

COURSE CODE:	EMT 425
COURSE TITLE:	Rural and Urban Regional Planning
NUMBER OF UNITS:	2 Units
COURSE DURATION:	2 hours per week

COURSE DETAILS:

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Office Location:	EMT, COLERM
Other Lecturers:	

COURSE CONTENT:

- a) Concept of a Region
 - Region
 - Places
 - Types of Regions
- b) Theories of regional growth and development
 - Central Place Theory
 - Christaller's Assumptions
 - Losch's Central Place Theory
 - Core Periphery Model
 - Core
 - Periphery
 - Growth Pole Theory
 - Origin and Definitions
 - Linkage between Cities as Growth Poles and Urbanization
 - Spatial Equilibrium Model
 - Basic Concept of Spatial Equilibrium Model
 - Spatial Inequality
 - Theories of Spatial Inequalities
 - Theories of Regional Inequality
 - Theories of Urban Inequality
- c) Strategies for regional planning
 - Meaning of Planning
 - Needs for Planning
 - Types and Levels of Planning
 - Urban Planning
 - Regional Planning
 - Regional Planning Process
 - Problems of Regional Planning

- Regional Planning Strategies
- d) Human and environmental impacts on regional planning
 - Urban Decay
 - Blight
- e) Criteria for settlement classification
 - Rurality
 - Urbanism
- f) The village as an organic entity
- g) Rural and urban relationships (physical, social and economic structure of a village)
 - Rural-urban linkage
 - Physical, social and economic structure of a village
- h) Environmental and other constraints of rural development
 - Challenges of the rural areas
- i) Rural community development strategies and relationship with rural planning
- j) Management of urban environmental problems
- k) Institutional arrangements for urban planning (edicts, laws, and common rules)
- l) Concept of sustainable urban development
Green cities and ecologically healthy cities).

COURSE REQUIREMENTS:

This is a compulsory course for all EMT 400 level (Management Option) students in the Department. It is compulsory that students should participate in all the course activities and have minimum of 75% attendance in order to be qualify to write the final examination.

READING LIST:

- Adedipe, B.O. (). First Foundation of Regional Planning
- Agrawal, A.N. and Kundan, Lal. (1980). *Economic Planning Principles, Techniques, and Practices*. Vikas Publications House Limited, India
- Faniran, A (1984). *Urban and Regional Planning Policy Formulation in Developing Countries*. University of Ibadan Publishing House. Ibadan.
- Glasson, J (1974). *An Introduction to Regional Planning: Concepts, Theory and Practice*. 2nd Edition. Hutchinson and Company Publishers Limited. 3 Fitzroy Square, London Wip 6 J.D.
- Haines-Young, R., Barr, C.J., Firbank, L.G., Furse, M., Howard, D.C., McGowan, G., Petit, S., Smart, S.M., Watkins, J.W., 2003. Changing landscapes, habitats and vegetation diversity across Great Britain. *Journal of Environmental Management* 67, 267–281.
- Hall, P. (1974). *Urban and Regional Planning*. Penguin Harmondsivorth.
- Harrison R 2004, *Shared landscapes: archaeologies of attachment and the pastoral industry in New South Wales*, Department of Environment and Conservation, Sydney, and University of New South Wales Press, Sydney.
- Jacques, D.L. (1980) Landscape Appraisal: The Case for a Subjective Theory. *Journal of Environmental Management*, 10, 107-113.
- Johnston R 1998, 'Approaches to the perception of landscape: philosophy, theory, methodology', *Archaeological Dialogues*, 5, pp 54–68.

- Koeppel, H.-D., Schmitt, H.-M., Leiser, F., 1991. *Landschaft unter Druck. Zahlen und Zusammenhänge über Veränderungen in der Landschaft Schweiz*. Buwal, Bern, 154pp.
- Lennon J and Mathews S 1996, 'Cultural landscape management: guidelines for identifying, assessing and managing cultural landscapes in the Australian Alps national parks', unpublished report for the Cultural Heritage Working Group, Australian Alps Liaison Committee.
- Ludwig, J., Tongway, D., Freudenberger, D., Noble, J. & Hodgkinson, K.C. (1997). *Landscape Ecology, Function and Management: Principles from Australia's Rangelands*. CSIRO Publishing, Melbourne.
- Marcucci, D.J., 2000. Landscape history as a planning tool. *Landsc. Urban Plan.* 49, 67–81.
- Marsh, W.M. *Landscape Planning: Environmental Applications*. Fourth Edition. John Wiley and Sons, Inc
- McGranahan, Gordon, Peter J. Marcotullio et al. (2005), *Urban Systems, in Ecosystems and Human Well-Being: Current Status and Trends*, Rashid Hassan, Robert Scholes and Neville Ash, (editors), Island Press, Washington D.C., pages 795-825.
- Meadows, D.L., Meadows, D. and Randers, J. (1971). *The Limits to Growth*. Universe Books, New York.
- Onibokun, A.G. (1984). The Nature of Urban and Regional Planning Policies. Chapt. 2. p15-23, In: *Urban and Regional Planning Policy Formulation of Developing Countries*. (E.) Faniran, A., Onibokun, A.G., Abumere, S.I., University Press House, Ibadan.
- Our Towns and Cities: The Future – Delivering an Urban Renaissance*, Department of the Environment, Transport and the Regions, November 2000
- Payne, Geoffrey K. (1977), *Urban Housing in the Third World*. London: Leonard Hill.
- Pearson M and Sullivan S 1995, *Looking after heritage places: the basics of heritage planning for managers, landowners and administrators*, Melbourne University Press, Victoria.
- Udo, R.K. (1981). *Geographical Regions of Nigeria*. Heinemann Educational Books. P.M.B. 5205, Ibadan, Oyo State, Nigeria
- United Nations (1994) Population Division. *World Urbanization Prospects*. 1994
- United Nations, International Migration Policies, UN Publication, 1995.
- World Resources 1996 – 1997 : The Urban Environment

www.aag.org, "Global Change and Urbanization in Latin America"

www.prb.org, "Human Population: Fundamentals of Growth Patterns of World Urbanization".

