Session Nine
Physical Urban Growth – Physical Determinants

Lecturer: Prof. Chris Abotchie, Department of Sociology
Contact Information: cabotchie@yahoo.com
Session Overview

• There is an inevitable link between the concentration of populations and the physical growth of the urban communities. The increasing numbers of structures which contribute to the physical expansion of the urban areas are often dictated by the needs of the increasing number of migrants.

• As a large number of migrants settle in the urban communities, their pressing and immediate need for accommodation often compels them to put up all manners of dwellings ranging from corrugated iron sheet huts, cardboard huts, plywood huts, wooden kiosks or simple two-room buildings made either of clay or concrete blocks, for their habitation.

• This is the character of the so-called slums or inner city sections of the urban communities. Ultimately these slum areas may be demolished and replaced by new affordable residential buildings or industrial complexes.
• Thus while parts of the city may have been recently occupied, others may have been built decades ago while some others may have passed through one or more cycles of urban renewal.

• This is the process known as invasion and succession or a series of land uses. Under what circumstances can a physical structure be erected in a geographical location?

• What structural and aesthetic factors are taken into account before socially significant or public utilities such as harbors or bridges, or hospitals or national theatres, schools or shopping malls are built?
The main topics to be covered in this session are as follows

- **Topic One:** The structural determinants of the city- Growth and accessibility
- **Topic Two:** Structural determinants – Site and persistence
- **Topic Three:** The functional prerequisites of the city
Objectives/Expected Outcomes for the Session

On the completion of this session, you should be able to:

• Explain how cities can manage physical growth and the demands for easy accessibility within its defined limits.

• Explain the determinants of site and the problems of persistence in the city.

• Identify and discuss the features required by an urban area to qualify as a city
Introduction

• The perceived socio-economic efficiency of the urban communities is often a product of the complex **functional specialization of the workforce as either producers or distributors** and the further specialization broadly of the producers into manufacturers of industrial goods on one hand and the service industries on the other.

• Further there is a **functional differentiation of the city into work places and residential areas**. The places of work require a marked functional differentiation into service industrial areas (such as the ministries and the banking institutions) manufacturing industrial areas, (such as the locations for the cocoa processing, textile, oil processing industries and steel works in Accra and Tema).

• Then there is a further differentiation into places of worship, shopping malls, markets, schools and hospitals. **The residential places are further differentiated into upper, middle and lower/working class areas**.
• This pattern of socio-economic residential differentiation often reflects the city’s history of growth.

• The decision to locate certain industries in certain parts of the city as well as the differentiation of residential areas into Upper, Middle and working class areas have often been taken together, each decision changing under the influence of the other.

• What factors have been at work to influence the physical development of the city?
Structural Determinants

Structural determinants

• The location of industries in the city in such a way as to ensure their accessibility from the far and near communities in the city evolved not only as part of the total process of city growth, but also in response to such location determinants as **space** requirements, linkage to **transportation and communication facilities** and **site** characteristics of available land.

• Thus the most important structural determinants accounting for the configuration of the city may be classified and discussed under the following factors: **growth, accessibility, site and persistence**. In this section the focus is on the factors of growth and accessibility.
Structural Determinants - Growth

Growth

• With reference to growth it is important to acknowledge the fact that a city grows over a period of time. For example, historically, the city of Accra was initially confined to the small townships of James Town and Osu from where it began to expand outwards to areas like, Abossey Okai, Kaneshie, Odorkor, Mc Carthy Hill, towards Winneba; and then to Cantonments, Airport residential area, Legon, Madina, and Adenta towards Dodowa.

• Thus while parts of the city may have been recently occupied, others may have been built decades ago, and some others may have passed through one or more cycles of urban renewal - with reference to invasion and succession, that is, a succession of land uses.
City Growth - Invasion and Succession

- Invasion and succession mean that as the city develops, some sections of it - such as residential areas - may be demolished and in their places, industrial complexes may be built. This means that the industrial complexes have literally invaded and succeeded the residential areas.

- This continuing process of urban renewal means that parts of the city, either industrial or residential areas built during a particular time will differ in character from older as well as more recently developed areas, since relevant conditions of growth are modified through time. The city, typically, is thus a combination of older (slum) and newer (modern) buildings.

