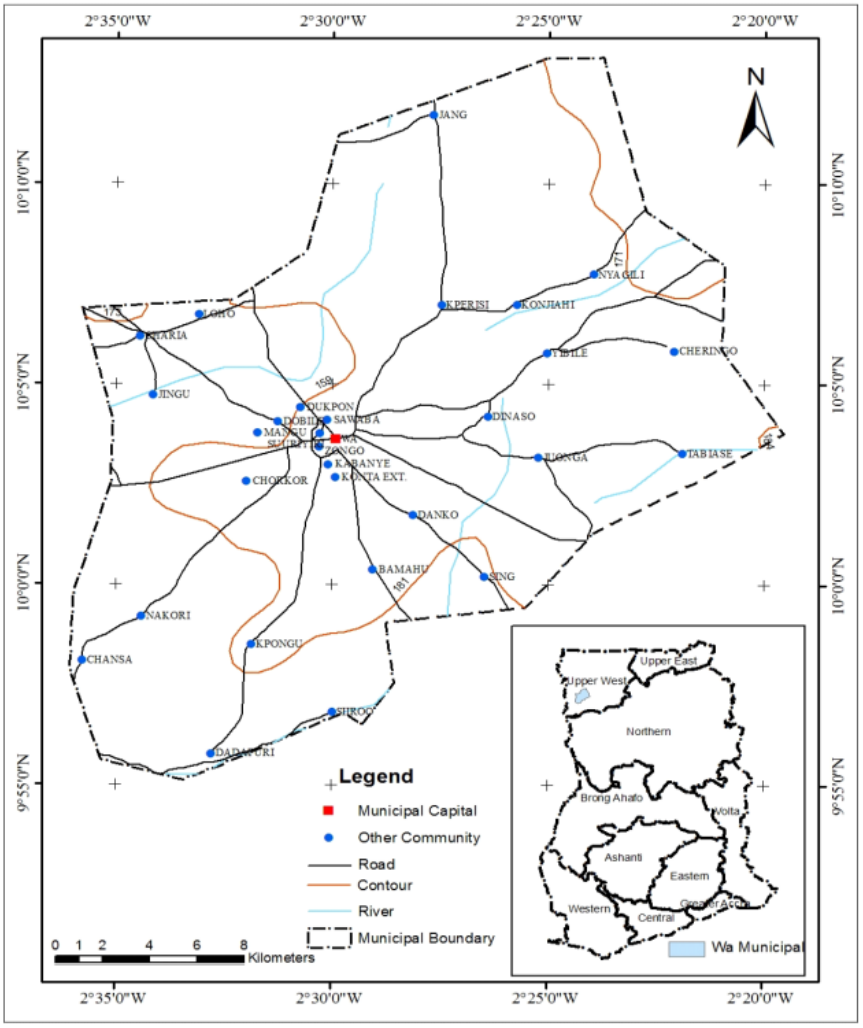

Figure 1: Map of Ghana showing the Wa Municipality and some Peri-Communities

Source: Aduah and Aabeyir (2012)

4. Understanding Urbanisation in the broader perspective

The term urbanisation is one that is often defined in demographic terms to mean an increasing share of a nation's or a region's population living in urban areas and a declining share living in rural areas (Satterthwaite et al., 2010). It is a term also used synonymously with urban population growth as well as the physical expansion of urban areas. In a bit to differentiate these three phenomena, Satterthwaite et al., (2010) suggested urbanisation is caused by the net rural to urban migration while a

nation's urban population growth may result from natural increase, net rural-urban migration, or reclassification. Potts (2009) also believes that, nations experiencing minimal or no economic growth tend to have very high rates of natural increase in their populations. This brings forth quite a different trend of urbanisation in Africa as compared to what happened in Europe and North America in the 1950s and 1960s as well as current trends in China. Urbanisation according to Satterthwaite et al. (2010) exists on two different levels. While in some cases it results in a higher densification of settlements, in other cases, it spreads out settlements into the periphery.

Africa is currently rated among the least urbanised regions of the world with hardly any mega-cities (UNCHS, 1996: p.13; Songsore, n.d.). Between the years 2000 and 2005, the rate of change of urbanisation in Africa was adjudged the highest in the world with a growth rate of 3.3% per annum (Songsore, n.d). East Africa is rated the fastest urbanising region on the African continent with a growth rate of 4.05% followed by West and Central Africa with a growth rate of 4.02% (UN-HABITAT, 2008: p.4). By the year 2007, the share of West Africa's urban population was already 41.75% exceeding the continent's urban population share of 38.7%. Although East Africa had the highest urban population growth rate, its urban share of the region's total population was pegged at 20.48%, making it the least urbanised region on the continent (UN-HABITAT, 2008: p.4; Songsore, n.d). An urban area in the Ghanaian context refers to settlements that have attained a population size of 5000 and above (GSS, 2012). All settlements therefore, which possess a population below the 5000 threshold are classified as rural. As of the year 2010, the share of Ghana's total urban population was pegged at 50.9% (GSS, 2012). The table below (Table 1) offers an illustration of urban population growth characteristics in Ghana the 1920 population census year to 2010 population census.

Table 1: Total Population and Urbanised Share from 1921-2010

Year	Total Population	Percentage Urbanised	Urban Population	No. of Urban Settlements
1921	2,298,000	7.8	179,244	-
1931	3,163,000	9.4	297,322	-
1948	4,118,000	12.9	570,597	41
1960	6,727,000	23.1	1,551,174	98
1970	8,559,000	28.9	2,472,456	135
1984	12,296,000	32.0	3,938,614	203
2000	18,912,000	43.8	8,278,636	364
2007	23,000,000	49.0	11,270,000	492
2010	24,658,823	51.0	12,545,229	636

Source: GSS (2005) and GSS (2010)

Songsore (n.d) attributes the rising trend in urbanisation in Ghana to three main demographic processes, which include rural-urban migration, natural increase as well as the reclassification phenomenon with the first two being the most dominant forces. Ghana's post-independence era economic growth targeting the development of the urban industry in the country, served as a push factor for a lot of people to move into urban centres for better jobs in the newly created industries. Being the first nation to attain independence in Sub-Saharan Africa, Ghana also experienced an influx of migrants from neighbouring states into the mining and cocoa producing parts of the country (Hill, 1963; Benneh et al, 1990: p.39; Goldstein and Udry, 2005; Goldstein, 2008; Quisimbing et al, 2001). Even though rural-urban migration contributed to 98% of the growth of cities, the economic crises between the 1970s and 1980s saw a decline in the share of rural-urban migration to a total of 18% (Benneh et al, 1990).