LECTURE NOTES

Concept of a Region

REGIONS

Generally, there is no clear cut and unequivocal approach to the problem of how to define regions. However, the numerous views of scholars can be streamlined into two- objective and subjective. This material is intended for educational purpose and not commercial. The information contain therein are from several sources such as journal articles, online internet materials, textbooks, magazine etc. The author acknowledged all these sources.

vegetation types and population density. Equally, Goh Cheng-Leong and Adeleke (1978) divided the whole world into 12 climatic regions based on : distinct latitudinal locations, climatic

conditions, natural vegetation types and natural resources. They considered the whole world as a total spatial system which can be divided into twelve geographical regions such as:

- a) Hot, wet Equatorial region
- b) Tropical Monsoon region
- c) Tropical Continental (Suden) Region
- d) Hot Desert) region
- e) Western Margin (Mediterranean) region
- f) Central Continental (Steppe)
- g) Eastern Margin (China) region
- h) Western Margin (British) region
- i) Central Continental (Siberia) region
- j) Eastern Margin (Laurentian) region
- k) Arctic Polar (Tundra) region
- l) Alpine (mountain) region

According to the objective proponents, a region can thus be described as a large land area that has geographic, political, or cultural characteristics that distinguish it from others, whether existing within one country or extending over several. It is an administrative unit (i.e. a large separate political or administrative unit within a country) or an ecological area (i.e. an area of the world with particular animal and plant life). Regions consist of sub regions that contain clusters of like areas that are distinctive by their uniformity of description based on a range of statistical data, for example demographic, and locales. A region has its own nature that could not be moved. The first nature is its natural environment (landform, climate, etc.). The second nature is its physical elements complex that were built by people in the past. The third nature is its socio-cultural context that could not be replaced by new immigrants.

The subjective proponents of a region did not see a region as a “static formal division of space” but as an instrument for spatial segregation. Hartshorne (1959) therefore argued that an attempt to see the region as a universal concrete object have passed into history. Thus regions are seen as descriptive tools, defined according to particular criteria, for particular purpose. There can be many regions as there are criteria to define them (Glasson, 1974).

Places

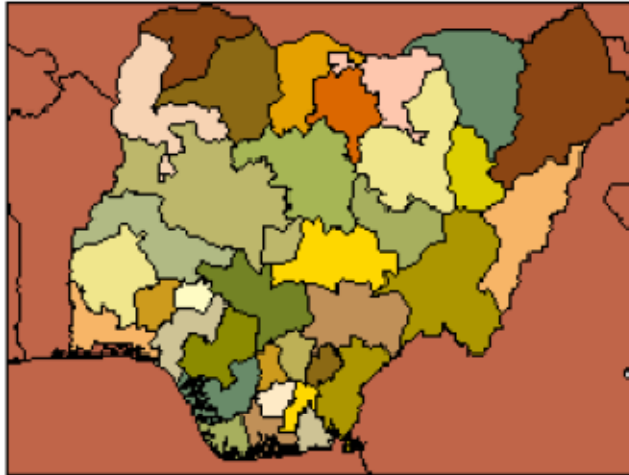
Places are often interchanged with regions, however places are specific points within regions such as town, cities, counties, etc. Although places may themselves sometimes be categorized as regions, normally there are numerous places inside a region. In other words, a region is generally a broader and spatially more extensive spatial entity than a place. Regions and places are generally interdependent spatial entities that function as integral parts of continuously changing and interacting networks. In some cases these interactions may be only local in scope, while in other situations, regions and places may interact on an international (global) level.

