

The Need for Changes in Urban Planning: Case Study of Accra Capital City of Ghana

Introduction

Ghana is a country located on the western coast of Africa. The country is bounded on the south by the Gulf of Guinea, to the north by Burkinafaso, west by Cote d'Ivoire and Togo to the east. (Figure 1).

Fig. 1



Source: <http://www.books-maps.com/GH/>

Ghana has a land area of about 238,500 square kilometres and a population of about 19 million with a population density of 75 persons per square kilometre. The climate is tropical and characterised by dry season between November and March and raining season from April to October. The country gained political independence from Britain in 1957. Accra is the capital city of Ghana. The current city was a fishing village inhabited by the Ga settlers around the fifteenth century (Gough and Yankson, 1997). It later became the seat of British colonial administration in 1877. By virtue of its strategic location along the coast and its easy access to the hinterlands, it became an economic and industrial hub for Ghana. The population of Accra was 2.2 million two years ago (World Bank 2002). Regulatory planning by central government such as protecting natural resources as well as putting in place the needed infrastructure for the comfort of society has undergone changes over the years. Empirical evidence shows that such regulatory approaches are not sustainable considering the fact that they provide a short term solution to urban growth problems. Further, the current complexity of economic, social and cultural problems within the global urban milieu has proved that the conventional approach of creating Central Business Districts with concentrated work/business functions at a central point often results in congestion problems hence this has to change.

The national capital Accra is administered by the Accra Metropolitan Assembly (AMA). The city of Accra is experiencing a shift from a *compact city* characterised by high density, mixed land use, concentration of settlements for example at indigenous Ga communities such as Jamestown with a density of about 1,000 persons/ha. World Bank (2002) to a *network city*

with car based decentralisation, less density in planned residential areas mostly at the outskirts of the city such as Adenta. Although the low density houses may be aimed at decongesting the city centre, the one story self contained houses that spread over the city create a lateral expansion of the city with residential houses with few shops unlike vertical expansion with a mix of work and living places to ensure sustainable use of land and also reduce automobile dependence because it leads to carbon dioxide and carbon mono-oxide emissions.

As a result of the weaknesses in the old planning model, a new approach to planning emerged which is project oriented. The project-oriented approach has improved the conventional planning method of urban land use regulation, revising sector policies on housing, improving upon transportation infrastructure and commerce. With the new approach, urban plans are conceived as city projects that need the involvement of all inhabitants in deciding how the city environment should look like by involving local representatives and experts in the drafting of city plans. The new development approach to planning also requires cooperation among cities and regions in pursuance of sustainable development goals given the limited land space, urban environmental pollution problems and traffic congestions.

The departure from this old concept is as a result of high urban growth in Accra city over the past two decades given the slow pace at which utility services such as water, electricity, and sewerage disposal services are provided. Whilst the network city is an improvement upon the compact city, it still has to be improved given the current models by most developed countries to ensure more sustainable management of urban cities using the poly-centric approach to optimise building and human density, have a mix of urban land use with space for high ecological diversity and social integration in addition to a transport system compatible with the environment.

Main Causes of Accra's Problems

Major factors contributing to problems in Accra city can be explained by socio-economic factors such as migration from rural areas to the city for jobs and better standard of living. Since the colonial era, the growth pole concept created a situation of concentration of development at the city centre without any significant trickle down effects on the development of towns and villages which should be complements to the city of Accra. As a result, the competitive advantage of Accra regarding high quality of life and its prime location which serves as an attraction for investment unlike its complementary cities and towns in the 12 regional capitals except Kumasi in the Ashanti Region has made the city a uni-centric city that pulls people for jobs and the establishment of business. The massive influx of people into the city centre has created problems of congestion attributable to human and vehicular traffic, congestion in rooms and high rental charges. For example, in compound houses in Accra, up to about 20 families live in one or two rooms and share the same toilet facility (World Bank 2002). Also, waste management problems, deteriorating transportation system and flooding problems occur due to construction of houses in flood prone areas coupled with pollution of the city's atmosphere and water bodies.