In most recent times however, much of the increase in urban population has been attributed to natural increase rather than rural-urban migration (GSS, 2008). It has also been reported by the Ghana Statistical Service (GSS, 2005) that, bigger cities like Accra and Kumasi tend to attract migratory movements from other urban areas in the country rather than rural areas. This means the populations of these bigger cities tend to be affected more by urban to urban migration than rural to urban. There also exists widening disparity between rural and urban areas in Ghana. The National Population Council (2011) confirms this when it associates the disparity in spatial distribution of the Ghanaian population to the largely urban-biased socio-economic policies and programmes with cities and towns evermore becoming the hub of economic, industrial, commercial, technological and social activities.

5. Understanding Food Systems and Dimensions

In the past food discussion were typically confined to agriculture and food systems have always been seen as quintessential to rural areas (Smit et al., 2001; Morgan, 2009; Morgan and Sonnino, 2010). However, the food system has several components which must work together in order to yield fruitful results. These include production, distribution, acquisition, consumption; and waste management (see Figure 2 below). The production component typically deals with the cultivation of crops and the raising of animals for human consumption. The distribution component typically concerns itself with the movement of food from one location to another where food is needed for direct consumption, processing or storage. The distribution component therefore encompasses all other processes that take place between the farm and the sales point of food. This is the component that brings food produced in far-off farms or bulk storages closer to consumers. This component plays a very important role in this era of globalisation and its impacts on triggering food price volatility. Conceptually, the inter-linkages between the various components of the food system

can be summarised in the Figure 2 below.

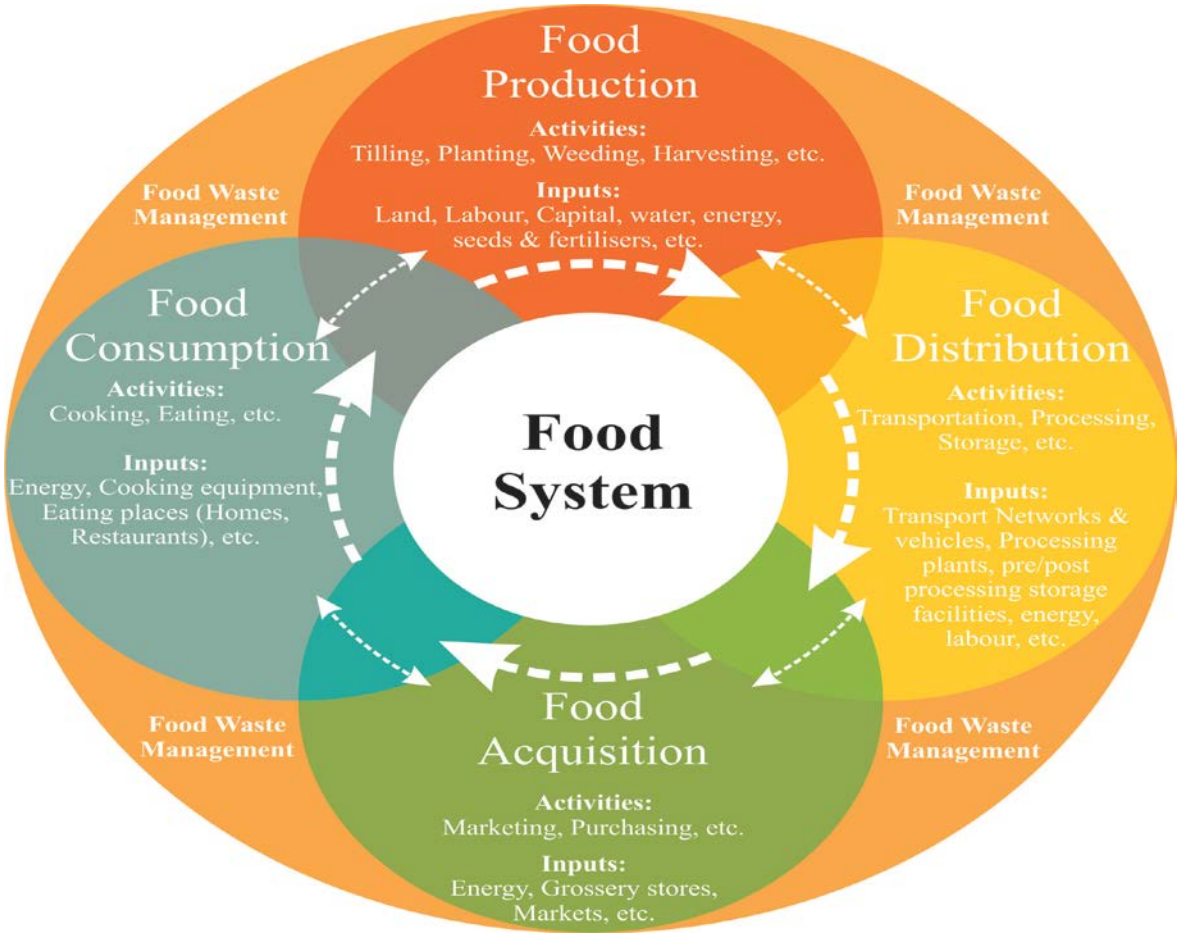

Figure 2: An overview of the Food System

Source: Authors, 2013

The component of acquisition deals with issues surrounding the varied mediums by which consumers acquire their food products. It therefore concerns itself primarily with ensuring consumer accessibility to food and thus, the spatial location of supermarkets; restaurants and public market squares are of great essence to ensuring consumer accessibility to food. The consumption sections basically deals with consumer food choices and the options between healthy and non-healthy or nutritious and non-nutritious foods and the factors that account for these choices. The final component of waste management is one that seeks to reduce the amount of

food that goes to waste, either by harvesting techniques, transportation or storage measures. Ensuring minimal food wastage as well as managing food waste is very important since more than one-third of the food produced globally gets wasted (FAO, 2011a), while food insecurity persists in other areas.

The food systems debate is in favour of a more localised approach to food production and consumption rather than a global approach. This new dimension, as explained by the FAO (2011b), seeks to build diverse supplies of food in geographical proximity to population centres in a bid to enhance the management of food systems. It also acknowledges the vast contribution of the existing global food chains to ensuring food security, which must not be disrupted in the push for this localised approach. This however raises concerns from some other quarters on the dangers of getting caught up in the 'local trap' (Born and Purcell, 2006). This is clarified by Shields (2013) in the explanation that food system localisation is not a conviction that everything can and must be produced locally. In effect, the promotion of localism of food systems raises an awareness of the need for better management of urban land so as to preserve urban and peri-urban agricultural land as much as possible. The real capacity of cities as well as the surrounding rural environment to ensure self-reliance in food production should therefore be considered seriously (FAO, 2011b). This would however require an in-depth assessment of the land and water resources, production practices, transportation, accessibility, consumption patterns, as well as the extent of feasibility within the local political environment (FAO, 2011b).