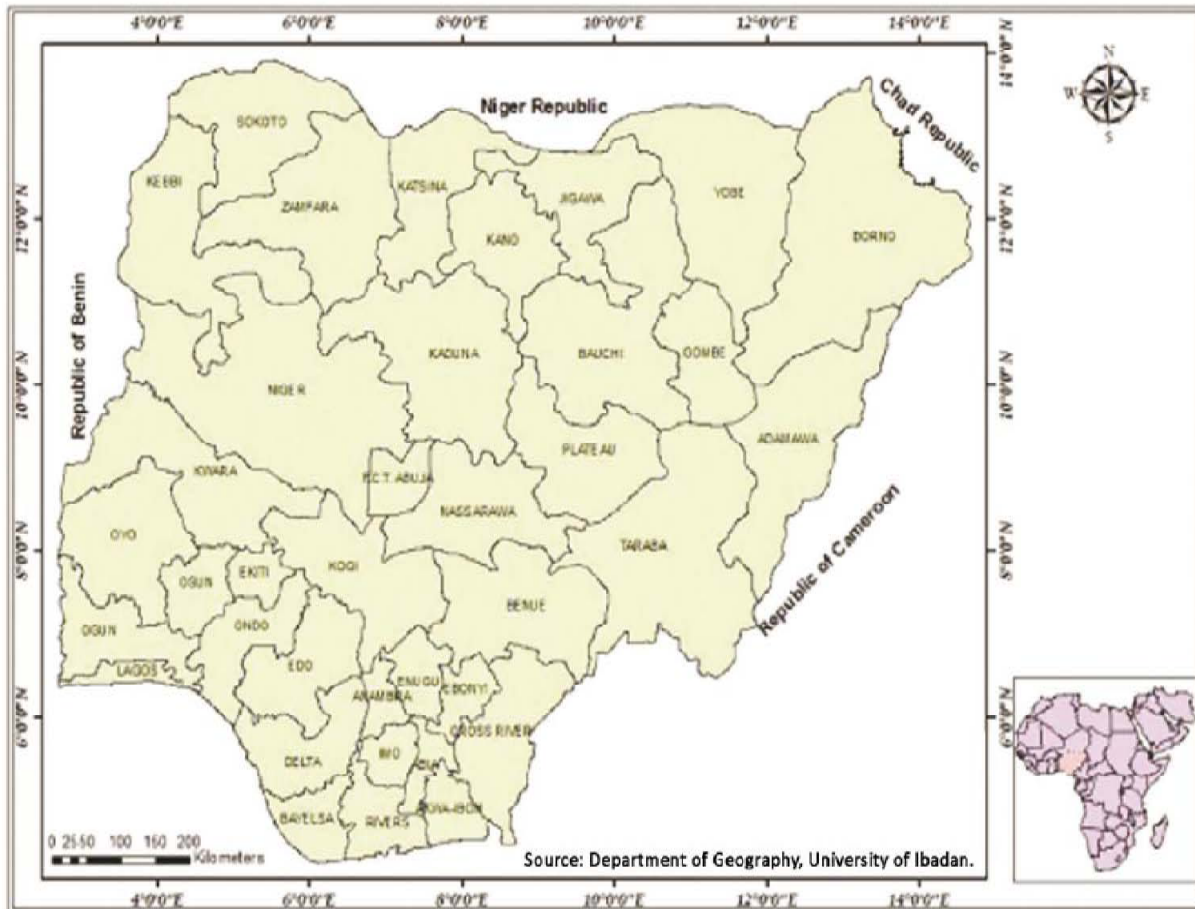
Types of Regions

A. Political Regions

This is perhaps the oldest of the various concepts of regions. The region in this sense refers essentially to the boundaries of district political or administrative units or districts. These

Political regions mark the historical, cultural and ethnic-linguistic division within a country that has federal structure. For instance, in Nigeria, the Federal Government created 12 States on the 27th of May 1967, 19 political states on the 3rd of May 1976, 21 political states on the 23rd of September 1987, 30 political states on the 27th of August 1991 and 36 political states on the 1st of October 1996 for the administration of the country. Political definition of region is important for regional planning essentially because a nation is usually composed of political units, such as states, local authorities etc., which possesses varying powers of influence and decision-making and are often victims of economic nationalism.





B. Formal Regions

Formal regions are extensive geographical regions that share homogenous characteristics on the bases of selected criteria such as physical conditions, economic structures, and agricultural resources. They are otherwise called Natural Regions.

Udo (1970), divided Nigeria into 20 Geographical Regions based on physical, cultural and economic divides. These are:

Lagos Metropolitan District; Creeks and Lagoons; Cocoa Belt of Yorubaland; Benin Lowland, Scraplands; Lower Niger Valley; Palm Belt of South-East, Cross River Basin; Niger Delta; Southwestern Grass Plains; Afemai, Ekiti and Western Kabba Uplands; Middle Niger Valley; Benue Valley; Jos Plateau; Bauchi and Gongola Basin; North Central High Plains; Sokoto-Rima Basin; Kano Region; Borno and Chad Depressions and Eastern Borderlands.

Each of these regions is a composite region in that there is considerable area variation as regard to relief, climate and way of life.

Types of Formal Regions

These are extensive geographical regions that share homogenous characteristics on the bases of selected criteria such as nature of topography, climatic conditions, soil types, and vegetation distribution.

1. PHYSICAL FORMAL REGION

Types of Physical Formal Regional

a. Global regions

Global regions are those areas of the planet that are easily distinguishable from space, and are therefore clearly distinguished by the two basic terrestrial environments, land and water. They are divided into largest of land regions, known as continents, and the largest of water regions known as oceans. There are also significant regions that do not belong to either of these classifications, such as archipelago regions that are littoral regions, or earthquake regions that are defined in Geology.

b. Continental regions

Conventional regions are usually based on broad experiences in human history and attempts to reduce very large areas to more manageable regionalisation for the purpose of study. As such they are conceptual constructs, usually lacking distinct boundaries. Oceanic division into maritime regions are used in conjunction with the relationship to the central area of the continent, using directions of the compass. Some continental regions are defined by the major continental feature of their identity, such as the Amazon basin, or the Sahara, which both occupy a significant percentage of their respective continental land area.

c. Geographical regions

Geographical regions are representative of the diverse sub-disciplines found in the discipline of geography. They are, based on the discipline, defined by the data collected through boundary transition that can vary from thousands of kilometres at continental level to a few kilometres at local level, that for example describes areas of distinct ethnicity habitats.

d. Topographical region

This is a unique natural region that is homogenous in terms of physical landscape and drainage system. Nigeria can be broadly classified into 12 topographical regions: Coastal creeks and Lagoons; Niger Delta; Coastal Plains; the Western Plain; the Scrapslands of the South-east; the Cross River Basin; the Niger-Benue Valley; the Jos-Biu Plateau; the North Central Highlands; Sokoto-Rima Plains; Chad Basin and Eastern Mountains.

e. Climatic region

This is a geographical region that has the same climatic conditions such as amount, distribution and reliability of rainfall; the lengths of dry and rainy seasons; the prevailing winds; the amount and range of temperature and atmospheric humidity in the air. Nigeria can be classified into six climatic regions: the Sub-Equatorial Region, Wet-tropical Region, Sudan Region, Sahel Region and Montane Region.

f. Vegetation region

This is an extensive physical region that has the same natural vegetation cover. These vegetation are determined by the climatic condition, soil types and distribution and the nature of the topography. The six vegetation regions in Nigeria are: Mangrove Swamp Forest

region, the Fresh Water Swamp Rain-forest region, the Guinea Savanna region, Sudan Savanna region, Sahel Savanna region and the Montane Vegetation region.

g. Edaphic region

This is a natural region that has the same soil type, conditions and characteristics. Nigeria has four edaphic regions: the alluvial and swampy soil region, the rain-forest soil region and the sandy soil region.

h. Hydrological region

This is an extensive area that shares the same common physical characteristics in terms of drainage system, landforms, soils, climatic conditions and vegetation cover. For example hydrological regions are River Basins, Lake Basins, the Watersheds and the Extensive Deltas.