Lack of data on urban land used over the years has been a problem to effective city planning. The problem is now being addressed through the use of Geographic Information System as a tool for collecting and storing data as well as making analysis of data collected. This has proved useful in the planning and management of the City.

Conceptual Approaches

Modern thinking in city development focuses on sustainable development of cities. The well known concept of sustainable development emphasises development that meets the needs of the present without compromising the ability of unborn generations to meet their own needs. Regarding sustainable development of cities, the Silverdal District project in Sweden

for example identified four main components of sustainable cities. Namely social, ecological, economic and organizational sustainability. Socially urban project seeks to provide all the inhabitants with a sense of belonging, feeling secured, mixing with one another, and ensuring that the local environment promote the physical and mental health of the people.

Ecologically, the drive for sustainability focuses on ensuring that finite resources are re-used or conserved, by putting in place mechanisms to ensure that foreign or harmful substances to the environment are not spread. Also, conservation of biodiversity is crucial to ecological sustainability. Economic sustainability aims at putting structures in place to ensure that the local economy is differentiated, seeking of international contacts and exchanges for possible economic development to create employment opportunities for the people. Finally, the organizational sustainability is to ensure that every one take part in the decision making process in the city, empower the local people and exchange experiences to stimulate new thinking and also make the community accessible to everyone.

On the basis of sustainable expansion of cities, the Heriot Watt University in UK came up with a polycentric concept of city expansion as a sustainable means to develop cities in Europe considering its advantages of ensuring competitiveness and regional balance. A Polycentric city can be defined as a city with functional network thereby functioning as a complementary city attracting people from the large settlements to create a regenerated town centre that has strong links and complementarity. Kloosterma and Lambregts (2001) pointed out that polycentric urban arrangements are consistent with changing work, consumption and family patterns emerging over recent years. In effect, one can say that urban regions are consistent with contemporary globalisation. This is opposed to a uni-centric city where a large urban settlement dominates the surrounding towns and villages leading to the towns/villages becoming dormitory centres around the uni-centric city. In Ghana, Accra can be considered as a uni-centric city because of its attractive magnetic functions that keeps drawing the citizens of Ghana to it given the centralization of jobs, good education facilities, better telephone and transport networks, and other social amenities. For Accra to overcome its challenges it has to switch to more sustainable system similar to the polycentric approach in Europe. The perceived obstacle to achieving a polycentric city is the existing system of individual acquisition of land for house construction. In this case individuals decide the design of their houses which are mostly single story self contained houses considering the fact that it is expensive to construct multi-story buildings for the purposes of minimising space usage and having more open spaces with green areas. Unlike Ghana in most European cities, residential and office buildings are constructed as multi story buildings by companies and then rented out.

Similar to the Heriot Watt University polycentric concept is the finger model and urban satellite field concept which have been proposed for Accra. The finger concept is to maximize resources by promoting new developments that encourage cost-effective water, sewer, and transportation infrastructure investment through medium-density linear development along corridors or "fingers." As a way to reduce flooding, the finger model recommends preserving open space in floodplains and promoting regional reforestation. (Graduate School of Architecture, Planning and Preservation, Columbia University). The concept capitalizes on the historic character of central Accra while connecting it to regional hubs for industry, retail and office development. The finger concept acknowledges the fact that, if Accra is to become a leading West African city, implementation of comprehensive solid and liquid waste systems and improved piped water delivery will be necessary over the next five to ten years. Also, the finger concept recognizes the importance of established social networks in the regions and shapes the physical environment accordingly, planning for efficient and sustainable use of resources.