6. Urbanisation and Food Systems

Growing regional populations need to be fed now and in the future. The increasing concentration of people in urban areas therefore has implications for food systems,

as urban populations are vastly non-agrarians. Shields (2013: p. 6) reports that urbanisation results in the concentration of population in a specific space and decreases the amount of agricultural land available for the cultivation of food. Growth in the urban built up area is a phenomenon that accompanies urban population growth. Invariably, this results in the loss of valuable urban and peri-urban agricultural lands. This is inevitable to some extent, as settlements that grow to become cities tend to be located in areas with high soil fertility as well as fresh water resources (Satterthwaite et al., 2010). Hence, when such settlements begin to grow in size, they tend to absorb the surrounding agricultural area. This creates a dependence on rural areas to supply enough food to feed the growing urban population.

In line with this, the FAO (2011a) believes an intensified agricultural practice with sustainable water, soil and pest management practices are the best way to produce enough food to meet the needs of urban dwellers. The FAO (2011a) further advocates a strong connection between rural and urban areas as a means to ensuring adequate food production by the combined forces of both rural and urban agricultural practices. It is therefore believed that, urban agriculture has the potential to contribute significantly to feeding the growing populations of towns and cities (Bricas et al., 2003; FAO, 2010). Hence, it becomes inestimably crucial that urban agricultural lands are protected from competing urban land uses. In many areas of the world, it turns out the battle between agricultural land uses and urban land uses is almost always lost to the latter. With increasing land values in and around urban areas, there is also the tendency for land to be left vacant in anticipation of gains that may accrue due to non-agricultural uses (Satterthwaite et al., 2010). Satterthwaite et al., (2010) further suggest that, the absence of any land-use plan or strategic planning framework to direct and regulate land-use changes in rapidly growing cities of the

less developed regions of the world result in a more haphazard growth and expansion of urban areas. The info-graph below (Figure 3) illustrates our conception of some of the issues in the discussion on urbanisation and food systems and the urban-rural interrelationships.

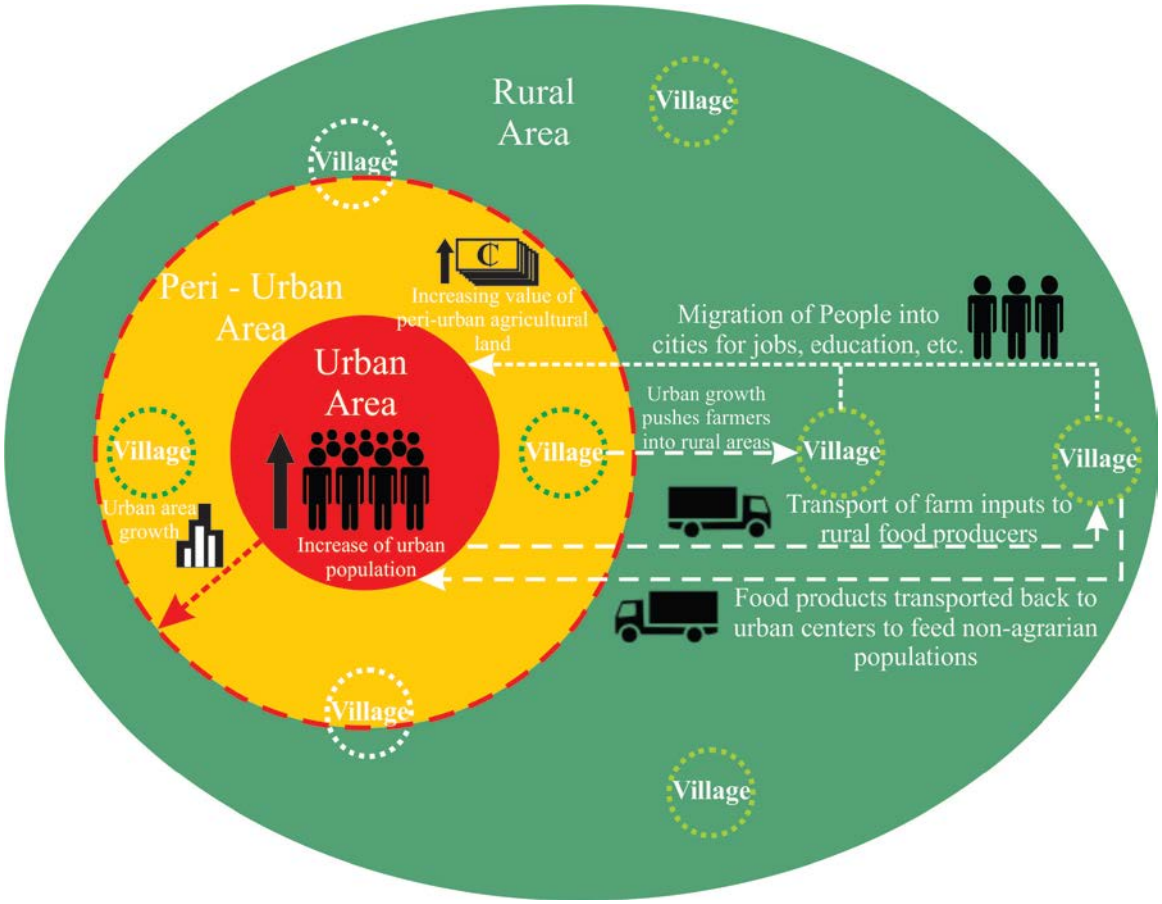

Figure 3: Urban-Rural interrelationships with the food system

Source: Authors, 2013

A rapidly urbanising society also implies a diversification of employment leading to fewer people working in agriculture while a majority work in other sectors including transport, wholesaling, retailing, food processing and vending (Cohen & Garrett, 2009). It is true that most of the food consumed all over the world is produced in predominantly rural areas. While much of the urbanisation in the developed regions of today was accompanied by economic growth, that of sub-Saharan Africa continues

to grapple with serious economic challenges. Urbanisation in the absence of economic growth and transformation within the local economy can be detrimental to both rural and urban poor people. Following this understanding, it remains clear that a good evaluation of the implications of urbanisation for food systems in any country require a clear understanding of the driving forces behind urbanisation in the past, how it is developing at present and in what ways it is likely to change in the future (Satterthwaite et al., 2010).

7. Findings and Discussion

7.1 Urban Growth Patterns in Wa Township

From our qualitative data urban growth in Wa has been quite slow until the early 2000 following key developmental projects around the city. For example our google images obtained for the years 2000, 2005 and 2012 revealed that the north-eastern part of the city has been growing steadily but quiet slowly. However, developments since 2005 in Wa have moved radially towards the southern and western parts of the city centre. Densities are generally low on the outskirts but increases towards the Central Business District (CBD). Older residential areas in the city centre exhibit higher densities as compared to areas distant from the CBD and further into the periphery. Figure 4 below gives an illustration of general density distributions within the city. We classified residential areas into high density, medium density and lower density areas together with wet valleys and forest reserve.