2. ECONOMIC FORMAL REGION

This is an extensive geographical region that shares homogenous characteristics in terms of Industrial structure, Agricultural activities and Economic problems.

Types of Economic Formal Region

- ***Agricultural regions***

These are vast agro-ecological zones in a country having the same climatic conditions, soil characteristics and agricultural landuse. In Nigeria, for instant there are five regions based on agricultural crop production. These comprise of the South west Cocoa region, Mid-west Rubber region, South east Palm oil region, Middle Yam Belt and Northern Groundnut-Cotton region.

- ***Industrial region***

This is an area of homogenous industrial structure. There are four main industrial regions in Nigeria. These are Lagos-Ibadan region, Benin-Sapele-Warri region, Port-Harcourt-Aba-Onitsha-Enugu region and Kano-Kaduna-Zaria-Jos Region.

3. ECONOMIC PROBLEM REGION:

Regions vary not only in terms of economic development, but also in nature, complexity and magnitude of problems. Problem regions are usually identified by certain symptoms such as income levels, activity rates, growth rates, unemployment levels and migration flows.

Types of problem regions

- ❖ **Under-developed agricultural regions:** These are economical backward regions that depend on primary occupations, especially agriculture, forestry, fishing, mining and quarrying. These areas are characterized by under-exploitation or exhaustion of natural resources, low-level of agricultural productivity due to out-dated production technology and low-income elasticity of demand for their main product and out-flow of farm workers.

- ❖ **Depressed industrial regions:** These are areas with long history of industrial development, but they are now suffering from declining economic fortunes due to

inefficient social services, obsolete infrastructure, exhaustion of mineral resources, ageing work-force and unrestrained out-migration of skilled workers, out-dated production technology, reckless exploitation of mineral resources. Examples are in Europe (e.g. Central Scotland, Lancashire, Yorkshire, South Wales and North East England).

- ❖ **Pressured regions:** These are rapidly growing regions characterized by excessive concentration of manufacturing plants, business establishment, public utilities, employment opportunities and population of a nation disproportionate concentration in these regions enable them to exert strong attractive power of drawing resources such as labour, capital and new investments from other regions. Examples are Lagos and Ibadan in Nigeria.
- ❖ **Parasitic regions:** These are economically backward regions that depend heavily on public investment funds generated from the growing regions for their economic survival and development. Such regions lack natural resources and basic economic activities that can generate income for their regional economic development.

4. PLANNING REGIONS

Glasson (1974) described planning regions as geographical regions for designing and implementation of development plans for dealing with the regional problems. In Nigeria, there are the physical planning regions such as River Basin Development Authorities established between 1976 and 1979 to among other functions:

- ✓ undertake comprehensive development of both surface and underground water resources for their multi-purpose uses.
- ✓ undertake schemes for the control of floods and erosion and for watershed management including afforestation.
- ✓ construct and maintain dams, dykes, polders, wells, bore-holes, irrigation and drainage systems and other works necessary for the achievement of the Authority's functions.
- ✓ process crops, livestock and fish produced by farmers in the Authority's area in partnership with state agencies and any other person.

There are also the economic planning regions which are areas that display a considerable degree of homogeneity in economic structure and problems.

5. FUNCTIONAL REGION:

A functional region is a geographical area that has inter-dependence of parts and functional relationships. A functional region or Nodal region or Polarised region, has a defined core that retains a specific characteristic that diminishes outwards. To be considered a Functional region, at least one form of spatial interaction must occur between the centre and all other parts of the region. A functional region is organized around a node or focal point with the surrounding areas linked to that node by transportation systems, communication systems, or other economic association involving such activities as manufacturing and retail trading. A typical functional region is a metropolitan area (MA) as defined by the Bureau of Census such as the New York MA with a functional region that covers parts of several states. It is linked by commuting patterns, trade flows, television and radio broadcasts, newspapers, travel for recreation and entertainment.

Types of functional regions

- i. **Town-Region** which constitute a relatively small-sized urban community and its surrounding rural areas, which are economically and socially interdependent. The town provide high-order services such as local administration, transportation, manufacturing, commerce, secondary school education, health and entertainment services for the rural inhabitants. The countryside on the other hand provide surplus food, potable water, industrial raw materials, employment opportunities in agriculture and forestry, leisure and recreation for the town dwellers.
- ii. **City-Region:** Otherwise called Metropolitan Region is a vast amorphous urban sprawl, consisting of a central city and many surrounding sub-urban areas, and share functional relationships in terms of flows such as people, goods, motor vehicles, mails and telephone calls. The central city provides local administration, employment opportunities, transportation, communication, wholesaling, educational and professional services for the sub-urban areas. In turn, the sub-urbanites serve the central city dwellers by providing surplus food, pip-borne water, raw materials, labour and residential accommodation.
- iii. **Megalopolitan Region:** This is a complex urbanized region, which contains over 35 million people, and results from coalesce of urban centres of considerable sizes. For instance in the USA, Megalopolis is a highly urbanized, heavily settled region on the Atlantic Coast stretching from southern Maine to Virginia. One of the first sections of the nation to be settled, Megalopolis grew rapidly in population over the years as waves of immigrants arrived in the area. Communities spread outward from the major cities and eventually the metropolitan areas began to overlap, forming a corridor of thickly concentrated urban sprawl. This single urban complex of staggering dimensions is economically and socially interdependent. Examples of Megalopolis in Europe include the Midlands of England, Britain where towns like Birmingham, Wolverhampton, Coventry, Dudley, Walsall, Oldbury etc., form a conurbation called the Black Country. During the 19th century the iron- and steel-producing western portion became known as the Black Country, named for the black smoke from its factories.