The Urban Satellite Field Concept concerns promoting diverse land uses, such as a mixed of residential and commercial land uses with small and large nodes of purely commercial development. The concept proposes a comprehensive transportation network with a public service transportation system, consisting of a three-tiered framework that will use three major services such as heavy rail, bus rapid transit and para-transit. Further, the urban field will be complemented with eight to ten satellite cities that will accommodate Accra's population growth and Economic development schemes. The Urban Satellite Field Concept also recognises the need to mitigate Accra's risk of floods, fires, earthquakes and disease through land use management, transportation, communication, improved emergency response, and economic development. (Graduate School of Architecture, Planning and Preservation, Columbia University).

A project oriented approach is being applied to development of public infrastructure. This is in line with government decentralisation processes. The introduction of such a policy is enhancing flexibility in the spatial planning process with community involvement. Also, civil society organizations are becoming strong forces that counter government and city authority initiatives when the public is not involved and such projects are found to be inimical to public interest. For example, efforts by government to transfer Accra city water supply services from public management to a private company to be run in partnership with the government was objected to by the public. Reasons advanced for the public objection are low income status of about 78% of the cities poor population who cannot afford commercial rate for water (ISODEC 2002). Similarly, The people of Malam and Teshie had to block all roads leading to landfill sites in these two urban sub-metros when the landfills were posing health problems to the people.