The northern part along the Wa-Kaleo Road has witnessed a high rate development over the period 2000 to 2013 following the construction of the Wa Airstrip along that stretch of road. Much of the developments in this area are for residential uses with little commercial activity in the area.

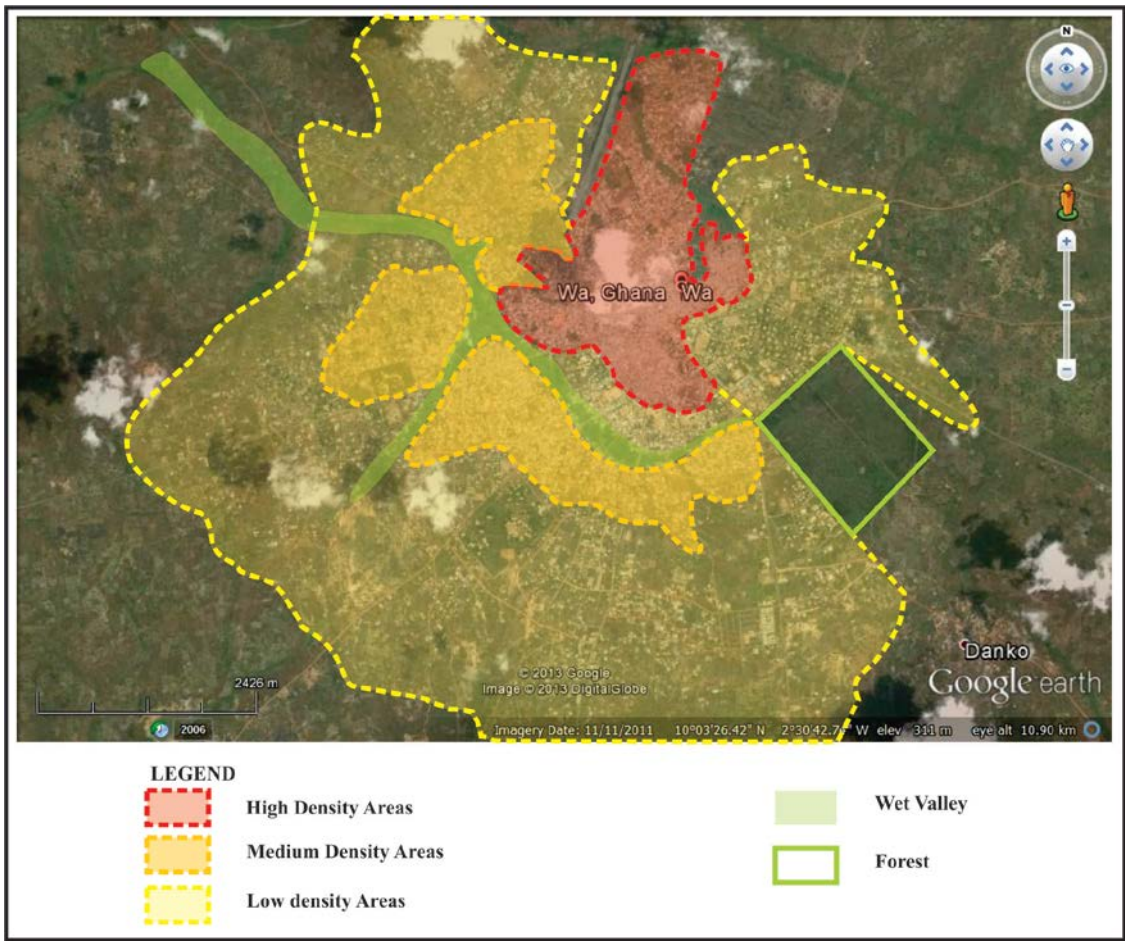

Figure 4: General distribution of housing densities within the Wa Township

Source: Google Earth picture with illustrations by Authors, 2013

Although development has been relatively slow, it has over the years extended gradually to connect the city to Loho-Paani the neighbouring village community, running along the main road for now. This extends the City's built up area beyond the Municipality's boundary northwards into the Nadowli District since Loho-Paani is in the neighbouring Nadowli District. Since Loho is largely a farming community, the extension of the city into the village threatens local food production potentials. About 80% of the community land is already sold, as residential and commercial plots though more than half of these are still lying idle in prime agricultural areas. Figure 5 below illustrates these developments in the Wa Municipality.