Other classes of regions are as follows:

1. **Historical regions:** The field of historical geography involves the study of human history as it relates to places and regions, or, inversely, the study of how places and regions have changed over time. For example, in identifying European "source regions" in early American colonization efforts, he defines and describes the *Northwest European Atlantic Protestant Region*, which includes sub-regions such as the "Western Channel Community", which itself is made of sub-regions such as the *English West Country* of Cornwall, Devon, Somerset, and Dorset.
2. **Tourism region:** A tourism region is a geographical region that has been designated by a governmental organization or tourism bureau as having common cultural or environmental characteristics. These regions are often named after a geographical, former, or current administrative region or may have a name created for tourism purposes. Countries, states, provinces, and other administrative regions are often carved up into tourism regions to facilitate attracting visitors. Some of the more famous tourism regions based on historical or current administrative regions include Tuscany in Italy and Yucatán in Mexico. Famous examples of regions created by a government or tourism bureau include the United Kingdom's [Lake District](#) and California's Wine Country great plains region.
3. **Natural resource regions:** Natural resource regions can be a topic of physical geography or environmental geography, but also have a strong element of human geography and economic geography. A coal region, for example, is a physical or geomorphological region, but its development and exploitation can make it into an economic and a cultural region. Some examples of natural resource regions include the Rumaila Field, the oil field that lies along the border of Iraq and Kuwait; the Coal Region of Pennsylvania, which is a historical region as well as a cultural, physical, and natural resource region; the Obuasi Gold region in the Ashanti uplands of Ghana.
4. **Religious regions:** Sometimes a region associated with a religion is given a name, like Christendom, a term with medieval and renaissance connotations of Christianity as a sort of social and political polity. The term Muslim world is sometimes used to refer to the region of the world where Islam is dominant. These broad terms are very vague when used to describe regions. Also within some religions there are clearly defined regions. The Roman Catholic Church, the Church of England, the Eastern Orthodox Church, and others, define ecclesiastical regions with names such as diocese, eparchy, ecclesiastical provinces, and parish.
5. **Political regions :** In the field of political geography regions tend to be based on political units such as sovereign states; sub-national units such as provinces, counties, townships, territories, etc.; and multinational groupings, including formally defined units such as the European Union, the Association of Southeast

Asian Nations, and NATO, as well as informally defined regions such as the Third World, Western Europe, and the Middle East.

- 6. Administrative regions:** The word "region" is taken from the Latin *regio*, and a number of countries have borrowed the term as the formal name for a type of sub-national entity (e.g., the *región*, used in Chile). In English, the word is also used as the conventional translation for equivalent terms in other languages (e.g., the *область* (*oblast*), used in Russia alongside with a broader term *регион*). Some countries use the term "region" (or its cognate) as the name of a type of sub-national administrative unit: (e.g., Belgium, Chad, Congo, France, Ghana, Italy, Mali, Namibia, Tanzania, Togo)
- 7. Local administrative regions:** There are many relatively small regions based on local government agencies such as districts, agencies, or regions. In general, they are all regions in the general sense of being bounded spatial units. Examples include electoral districts such as Washington's 6th congressional district and Tennessee's 1st congressional district.
- 8. Traditional or informal regions:** The traditional territorial divisions of some countries are also commonly rendered in English as "regions". These informal divisions do not form the basis of the modern administrative divisions of these countries, but still define and delimit local regional identity and sense of belonging. Examples include: Finland, Japan, Korea.
- 9. Military regions:** In military usage, a region is shorthand for the name of a military formation larger than an Army Group and smaller than an Army Theatre or simply Theatre. The full name of the military formation is Army Region. The size of an Army Region can vary widely but is generally somewhere between about 1 million and 3 million soldiers.

B. Theories of regional growth and development

- **Central Place Theory**
- **Core Periphery Model,**
- **Growth Pole Theory,**
- **Spatial Equilibrium Model**

CENTRAL PLACE THEORY

Central place theory is a spatial theory in urban geography that attempts to explain the reasons behind the distribution patterns, size, and number of cities and towns around the world. It also attempts to provide a framework by which those areas can be studied both for historic reasons and for the locational patterns of areas today. Central place theory was first proposed in the 1930s by a German geographer, Walter Christaller, based on his empirical studies of southern Germany. The Central Place theory was developed to explain the size and spacing of cities that specialize in selling goods and services. According to the central place theory, a central place is a market centre for the exchange of goods and services by people who are attracted from the surrounding area. The central place as the name implies, is centrally located to maximise accessibility for people from the surrounding region. Central places compete with each other to serve as market for the provision of goods and services. This competition create a regular pattern of settlement

Christaller's Assumptions

To focus on the economic aspects of his theory, Christaller had to create a set of assumptions.