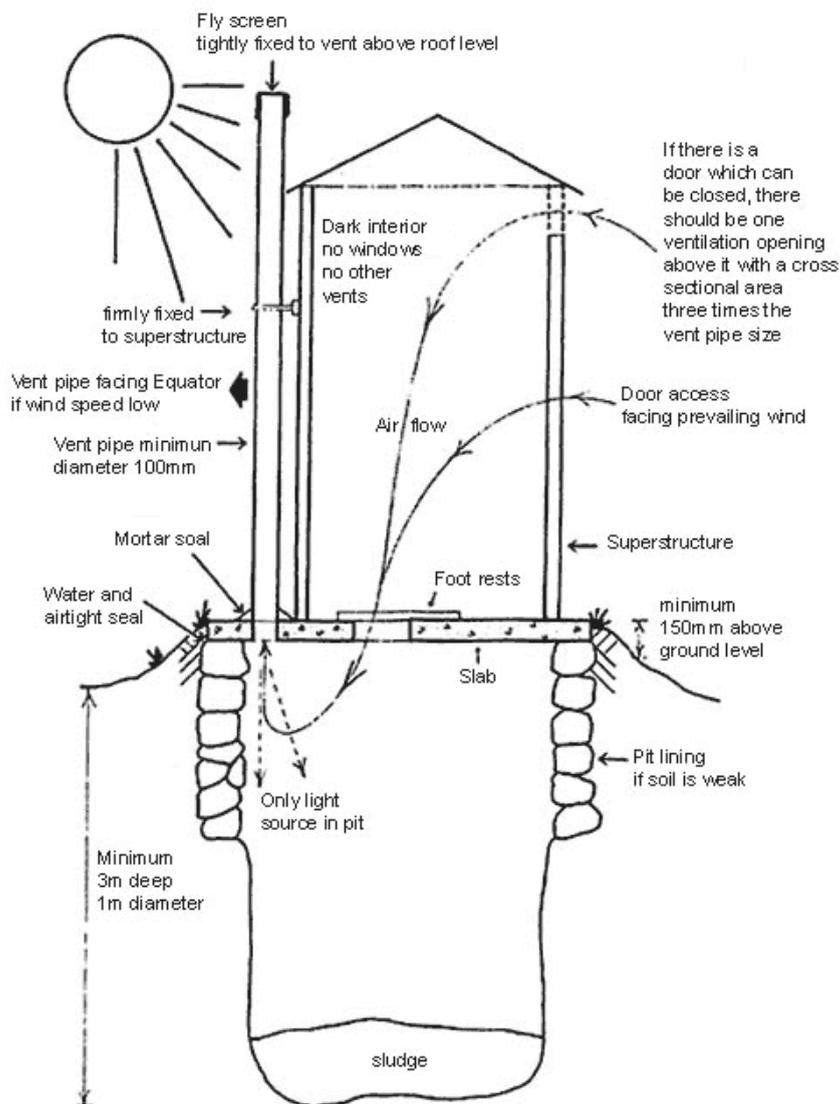
Housing Environment

Sector policies on housing have shifted focus from Government as provider of houses to Government as an enabler or facilitator of housing development. Provision of serviced plots by Government to prospective house developers has come to reduce problems of land litigation emanating from double sale of the same plot of land to two or more people. Further more, the government has set up a lands commission that is responsible for registering all lands and keeping of land registers.

In low income residential areas, infrastructure and housing conditions are very poor especially where migrants from rural areas live. These areas are often close to watercourses as such prone to flooding and have poor sanitation. Toilet facilities do not exist at all or exist in the form of pit and bucket/pan latrines.

An improvement upon the bucket/pan latrine system is the Kumasi Ventilated Improved Pit latrine (Figure 2). The good features of the KVIP system is that anaerobic fermentation takes place into harmless compounds that kills worm eggs and other pathogens. The system is also water efficient unlike the water closets in the rich residential centres of Accra. The pit also has a vent pipe, which is at least 100mm in diameter and extends from the pit to about 1 metre above the roof. The top of vent is fitted with a fine-mesh stainless steel, serving as a fly-screen. Flies which are drawn by smell into the pit get attracted up the vent pipe by the brightness of daylight at the top of the fine mesh covering the pipe but cannot escape because of the screen. The flies subsequently get killed. Mosquito breeding is also checked in the pit by the fine-mesh steel covering.

Fig.2 Where water is only available in small amounts, a simple dry pit latrine is a very good sanitation option. A well constructed latrine has the following features:



Source: www.wateraid.org

Urban Transport

Urban transport in Accra city is synonymous with road transport where the road network in and around the city is based on a system of radial routes converging on the Central Business District (Addo, 2002). In the last two decades, the public transport system of Accra was owned by the state. This was efficiently planned to provide transport services to the city. Economic downturns in the early 1980s led to a collapse of the public transport system. This has been replaced by a private transportation system controlled by the Ghana Private Road Transport Union and Taxi Drivers Association. Vehicles that are used in the city are mostly mini-buses, taxis and private cars. The private commercial buses are not able to cope with the transport demands during peak hours in the morning (10am – 14pm)

and evening (8pm – 12pm). Flow of public transport vehicles per minute during morning peak hours (8am – 12pm) ranges between 10 and 14.2 whilst figures for evening peak hours (8pm – 13pm) ranges between 8.4 and 10.3. That of private cars during morning peak hours is a maximum of 12.3 and in the evening with a maximum of 11.8 vehicles. The associated roads with the above heavy traffic flow figures are Accra – Adenta road and Achimota - Apenkwa road manifesting the existing traffic congestion problems (Sebgefia, 2000). Response by drivers has been driving off the shoulders of the road to avoid traffic during peak hours. To address this problem the Government in 2001 introduced a metro bus transportation system in the city where between 30 and 60 passenger capacity busses are run to convey people from one end of the city to the other for lower fares. When the system proves efficient private car owners may begin to board metro buses to and from work and leave their cars at home considering its cheapness as against increasing cost of fuel and car spare parts. Traffic reduction strategies have also been initiated by constructing dual carriage roads and, overpass to ease traffic for example the Thomas Sankara and King Tackyi Tawia overpass. Also, Accra circle road has been made a one way to eliminate the traffic chaos that existed some few years ago. Carbon mono-oxide pollution will soon be reduced when bio-diesel production starts in Ghana after successfully researching into the seeds of the “*kpotikpoti*” plant as an efficient bio-diesel source that produces very low carbon dioxide. Also, stringent policies by Government such as very high taxes on the importation of over aged vehicles (8 years plus) are aimed at reducing atmospheric pollution from vehicles. Alternative modes of transport such as use of bicycles is also being considered. New road designs are now taking care of providing bicycle ways. To make the city of Accra’s transport system sustainable in meeting future challenges, there is the need for increase use of the metro buses, walkways and cycling ways. There is also the need to promote the use of low emission vehicle in public transport by reducing the cost of bio-diesel to encourage more vehicle owners to switch to its use as a measure to check environmental pollution.