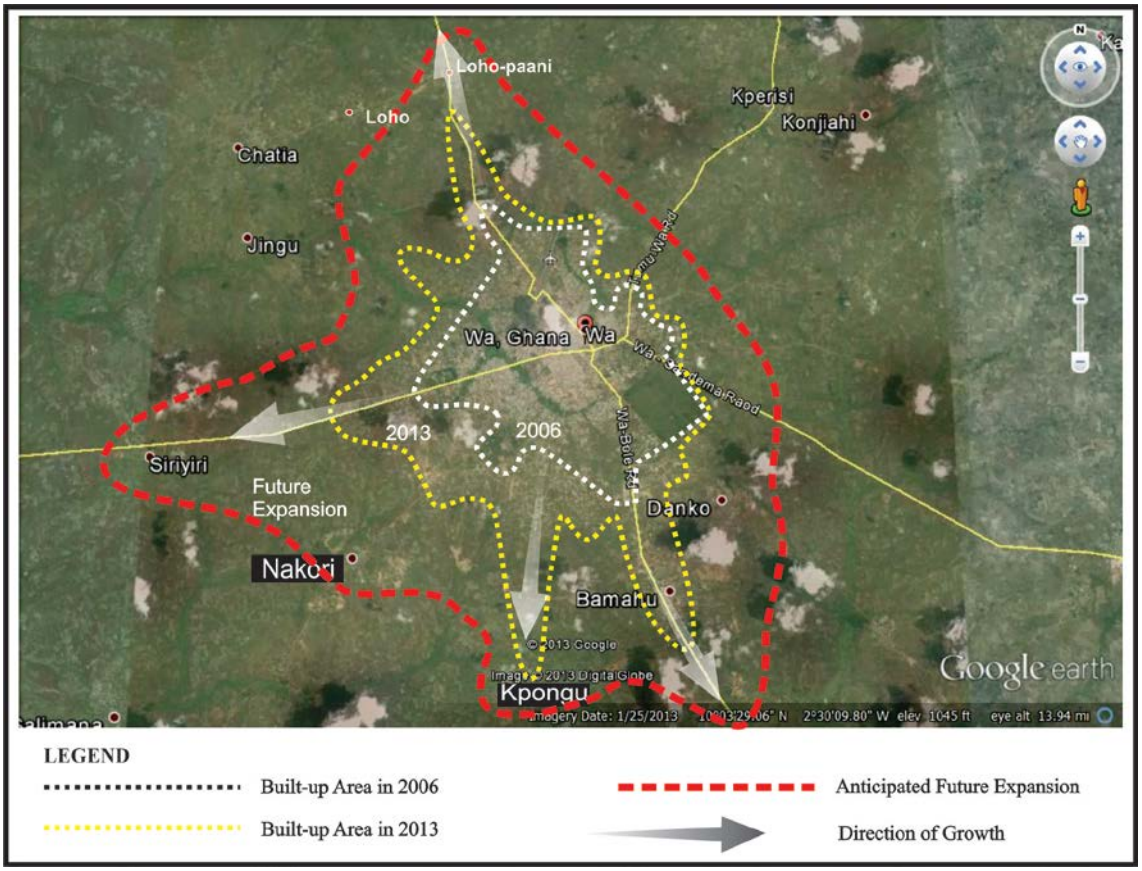

Figure 5: Google earth image of Wa showing built up area at different times

Source: Illustrations by Authors, 2013

Wa-Sombo and Mangu in the western part of the city, along the Wa-Dorimo road, also witnessed growth and urban expansion over the past decade as a result of the location of the temporal Wa-campus of the University for Development Studies (UDS). This area attracted the emergence of housing rental market as well as commercial facilities springing up to cash-in on potential market from the student populations. Most of these developments dating back to 2001 were erected in response to the demand for accommodation by students in the vicinity. The relocation of the campus in 2006 to Bamahu has however slowed down growth in the area, as the University campus was the driving force behind growth in the area. In 2007, the procurement of a large concession of land by the government for the

Affordable Housing Project in the community further attracted development along the Wa-Sombo-Dorimo road and stretching into Siriyiri, a village in neighbouring Wa-West District. Though the Affordable Housing Project never materialized in Wa, the designated site for the project remains located in this vicinity and continues to attract private land acquisition for future housing as well as speculation. Developments extending beyond the Sombo area recently have been predominantly private single storey residential housing in nature. Sites for the relocation of some public administration offices are also in this area (see illustrations in figure 5 above).

The eastern part of the city has however not seen much development. From the interviews conducted with planning officials of the Wa Municipality, this realisation was due to two main possible reasons. One school of thought is that perhaps the location of government bungalows for civil/public servants and the Wa Forest Reserve have not attracted developments beyond the area for fear of future government acquisition. On the other hand, it is also believed that the location of the Islamic cemetery beyond the residences of the eastern corridor has also been a major disincentive for housing. Cemeteries in Ghana are considered the domain of the dead and associated with a lot of mystery, gloom and ghost stories. They are therefore typically not attractive places for residential uses.

Developments along the Wa-Kumasi Road in the south from our study have been very recent following the relocation of the Wa campus of the UDS to Bamahu in 2006. This brought a lot of developers and speculators into the area for hostels and rental accommodation facilities for students. Many private residences have also sprung up in the area due to improved commutation to the city centre. In the course of the study, it was observed that growth on this route is extending all the way to the neighbouring villages like Kunfabiala and Kongpaala. Developments along the

Wa-Kpongu road are due to the establishment of the Wa Polytechnic on the lands of the Kpongu community. All of these developments are driven by private initiatives. Also, much of the growth realised in the western and the southern parts of the city have taken place over the last decade beginning in the early 2000s.

The nature of urban growth in the Wa Municipality in terms of compactness exhibits patterns shown below (Figure 6). To offer an understanding of housing densities, four distinct categories of compactness were identified within the city. These categories have thus been labelled from A to D based on identified characteristics. The location A refers to old residential neighbourhoods making up the Central Business District (CBD). This area though with high building density, is serviced with neighbourhood access roads - lanes and avenues. This area for example includes the Wa Zongo residential area, the Sokpeyiri area, the Kabanya, Wapaani and Jengbeyiri residential areas. Section B refers to mostly prototype housing developed in particular neighbourhoods and designated for government employees. These are also well-planned neighbourhoods and are always located away from the CBD. Examples of such areas in Wa include the Degu residential area, the Junior Staff Quarters at Dobile, the Senior Staff Bungalows, MoFA Quarters and the Nurses Quarters. Zone C depicts old indigenous neighbourhoods that are being engulfed by new developments in the city and hence dissipating the hitherto rural characteristics. Examples include Kpaguri, Kambali, Mangu, Wa-Sombo, Dobile and Kunbiehi residential areas. The fourth development zone labelled D refers to neighbourhoods located outside the city enclave but fusing into peri-urban rural communities. Example of such areas in Wa include the Kpalsaka residential area, Napogbakolle residential area, Kpaguri Extension, Airport Extension, South Sombo, West Sombo, Daako, and Sing Extension residential areas among others.