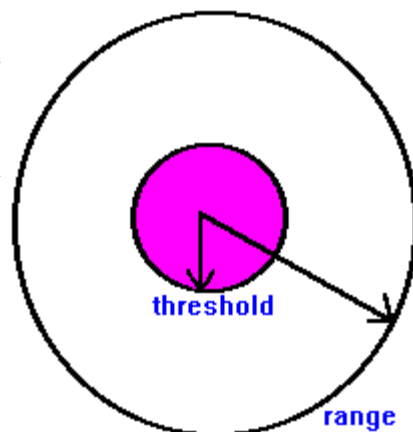
- He decided for example that the countryside in the areas he was studying would be an isotropic surface (i.e. flat), so no barriers would exist to impede people's movement across it.
- An evenly distributed population
- evenly distributed resources - similar purchasing power of all consumers

In addition, two assumptions were made about human behaviour:

- 1) Christaller stated that humans will always purchase goods from the closest place that offers the good, and
- 2) whenever demand for a certain good is high, it will be offered in close proximity to the population. When demand drops, so too does the availability of the good.

The theory consists

1) **threshold** -- the or city selling goods in business distance people will



of **two basic concepts:**
minimum market needed to bring a firm and services into existence and to keep it
2) **range** -- the average **maximum** travel to purchase goods and services

Normally, the threshold is found within the range, as the diagram shows.

The minimum population size required to profitably maintain a service is the threshold population.

Factors affecting a fall in the threshold population are

- A decrease in population
- Change in tastes
- Introduction of substitutes

In addition, the threshold is an important concept in Christaller's study. This is the minimum number of people needed for a central place business or activity to remain active and prosperous. This then brings in the idea of low-order and high-order goods. Low-order goods are things that are replenished frequently such as food and other routine household items. Because these items are purchased regularly, small businesses in small towns can survive because people will buy frequently at the closer locations instead of going into the city.

High-order goods though are specialized items such as automobiles, furniture, fine jewelry, and household appliances that are bought less often. Because they require a large threshold and people do not purchase them regularly, many businesses selling these items cannot survive in areas where the population is small. Therefore, they often locate in large cities that can serve a large population in the surrounding hinterland.

Central Place Size and Spacing

Within the central place system, there are five sizes of communities. A hamlet is the smallest and is a rural community which is too small to be considered a village. Cape Dorset (population 1200), located in Canada's Nunavut Territory is an example of a hamlet. The rank order of central places is:

- Hamlet
- Village
- Town
- City
- Regional Capital

Examples of regional capitals would include Paris, France or Los Angeles, California. These cities provide the highest order goods possible and have a huge hinterland.

Central Place Theory Geometry and Ordering

If visually imagined, the central place is located at the vertexes (points) of equilateral triangles. They then serve the evenly distributed consumers who are closest to the central place. As the vertexes connect, they form a series of hexagons- the traditional shape in many central place models. This shape is ideal because it allows the triangles formed by the central place vertexes to

connect and it represents the assumption that consumers will visit the closest place offering the good.

In addition, the central place theory has three orders or principles. The first is the marketing principle and it is shown as $K=3$ (K is a constant). In this system, market areas at a certain level of the central place hierarchy are three times bigger than the next lowest one. The different levels then follow a progression of threes, meaning that as one moves through the order of places, the number of the next level goes up three times. For example, when there are two cities, there would be six towns, 18 villages, and 54 hamlets.

There is also the transportation principle ($K=4$) where areas in the central place hierarchy are four times bigger than the area in the next lowest order. Finally, the administrative principle ($K=7$) is the last system and here, the variation between the lowest orders and highest orders increase by a factor of seven. Here, the highest order trade area completely covers that of the lowest order, meaning that market serves a larger area.

Losch's Central Place Theory

Market area of goods and services: The area surrounding a shop from which customers are attracted is known as the market area or hinterland. In 1954, German economist August Losch modified Christaller's central place theory because he believed it was too rigid. He thought that Christaller's model led to patterns where the distribution of goods and the accumulation of profits were based entirely on location. He instead focused on maximizing consumer welfare and creating an ideal consumer landscape where the need to travel for any good was minimized and profits were held level, not maximized to accrue extra.

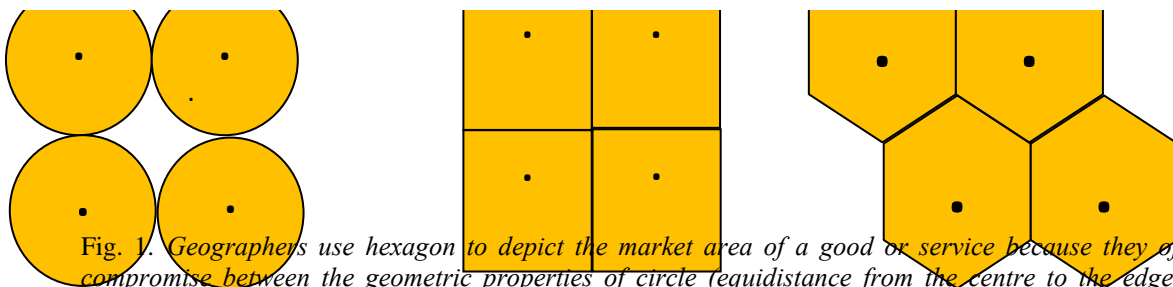
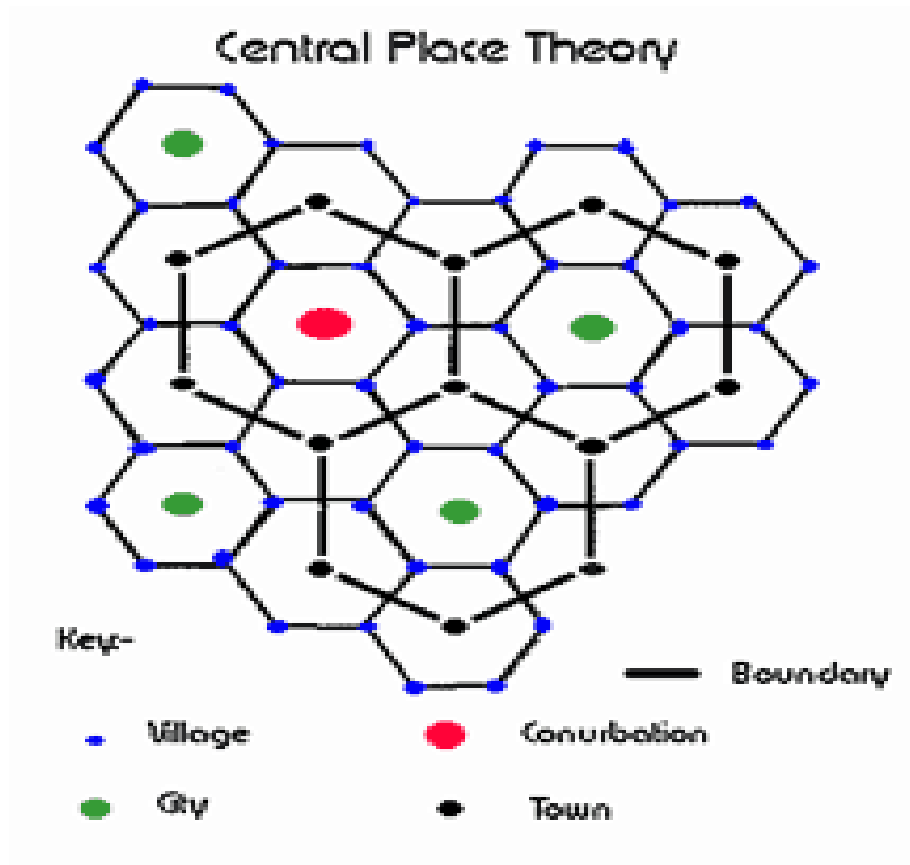