Source:http://www.arch.columbia.edu/Studio/Spring2003/UP/Accra/photo%20gallery/Roads%20and%20Transit/pages/Traffic_jpg_jpg.htm

Sanitation and Waste Management

Sanitation and waste management in Ghana as a whole was the responsibility of Government between the 1950s and 1960s. With growth in population, coupled with dwindling financial and logistical support from the Government, sanitation and waste management in the cities began to deteriorate. In 1993 a new sanitation policy was introduced which was aimed at ensuring efficient and simple sewerage system for the urban areas.

Solid and liquid waste management has been a persistent problem for many years in Accra. Drainage systems are choked with domestic refuse thrown in the drains by nearby residents. A response to the problem was the recruitment of private companies to collect waste at market centres and individual homes directly for fees. The involvement of the private sector in this direction has improved waste handling in high income residential areas and to some extent the Central Business District, which is Accra Central. In low-income settlements the situation is not the best because most of the residents are not willing to pay for garbage collected from their homes. For example, the head of waste management of Accra Metropolitan Assembly stated at a clean up exercise at Mukose Electoral Area that residents should insist on toilet facilities from their land lords when hiring houses from them. This is to stop people from defecating in drains and open areas (Accra Mail, may 2004). This statement gives credence to the fact that sanitation problems are serious in poor residential areas.

For the purposes of efficient waste management, landfill sites and waste stabilisation ponds have been constructed at different locations in the city. However, the location of most of the landfill sites are close to homes creating health problems in such areas. For example, Malam and Teshie landfill and dumpsites have created health problems such as breeding of mosquitoes that cause malaria, breeding of houseflies and strong stench in nearby residential areas. The poor management styles of Accra Metropolitan Assembly necessitated the need for resident to block all roads leading to the landfills for weeks when the metropolitan authority failed to close down the Malam landfill site even though it was very full. Instead of closing the landfill the metropolitan authority continued to dump more waste (Daily Graphic, September 2001). Also, the recalcitrant life style of most resident's in spite of public education and unwillingness of poor communities to incur cost regarding user fees for waste deposition have compounded the problems. Management of plastic waste has been a challenge to the city authorities considering the sale of ice water and ice cream in rubber sachets which are thrown any where in the city after use.



Source://www.arch.columbia.edu/Studio/Spring2003/UP/Accra/photo%20gallery/Roads%20and%20Transit/pages/Traffic_jpg_jpg.htm

To cope with the challenges, the Ministry of Local Government and Rural Development published a national environmental sanitation policy in 1999, detailing out responsibilities of Government agencies and individuals to ensure efficiency in the management of sanitation and waste in Ghana. However, not much improvement has occurred.

Accra Metropolitan Authority has decentralised its functions by sub dividing the city into sub-metros where each sub metro has been given the responsibility of managing its waste, yet still waste management problems are enormous. For the metropolitan authority to meet its future challenges, new approaches to waste management need to be adopted. For instance, metropolitan environmental cleanliness competitions can be initiated with attractive prizes. This may act as an incentive for keeping the urban environment clean.