- Because the physical expansion of the city typically proceeds outwardly from the city center to the periphery there is an inevitable trend towards the formation of zones. Zones are identifiable areas in the fringes of the city with particular (similar) characteristics.
City Growth - Zonation

• Zonation in the city has implications for city planning because it creates problems for accessibility. Some easily identifiable zones in Accra - based on their distance from the CBD – the Central Business District (that is, the commercial and administrative center of the city) include places like the Airport residential area, Djorwulu, Legon, Madina, Adenta, Chorkor, Mc Carthy Hill, Weija.

• Because of their distance from the CBD, there is the need for the standardization of the prices of goods and services – since service provision and the prices of goods and services in these peripheral areas vary from those in the central business district. As an illustration a tin of Milo may cost two Ghana Cedis at the Makola market located in the CBD but may be sold at three Ghana Cedis at Adenta or Chorkor located in the fringe zones. Similarly a basket full of tomatoes or cassava may be priced differently at the CBD and in the zones.

• Standardization will ensure that prices of goods and services are the same throughout out the city. This will prevent traffic jams caused by people driving from the peripheral zones eager to shop at cheaper prices in the CBD.
Accessibility

• With reference to our knowledge of the fact that the city grows outwardly from the center to the periphery, we are aware that accessibility to the city center is easiest from the inner and older zones of the city and difficult from the far flung outer and recently developed peripheral zones.

• Because of the importance of the city center for economic and other reasons – since it is the place where much of the exchange of information and goods is coordinated – accessibility to the CBD has long been regarded an important factor for planning the location of work places and residential areas.

• The solution of the problem of accessibility is thus important for urban planners to ensure the efficient functioning of the city. How can this be done?
• The solution lies in the reduction of the geographical distance of zones from the city center through the provision not only of public transportation through buses and trains (both surface and underground) but also, importantly, electronic communication devices such as telephones (fixed lines and mobile) walkie-talkies-telex, fax machines, telegraphic transmission and the facilitation of information highways through the internet.

• Effective transmission of information can lead to the near elimination of the obstacle of space or geographical distance. There is, however, increasing evidence from recent studies that accessibility to non-central industrial or commercial concentrations as well as to the city center, influences residential differentiation.

• In other words, where the absence of space (that is, the availability of land) is a critical factor in the city center, this can be compensated for by the building of sky scrapers. This means that if, because of the non availability of land in the city center it becomes impossible to expand outwardly, then the alternative is to expand upwardly by erecting high rise buildings.
• Oftentimes, the first impression one has upon encountering the beautiful sky scrapers in the cities of America and in other parts of the world is that these buildings have been deliberately put up for their aesthetic effect to demonstrate the wealth and power of these countries.

• On the contrary however, the major technical reason behind the erection of skyscrapers is the need for the judicious land use so as to conserve space. Thus instead of extending buildings on the ground to take much space, it is rather makes economic sense to stretch upwards.
Assignment

Do you have problems of accessibility to or from the CBD in your urban area or from your town or village to the District, Regional or national capital? How does this problem affect your life? How do you attempt to resolve this problem? Discuss with illustrative examples.
Topic Two
Structural Determinants – Site and Persistence

Introduction

• **What factors explain the location of one socially significant project** (that is a public facility) for example a big shopping mall (such as the Accra Mall) or a harbor (such as the Tema harbor) a hydro-electric dam (such as the Akosombo dam) in one place and not the other? There are important reasons why this is the case. The location of these public facilities is often determined by site related factors.

• With reference to site, let me ask you this question: If you live in Accra or some other city or town, have you ever **encountered a public facility such as a school, or some department building, a church or a mosque or a cinema house, sited somewhere in town, which you seriously thought was completely out of place**, because it looks ancient compared to the modern buildings surrounding it – or indeed, because the location of the building does not make sense?

• Do you not often wonder why those who put the building up there may not have projected their minds into the future to visualize how the area in which it is situated would look like in the future? If you live in Accra, there are several examples of how the **persistence** of certain structures makes the past planners of the city look thoughtless.
Site characteristics

- **Site Characteristics**
- With reference to site, the city planner is concerned with places within a city which differ in terms of **substratum** (the composition of the soil as to whether it is clayey or sandy). With reference to substratum the assumption is that in deciding to put up a public facility, the city planner must ensure a thorough examination of the quality of the soil to make sure that the building is erected on a solid ground not on sand or clay. The same considerations would apply if you were putting up your own home.
- The choice of site depends as well on the **topography** of the place that is whether the site is hilly or flat. Building on hilly or highly elevated piece of land may have the peculiar problem of accessibility to pipe-borne water, since pumping water uphill may reduce the pressure.
- **Elevation** is another factor and refers to whether the site is above or below sea level. This factor requires consideration in order to preempt the problems of flooding or a tsunami in a future time.
Site Characteristics Contd.