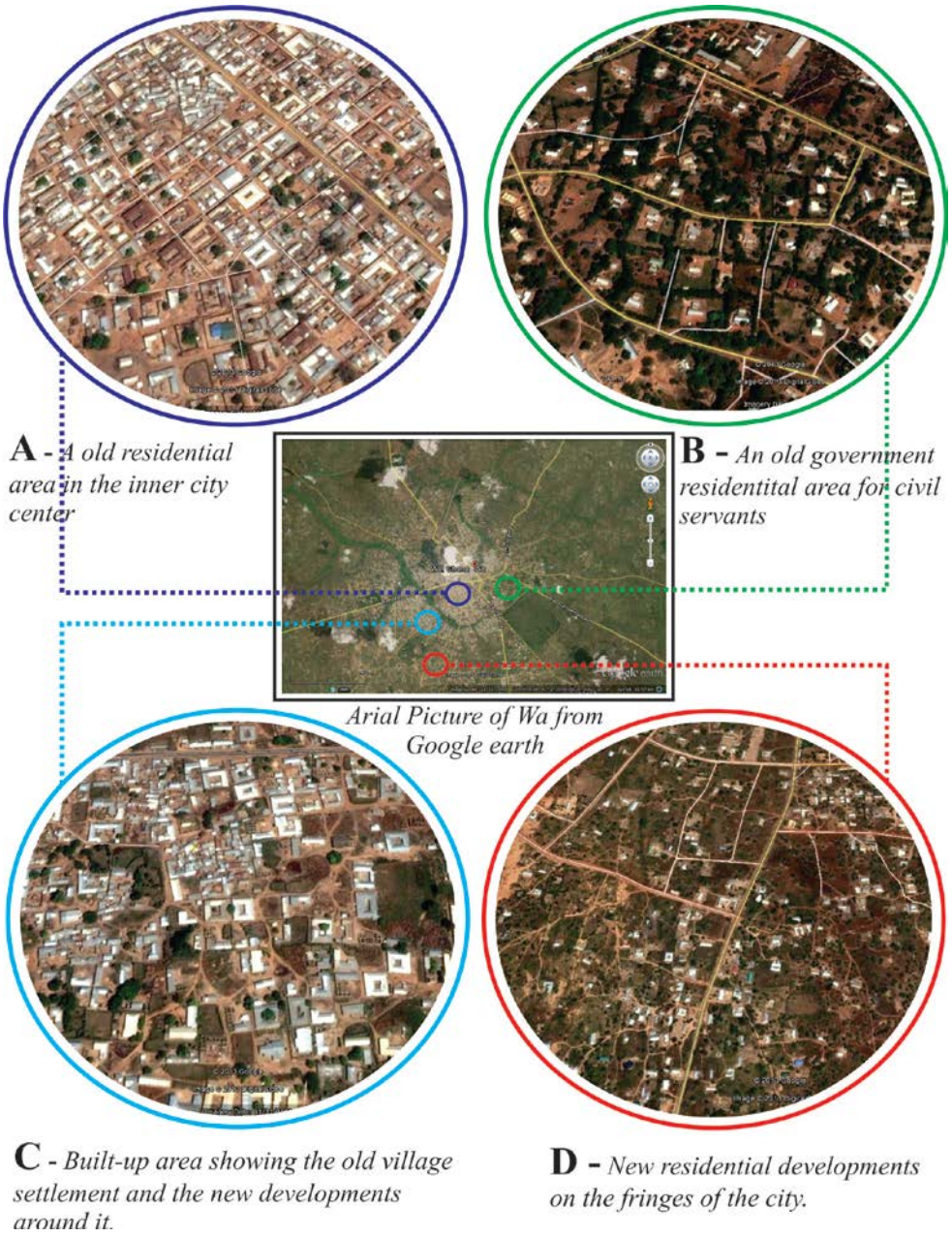

Figure 61: Aerial photographs of Wa showing different levels of compactness in 2011

Source: Authors, 2013

7.2 Factors Accounting for Growth in Urban Areas

Several factors account for the rapid rate of urban expansion in the Wa Municipality distinguishable from others in some other cities across the country. During this study, discussions with key stakeholders in urban planning and land management

have reduced the causes of urban growth in the Wa Municipality to uncontrolled private housing initiatives, centres of civic activities, public education facilities and infrastructural development.

7.2.1 Uncontrolled Private Housing Initiatives

The number one driving force behind urban area growth and expansion in Ghana is the issue of housing for the growing population. Though shelter remains a basic physiological need of man, Ghana is currently faced with a huge deficit in the provision of adequate, comfortable and affordable housing for its rapidly growing population especially in urban areas. Ghana today is challenged with a housing deficit estimated at about 1.5 million housing units as of 2012 (Dzakah and Ibrahim, 2012; Mensah, 2012). From the 1960 data through to 2002, the deficit continued to increase considerably (see details in the Table 2 below)

Table 2: Estimation of Housing Stock and Housing deficit in Ghana

Year	Estimated Total Households	Estimated Housing Stock	Estimated Housing Deficit
1960	-	-	36,439
1970	351,953	152,573	199,363
1986	898,000	498,000	400,000
2000	1,910,325	895,049	1,015,276
2002	2,176,325	943,490	1,232,835

Source: Mahama and Antwi (2006, p.4)

The inability of state housing authorities to provide adequate housing has driven many individuals to come up with innovative strategies to provide housing for themselves in cheap locations. In 2012, it was reported that more than 90% of all

housing units supplied in Ghana accrued to private informal initiatives with government and the private formal sector together accounting for just 10% (Mensah, 2012, p. 2). At present, there is no housing development initiative by the private formal sector in the Wa Municipality. Many initiatives by the private formal sector have been concentrated in the big cities such as Accra and Kumasi. The government has not also carried out any such developments to cater for the housing needs of the Municipality for a long time. The most recent attempted initiative towards such an end was the STX Housing Scheme, introduced in 2011, which was to be undertaken in collaboration with the Korean government but was met with a lot of challenges that led to its abortion before any actual works could begin on the project. Prior to the STX housing scheme was the Affordable Housing Development Scheme in 2004 slated for all 10 regional capitals of Ghana. The first phase of the project started in Accra and Kumasi. Since the project was never completed even in the two-piloted areas, it was never introduced in any of the other 8 regions in the country.

Generally, the inability of government to regulate private initiative toward housing development has led to the kind of sprawl-like development in towns and cities in the country. The story is not different in the Wa Municipality. The current state of housing development in the peri-urban fringes of Wa is the primary driving force behind growth and expansion of all the city. This kind of development also extends beyond the city gradually, penetrating the surrounding rural and agricultural zones gradually and growing more compact with infill developments in later years.

7.2.2 Centre for Civic Functions

The Upper West region is one of the most deprived regions in the whole country. Majority of the population in the region are into farming as a major source of livelihood in all rural and peri-urban areas. With limited options for alternative

livelihoods in the area, formal sector employment and education have been the main pull factors for qualified and skilled personnel to move into urban areas. Being the regional capital, Wa has been the centre of attraction for migrants for a long time. Consequently, Wa has been the focal point for many infrastructural developments in the region to the detriment of other towns in the region. This lack in quality infrastructure in rural areas and small towns tends to push many youth with higher education into bigger cities in search of employment opportunities. Recent policy decisions to open up new districts with district administrative capitals in other parts of the region are opening up other parts of the area through public administration as well. Hence, civil functions have played and still continue to play a major role in the rising population of these cities and consequently, the expansion in these urban areas.

7.2.3 Improving Education Infrastructure

Education is another strong driving force behind urban growth and expansion in the Wa Municipality. Wa has been greatly affected by the education factor. Until the early 2000s, there were no tertiary institutions in Wa. The establishment of the Wa campus of the University for Development Studies as well as the Wa Polytechnic however led to the influx of people from other parts of the country into the city both to work and study. The University began with a temporary campus in Wa-Sombo (to the west of the city) and this stimulated several new developments in the area. Since the University did not have any accommodation facilities for students in the beginning, all students of the University had to find their own accommodation facilities. Private investors therefore seized the opportunity to acquire parcels of land in and around Wa-Sombo in order to develop student hostel facilities. It also brought about a lot of commercial facilities along the Kambali-Sombo road including the introduction of the mini-bus public transport system popularly known as 'Trotro'.

For a small city like Wa, all such new developments immediately became visible and it was apparent that physical urban growth was spreading in the direction of Sombo.