Fig. 1. Geographers use hexagon to depict the market area of a good or service because they offer a compromise between the geometric properties of circle (equidistance from the centre to the edge) and squares (nesting together without gaps).

The territory inside a circle drawn around the shop is the market area. A market area is a nodal area where most activities are intense. Customers located near the centre of the circle purchase goods and services from the local shops. Circles can be drawn to designate areas around settlement and not just individual shops. This circular trading area is the most efficient in terms of accessibility to the centre and size of the area enclosed. As spatial competition among traders became stiff, the market competition becomes stronger, and market areas become overlap. But the customer being rational beings will choose the nearest retail shop in order to reduce the transportation cost.

If several circles are placed next to each other a geometric problem arises. Gaps are created meaning people living in the gaps were outside the market area of any shop. Squares fit together

without gaps but do not satisfactorily depict the market area of a good. To represent the market area, the hexagon is the best compromise between square and circle. Like square hexagon do not leave gaps and the variation in distance to the centre varies less than the squares.



Central Place Theory Today

Though Losch's central place theory looks at the ideal environment for the consumer, both his and Christaller's ideas are essential to studying the location of retail in urban areas today. Often, small hamlets in rural areas do act as the central place for various small settlements because they are where people travel to buy their everyday goods. However, when they need to buy higher value goods such as cars and computers, they have to travel into the larger town or city -- which serves not only their small settlement but those around them as well. This model is shown all over the world, from rural areas of England to the United States' Midwest or Alaska with the many small communities that are served by larger towns, cities, and regional capitals.

It should be noted that Christaller proposed variations based on transportation (mid-point) & administration (strong centralization & central market), while Losch proposed a consumer model based on manufacturing & administrative structures opposed to service centers

Conclusions That Can be Made About Central Places

- The larger the settlements, the fewer their number
- The larger a settlement, the farther away a similar size settlement is
- The Range increases as the population increases

- The larger the settlement, the higher the order of its services.

Deviations to this rule are:

- Tourist resorts that have a small population but large number of functions
- Dormitory towns that have a large population but a small number of functions.

THE THEORY OF CORE AND PERIPHERY

The basic principle of the 'Core-Periphery' theory is that as general prosperity grows worldwide, the majority of that growth is enjoyed by a 'core' region of wealthy countries despite being severely outnumbered in population by those in a 'periphery' that are ignored. There are many reasons why this global structure has formed, but generally there are many barriers, physical and political, that prevent the poorer citizens of the world from participating in global relations. The disparity of wealth between core and periphery countries is staggering, with 15% of the global population enjoying 75% of the world's annual income.

The Core

The 'core' consists of Europe (excluding Russia, Ukraine, and Belarus) , the United States, Canada, Australia, New Zealand, Japan, South Korea, and Israel. Within this region is where most of the positive characteristics of globalization typically occur: transnational links, modern development (i.e. higher wages, access to healthcare, adequate food/water/shelter), scientific innovation, and increasing economic prosperity. These countries also tend to be highly industrialized and have a rapidly-growing service (tertiary) sector.

The top twenty countries ranked by the United Nations Human Development Index are all in the core. However, of note is the slowing, stagnant, and occasionally declining population growth of these countries.

The opportunities created by these advantages perpetuate a world driven by individuals in the core. People in positions of power and influence around the world are often brought up or educated in the core (nearly 90% of world "leaders" have a degree from a Western university).

The Periphery

The 'periphery' consists of the countries in the rest of the world: Africa, South America, Asia (excluding Japan and South Korea), and Russia and many of its neighbors. Although some parts of this area exhibit positive development (especially Pacific Rim locations in China), it is generally characterized by extreme poverty and a low standard of living. Health care is non-existent in many places, there is less access to potable water than in the industrialized core, and poor infrastructure engenders slum conditions.

Population is skyrocketing in the periphery because of a number of contributing factors including a limited ability to move and the use of children as means to support a family, among others.