- Proximity to water bodies is based on whether or not the site is close to a source of water.

- Historically cities have been built in close proximity to water bodies because of the critical importance of water to human and plant survival.

- Thus in the location of public facilities as well as private homes, the availability of water in the place under consideration has often been a critical question.
Site Characteristics Contd.

- Qualitative differences are also taken into account, with respect to such man-made features as speedy transportation lines, inter urban rail lines which facilitate commutation between the city's communities, express ways and parks. With reference to these features, site areas do differ with respect to quality. It is beyond question therefore that the site qualities of an area influence the type of uses which develop in the area.

Site features – Tema harbor and Akosombo dam
- The location of complex transshipment facilities such as the city's main harbor, or the location of a complex of industrial or commercial activities can scarcely be explained without reference to site qualities.
- As an illustration, in the building of the Tema harbor, site qualities were largely taken into account, to decide in favor of Tema which was in competition with Ada. Similarly site features also determined the location Ghana's main hydroelectric dam at Akosombo – choosing between Akosombo and Adjena. The implications of site for urban planning therefore requires that natural or geographical features or man made communications or recreational facilities be taken into account before deciding on the concentration of commercial or administrative offices in a particular area.
Considerations of Persistence

• The sheer persistence of physical structures in the city is a powerful factor in urban planning. When you encounter public buildings such as schools or churches, mosques or rail stations whose present location in the city makes no sense, the explanation is often with reference to past planning.

• You are most likely to see several problems of persistence as you take a site seeing tour of your city.

• Some examples in Accra include the central Accra Lorry Park located right within the city center and is now surrounded by motor spare parts shops and other commercial establishments, so that the park is hemmed in by these establishments and therefore cannot be expanded to accommodate the increasing number of vehicles which need to use the place.
Persistence – The Accra Lorry Park

• The result is that the park area has become so congested that the free flow of traffic is difficult in the vicinity. It is clear that the capitalization (expansion) of the surrounding commercial establishments particularly the motor spare parts shops have bound the lorry park to the site for many years now.

• The growth of other lorry parks at fuel selling stations has not succeeded in reducing the congestion at the main lorry park. The Accra lorry park has thus become an albatross!

• The location of a mosque at the Rawlings Park in the CBD of Accra is another example of persistence. I do not know if you personally saw this mosque; but it had to be demolished only recently because its location and aesthetic qualities were unacceptable for a city undergoing modernization and beautification.
• Problems of persistence such as these require that urban planners should be able to project their plans several years into the future. They should take into account, the inevitable growth of the city and be able to foresee the suitability and acceptability (in terms utility, space and aesthetics) of their planned physical locations at particular sites, in the years to come.

• It must be emphasized that the physical organization of the city offers a convenient means of understanding the city's social organization. The inhabitants of a given area often tend to have not only a general social station in common but also share in the city's many other characteristics.
Assignment

Given that city dwellers invariably encounter several problems of persistence as you they take a tour of the city, identify some of the public or private buildings whose present location seems to you to make no sense. Justify why you think so, and suggest what can be done.
Introduction

- Does every urban community deserve to be labeled as city? What qualifies an urban area to be called a city? In this section we discuss the main characteristics that an urban area should have to be recognized as a city.

The prerequisites

- A number of prerequisites are expected of a developing urban area for it to attain the full status of a city, according to Gordon Childe. These are:
  - The **existence of social units of considerable size and complexity which evoke a whole new series of new institutions and social patterns**. This means that a city must have significantly large institutions, as for example, the University of Ghana, whose existence inevitably leads to the development of other institutions.
Functional prerequisites - Social Units of Considerable Size

- As an illustration, because the University of Ghana constitutes a community, a police station (representing the political institution) had to be built to ensure law and order in the environs of the university, churches (the religious institution) have developed on the campus to satisfy the spiritual aspirations of the residents, there are economic facilities such as a shopping mall, banks, a post office and a pharmacy.