Since mid-2006, the Wa-campus of the University for Development Studies (UDS) was moved to its permanent campus in Bamahu. Immediately, attention was drawn towards Bamahu as the most lucrative location for commercial properties for retailing and hostels. The land market in Bamahu suddenly became very vibrant. Similar developments also sprang up around the Wa Polytechnic along the Wa-Kpongu road. While some of these parcels of land acquired by individuals are being developed immediately, many of them are acquired in speculation for higher future land values. As most of these developments are executed with private funding, majority of them are very slow and span several years. In the process smallholder farmers in these communities lose their productive lands to largely piecemeal housing and have to either quit farming or move to farther villages for alternative lands.

7.2.4 General Infrastructural Improvement

Infrastructural development happens to be a major incentive for growth and development in new locations. In the case of Ghana, the inability of government to provide basic social amenities such as water, electricity, telecommunication, roads, schools, hospitals among others in many areas remains a big challenge. Areas with comparatively better social and infrastructural amenities therefore tend to attract many private developers. One major infrastructure that has been a strong pull factor for growth is road network. New areas marked out for urban development with planning schemes have hardly any amenities. In most cases, the provision of access roads, which connects the inner city to new neighbourhoods, become an incentive for individuals to begin developing their own parcels of land which hitherto were

speculated lands. New developments have thus been located first along these road networks and then gradually spreads out. Evidence of this can be seen in our study of the Wa Municipality. It was revealed that, radial development in the city peaked following the opening up and tarring of major streets towards Kpongu, Wa-Sombo, Loho and Bamahu communities.

7.3 Overview of the Food System in the Wa Municipality

It was revealed that in the Wa Municipality maize, rice, millet, sorghum, groundnuts, yam, cassava and cowpea make up the main staple foods of the people. Mainly smallholder farmers in the rural and peri-urban areas on parcels averaging 2ha to 5ha respectively produce food. Farming is their main and source of livelihood. Agriculture is generally dependent on rainfall. After harvesting, farmers store some of the food for family consumption while the rest is sold in bulk or in bits as and when cash is needed. The ability to sell off in bits is however dependent on how perishable the produce is, as well as the availability of processing and storage facilities.

Peri-urban farmers transport their crops to the urban markets for sale either by themselves or by family members. Rural farm produce is however distributed differently in Ghana. The local distribution system operates on a market day system. Each community has a defined market day, which is either a fixed day in a week or a day within a defined cycle (i.e. every week, every six days, every three days, etc). On such designated days, farmers in the community and other surrounding communities bring their harvest to the village market to sell directly to consumers or to middle men/women who buy in bulk to retail in mostly the town markets. In this system, many village markets are identifiable for their specialties for particular products. On the other hand, during the harvesting period, market queens may go

into rural areas with trucks to purchase foodstuff directly from farmers. Low transportation cost is an advantage that may accrue to peri-urban farmers because of their proximity to the city (see Smit et al., 2001). On the other hand high cost of transportation may be pushed to the consumer through high food prices.

7.4 Area Cultivated for Major Food Crops in the Study Area

The study revealed that, the total area cultivated in the Wa Municipality for the major staples food crops - maize, rice, millet, sorghum, groundnuts, yam, cassava and cowpea is generally on the increase, though it was hypothesised that urbanisation reduces farm sizes. Food production data from the Ministry of Food and Agriculture (MoFA) revealed a general increasing trend for all the three northern regions with some years recording slight reduction. In the Upper West Region, total cultivated area for staples increased consistently till it peaked in 2003. The year 2004 experienced a decline in production area while 2005 to 2007 witnessed a rise. The year 2008 again experienced a slight dip in total area cultivated. In 2009, area cultivated begun to expand again consistently till it peaked in 2011 and experienced another decline in 2012. Observably, all three declines in production areas in the Upper West Region coincided with the political election calendar of Ghana for 2004, 2008 and 2012. Though the explanation for this relationship was not given, we may attribute this trend to the general reduction in government expenditure and interest in agriculture in election years to focus on social services that have immediate impact and have the potential to win votes at the election. This trend could also be due deagrariansation (Brycenson, 2002; Yaro, 2006; Hesselberg and Yaro, 2006). As demand on farmland for infrastructure in urban and peri-urban areas increase, many people are diversifying from agriculture to other non-farm livelihoods and for younger people this pressure on land has led to migration to inner cities. Peri-urban peasants may adopt agricultural intensification or 'extensification', livelihood

diversification and migration (Hesselberg and Yaro, 2006) as mitigation option. In the Wa scenario, observed trend in growth of agricultural land could best be explained by farmland 'extensification' and migration. This trend in farm area expansion in the Upper West region is displayed in the data below obtained from MoFA (2013) and labelled figure 7.

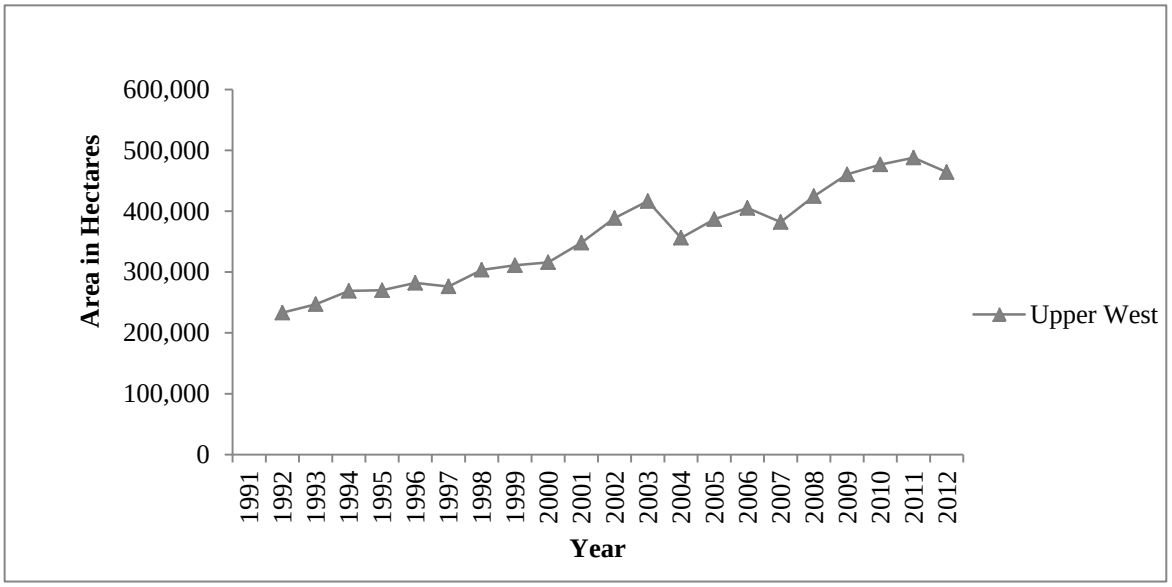

Figure 7: Total area cultivated for major food crops in the Upper West Regions

Source: Authors' construct with data from MoFA, 2013

In like manner, the Wa Municipality also registered a trend of increase in the area cultivated for major staples between 1992 and 2003. The period between 2004 and 2005 recorded a sharp decline in the area produced but this was explained by the re-demarcation of the then Wa District into Wa Municipality, Wa West and Wa East District Assemblies, thus separating more than two-thirds of the land area from the current Municipality. However, the decline in 2004 may be explained in general terms by reduced agricultural investment in subsidies during a political year especially in areas that are considered the electoral '*World Bank'* of the rural party (see Banful, 2011). Banful (2011:1175) found that fertilizer vouchers are used for vote-buying in Ghana during election years. *"Higher numbers of vouchers were*

targeted to districts that the ruling party had lost in the previous presidential elections and more so in the districts that had been lost by a higher margin". Since the Wa Municipality is drawn to the National Democratic Congress (NDC), it is possible it benefited from fertilizer subsidies in the 2004 farming season. Distribution of fertilizer vouchers and improvement in access to fertilizer allows farmers to do intensification hence a drop in land sizes cultivated.