Water and Sanitation

The new water and sanitation policy of the Government introduced in 1993 was to ensure that water and sanitation services are provided through demand responsive approaches in order to avoid dependence on Government for provision of water services with high subsidies. (UK Trade and Investment Document). This is in view of the fact that since 1965 Ghana Water Supply Company now Ghana Water Company Limited was responsible for water supply in Accra and other part of Ghana. However, between 1980 and 1990, the deteriorating old water infrastructure led to heavy losses of water due to leakages. The situation called for a second look to be taken at the old policies hence the water sector reform programme initiative by Government in 1990 to ensure private public partnership. The turn of events show currently that there is the need for privatisation of water supply in the city of Accra to make management of the utility more efficient given the high unaccounted for water losses (50%) through leakages and illegal connections coupled with low revenue mobilisation. The issue of privatisation has been subjected to much public disagreements and protests to the Government to reconsider its decision. Government in response has indicated that the urban poor will be given good access to affordable water supply. Experience with past governments however show that statements of this kind are mere statements that Governments are not committed to fulfilling hence the persistence by civil society organisations to use all lawful means to stop the privatisation efforts by Government even though the policy is aimed at improving upon efficiency and reliability of water supply. UNEP/UN Habitat have indicated that the chemical quality of raw water supply in Accra Tema Metropolitan area is very poor due to pollution problems associated with high treatment costs. Another characteristics of water supply is the reliable water supply to rich residential neighbourhoods where the residents can afford to use treated water to water their gardens whilst the poor urban areas have to buy water from water vendors at exorbitant prices more than what the rich with water meters in their homes pay every month.

How prepared is Accra for a disaster

Today's city of Accra becomes ever more vulnerable to natural disasters due to population concentration. Whilst it may be true that natural disasters are occurrences, which are outside the control of human society, urban land use practices also aggravate the occurrence and magnitude of effects natural hazards can cause. In Accra, two main natural hazards occur. One is the perennial flooding problem in parts of the city, which is mainly caused by flooding of the Odaw River which has its channels choked by refuse as such floods affect communities like Alajo, Jamestown, Avenor and parts of Abossey Okai. The other kind of natural hazard in Accra is earth tremors. This is a low frequency and low magnitude hazards that do not cause extensive loss of life and property except the 1937 earthquake in Accra. Often cracks occur on walls of buildings, breaking of glass windows and panic in the city. The situation in rich residential areas such as Airport, Dzorwulu and East Legon where building are well planed have less human concentration hence less predisposed to fatal loss of human life unlike the densely populated low income areas.

Fire outbreak due to electrical faults and other human causes do occur. However, in poor residential areas, there is lack of access road to homes, shops and offices where fire tenders can pass. This is because all access roads are occupied with buildings and kiosks. The question is how can this situation be corrected without causing much discomfort and agitation in such communities? Spatial planning can be considered as a tool to prevent and manage natural hazards such as flood and earth quakes by mapping out flood and earthquake prone areas as done in Accra. The essence of the map is to educate the public so that they will avoid living in such areas. However, many do not care what the dangers are once they can have a place to lay their heads. Early warning systems can be put in place to inform the public of any foreseeable hazard provided there is sufficient database that can be analysed to predict future disasters. Also, regarding urban slums an upgrading programme can be initiated to improve upon existing conditions.

Conclusion

Urban planning in Ghana like any other African country is undergoing changes. The changes are in response to limitations of Ghana's old city planning concepts and models where government is considered as the key actor in the provision and management of urban infrastructure. Current concepts and practices of spatial planning regarding the city of Accra is shifting from a compact city with a Central Business District to a polycentric or satellite city having diverse land uses with mixed residential and commercial functions well linked with efficient transportation networks that reduces automobile dependence and air pollution. The development of satellite cities will eliminate the uni-centric role of Accra city when the 8 proposed satellite cities develop to become complementary cities to Accra. Efficient management of the polycentric city will help eliminate infrastructure management problems regarding water, solid and liquid waste handling as well as housing problems.

The polycentric concept is yet to be realised considering the fact that it has not yet been implemented. The earlier resources are made available for the implementation to start the better it will be for Accra city and the satellite complementary cities in Ghana.

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