- Further homes (marriage and the family institution) had to be built for the lecturers and their family on the campus; there is a Primary School and a JSS (the educational institution) and there is a hospital as well for healthcare delivery to the university community members. Thus the existence of the university has led to the development of a whole new series of new institutions and social patterns.
Functional Prerequisites - Centrally Based Social Control Units

- There must be a centrally based social control unit, as opposed to kinship based tribal units exercising political and military authority through appropriate institutions based on a code of laws imposed from above, in contrast to the customary laws and public opinion sanctions of village societies.

- This means that a fully developed city should have a social control unit such as the Accra Municipal Authority (AMA) which has overall jurisdiction over the city residents as opposed to a control mechanism operated by a kinship based tribal unit such as the chief (Ga Mantse)
Prerequisites – A Symbiotic Economy

- There must be a symbolic economy (mutually beneficial partnerships) based on a centralized accumulation of capital and social surplus through taxation in order to support an essentially parasitic social body.
- This means that a city should operate an economy supported by funds accumulated through taxation and other sources of income to generate enough profits which can be used in paying the salaries of a parasitic group.
- This so-called parasitic group is made up of a critical aggregation of workers who depend on incomes generated by other workers for their remunerations because their jobs do not involve profit making. This group includes such full time specialist as teachers, doctors, the armed forces, the police and other law enforcement and security personnel.
Prerequisites – Division of Labour

- There must be an extensive division of labor and numerous resultant full-time craft specialists which makes the city a market center for the surrounding area.

- A city must necessarily have bureaucratic institutions characterized by a division of labor based on functional specialization. This creates organic solidarity a significant characteristic of the city based on the mutual dependence of the city residents – that is, each resident with a certain skill, cannot do without another resident who has another specific skill.

- Because of the functional specialization associated with the city’s residents – that is the availability not only of medical specialists, bankers, auto and electrical mechanics, plumbers, carpenters, dress makers etc. - the urban area becomes an important market center where the surrounding areas come to shop for goods and services which are readily provided by the specialists.
Prerequisites –
External Trade and Higher Learning

• A city must have a long distance and external trade in luxury items as a constant feature.

A fully developed city must have international (long distance) relations involving trading – that is exchange of goods and services. Thus commercial items on display in the shopping malls should not necessarily be all locally produced but imported as well – particularly luxury items such as cars, washing machines, digital players, camcorders flat screen televisions, dish washers and other electronic devices which are not necessities.

• There should be advances toward exact and predictive sciences usually involving mathematics and writing.

A city must have centers of higher learning or tertiary institutions where the sciences and arts are taught.
Prerequisites – Impressive Public Works and Large Population

• There should be impressive public works and monumental architecture.

The physical structures in the city, that is, the office, residential, commercial and other buildings should be impressive. Additionally there should be aesthetically designed public monuments such as statues, public swimming pools, fountains, public theatres, museums, historical places named after local heroes, in addition to public places of relaxation and entertainment, parks and gardens, etc, etc.

• A city must have a relatively large size and high density population. This refers to the spatial concentration or the agglomeration of populations in the specifically defined limits of the city, commonly a feature of most cities. The United Nations has for instance suggested that a place which demographically is less than 5,000 inhabitants, would not qualify to be designated as an urban area.
• There must be social stratification.

A class structure is often an inevitable feature in most cities. This is reflected in the fact that the city residents are often differentiated into categories of people who hold varying degrees of wealth, power and prestige.

• There is further differentiation, based on the fact that these people live in upper class, middle class and lower class places of residence.
Summary

- The outward expansion of – from the center to the periphery leads to the development of zones and the need for the standardization of the prices of goods and services. The physical expansion of cities creates also the problems of accessibility which can be resolved by reducing geographical distance through the use of vehicular transportation as well as electronic communication media;
- Urban planners should take into account the soil structure, the topography, elevation and proximity to water resources into account before deciding on a suitable location for socially significant buildings in the urban community. The design of buildings should be projected several years into the future to ensure their acceptability years after they have been constructed;
- A fully fledged city should have complex social units whose existence requires the establishment of auxiliary social units or institutions, a centrally based social control unit as opposed to kinship based units, a symbiotic economy, an extensive division of labor and external trade in luxury items. Additionally there should be institutions of higher learning, impressive public works and monumental architecture, large size and high density population and social stratification.
Assignment

Based on the criteria identified by Gordon Childe, would you say that the urban community in which you live qualifies to be designated as a city? Discuss with illustrative examples.
References