The increasing trend recorded between 2005 and 2012 (figure 8 below) is a clear indication that farming within the Municipality continues to thrive amidst threats from urban infrastructural expansion and lack of government subsidies (especially fertilizer, traction and seeds). Generally, an increasing population in the Municipality implies an increased need to ensure sustained increase in food production and improve productivity. Since a large percentage of the working population in the Municipality is agrarian, observed expansion in productive plot sizes is heart-warming.

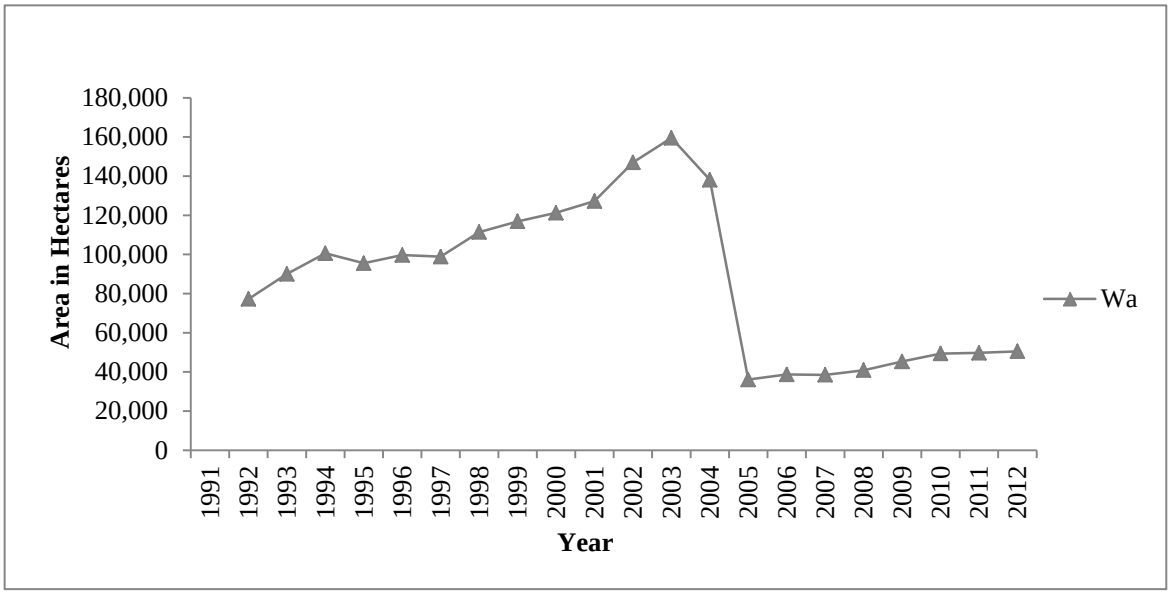

Figure 8: Total area cultivated for major food crops in the Wa from 1991 to 2012

Source: Data from MoFA, 2013

Also the overall increase in total area cultivated between 1992 and 2012 could also be attributable to some recent agricultural subsidies on fertilizer, seed and block farming systems under the Ministry of Food and Agriculture. Interviews with some farmers however revealed that farms have been relocated to neighbouring villages where cheaper land is available. At lower rents, they are able to procure larger tracks of new lands. These may explain the apparent increasing farm sizes even under growing urbanisation. Issues of *'deagrarianisation'* cannot also be ruled out since peri-urban populations are diversifying into other areas while few farmers are *'extensifying'* their farmlands in neighbouring rural areas.

8. Conclusion

Urban agriculture remains very important for improving food security and this explains why Smit et al (2001) called it the 'edible landscape' of the urban region. Since food security is the product of effective food systems, identified challenges to agricultural land resources around the Wa Municipality due to uncontrolled urbanisation in need to be tackled. Although agricultural lands are increasingly being lost to urbanisation in the area, it does not appear to present any cause for alarm at present since farmers manage to find alternative land in other nearby rural communities. Following this, it may seem unthinkable that land for agriculture would run out at some point in the Wa Municipality. However, the observed pattern of urban growth amidst rapid population growth in Ghana definitely calls for policy attentions. Urbanisation at the expense of sub-urban and rural communities presents a number of opportunities for affected farming communities in terms of improvement in social infrastructure and job opportunities. Farmers living close to urban areas are able to engage in supplementary income generating activities to support their income from the farm. Hence it is farmers who had to adapt, re-adapt and diversify to the threats posed to their livelihoods by urbanisation that feel the

exigency of the problem. It is evident that food production capacities are being shifted from peri-urban communities facing the ramifications of indiscriminate urban growth to communities in the hinterlands.

So long as land management agencies in Ghana fail to prepare land use plans and strictly enforce them, land market dynamics will continue to rob peri-urban farmers of their farmlands. Affordable housing schemes should be implemented in urban Ghana where the need for housing is the greatest, as a measure of addressing the housing deficit. Housing subsidies and mortgaging is another way to go. However, these must be integrated within land use plans of urban communities. Controlling urban growth and housing development should be the business of local governments who are legally mandated to issue development and building permits. It is only in this way that agricultural zones can be created in close proximity to the city in order to maintain sustainable food supply. Though this study was limited to the Wa Municipality, the situation in the area bares a lot of semblance with other cities across the country. Similar studies ought to be undertaken across the nation; and a national policy on land use planning and sustainable urban agriculture is more appropriate.

Acknowledgement

Since this paper is part of MSc Thesis previously undertaken at the University of Stuttgart, we wish to acknowledge the supervision of Prof. Dr. Antje Stokman and Prof. Dr. Stefan Siedentop for their painstaking efforts in reading and critiquing the entire work. We appreciate their encouragement and discussions throughout the writing of this work. We are also grateful to all the individuals and departments who contributed data from which we prepared this paper. God richly bless you all.

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