Many people living in rural areas perceive opportunities in cities and take action to migrate there, even though there are not enough jobs or housing to support them. Over one billion people now live in slum conditions, and the majority of population growth around the world is occurring in the periphery. The rural-to-urban migration and high birth rates of the periphery are creating both megacities, urban areas with over 8 million people, and hypercities, urban areas with over 20 million people. These cities, such as Mexico City or Manila, have little infrastructure and feature rampant crime, massive unemployment, and a huge informal sector.

At the heart of the core-periphery model is the second axiom of urban economics:

Self-reinforcing changes generate extreme outcomes.

Here, change is migration from one region to the other, and extreme outcome is that most economic activity will be concentrated in one region.

Typical story: economic activity will be concentrated in a core region, leaving only agricultural activity in the periphery.

Elements of the Core-Periphery Model

The core-periphery focuses on the location decisions of workers and firms. It is a “2 x 2 x 2” model:

- 2 regions: North and South
- 2 inputs to the production process: Skilled labour and unskilled labour
- 2 products: A manufactured good and an agricultural product

Core-Periphery Roots in Colonialism

One idea for how this world structure came about is called the dependency theory. The basic idea behind this is that capitalist countries have exploited the periphery through colonialism and imperialism in the past few centuries. Essentially, raw materials were extracted from the periphery through slave labour, sold to core countries where they would be consumed or manufactured, and then sold back to the periphery. Advocates of this theory believe that the damage done by centuries of exploitation have left these countries so far behind that it is impossible for them to compete in the global market.

Industrialized nations also played a key role in establishing political regimes during post-war reconstruction. English and the Romance languages remain the state languages for many non-European countries long after their foreign colonists have packed up and gone home. This makes it difficult for anyone brought up speaking a local language to assert him or herself in a Eurocentric world. Also, public policy formed by Western ideas may not provide the best solutions for non-Western countries and their problems.

Core-Periphery in Conflict

There are a number of locations that represent the physical separation between the core and periphery. Here are a few:

- The growing fence between the U.S. (core) and Mexico (periphery) to prevent the entrance of unauthorized immigrants.
- The Demilitarized Zone between North and South Korea.
- Air and naval patrols on the waters between Australia and Southeast Asia and between the EU and North Africa to keep out unwanted immigrants.
- The UN-enforced border separating the Turkish north and Greek south of Cyprus, known as the Green Line.

The core-periphery model is not limited to a global scale, either. Stark contrasts in wages, opportunities, access to health care, etc. among a local or national population are commonplace. The United States, the quintessential beacon for equality, exhibits some of the most obvious examples. U.S. Census Bureau data estimated that the top 5% of wage earners made up roughly one-third of all US income in 2005. For a local perspective, witness the slums of Anacostia whose impoverished citizens live a stone's throw from the grand marble monuments that represent the power and affluence of the Washington D.C.'s central downtown.

GROWTH POLE THEORY

No regional development concept or theory has received greater attention among economists, regional planners, governments and development agencies than growth pole theory. The growth pole concept originated from British Economist, Sir William Petty (1623-1687), who was fascinated by the high growth in London during the 17th century and conjectured that strong urban economies are the backbone and motor of the wealth of nations. French Economist, Francois Perroux (1903-1987), was credited with formalizing and elaborating on the concept. Since then, the growth pole concept has been subject to various definitions and interpretations, and its application has spread across the globe considerably. The theory is based on the belief that governments of developing countries can urban centres or regional capitals. This growth is supposed to spread to the rural areas in a process of regional development. The growth pole theory is underpinned by the belief that “free market forces” provide conditions for development through the existence of the so-called “trickle-down effect” that is meant to put together various economic forces, creating a virtuous cycle that spreads economic growth from urban to rural areas.

GROWTH POLE THEORY: ORIGINS AND DEFINITION

Growth pole theory, as originally formulated, assumes that growth does not appear everywhere at the same time, but it manifests itself in “points” or “poles” of growth. With variable intensities, the growth spreads by different channels and eventually affects the economy as a whole. It is widely argued that Perroux’s initial concept of growth pole denoted an individual plant; one that occupied an abstract economic space, rather than a specific geographical space such as a city or region. Perroux refined his concept of growth pole as a dynamic unity in a defined environment. The unit is simple or complex: (a) a firm, or (b) group of firms not institutionalized, or (c) group of firms institutionalized, such as private and semi-public undertakings.

The growth pole concept involves an enormous confusion of ideas, which makes it extremely difficult to put forward a clear definition of it. The Geography Dictionary (2004) defines growth poles as follows:

“A point of economic growth. Growth poles are usually urban locations, benefiting from agglomeration economies, and should interact with surrounding areas, spreading prosperity from the core to the periphery”.

This definition presupposes a linkage between growth poles, economic growth and urbanization, as well as potential interaction effects.

Linkage between Cities as Growth Poles and Urbanization

To better understand the linkage between cities as growth poles and urbanization, it is important that we define the salient terms such as: urban area, urbanization, and urban growth. By an *urban area*, we mean a settlement or a locality defined as “urban” by national statistical agencies, generally on the basis of population concentration. An urban area may also be defined in terms of land use types and industrial categories. Thus, an urban area may be defined as an area characterized by social, economic and institutional activities which are predominantly based on the manufacture, production, distribution, or provision of good and services other than agricultural uses, or the extraction of natural resources in unprocessed form, or low density residential development.

Urbanization is defined as:

- i. the social process whereby cities grow and societies become more urban;
- ii. the process of the formation and growth of cities; or
- iii. a historical transition from being mostly rural to predominantly urban.

In statistical terms, urbanization reflects an increase in the percentage of a country's total population that lives in towns and cities. This number represents the level of urbanization of a country. The *rate of urbanization* is the speed at which the percentage of the total population living in towns and cities is growing.

Although urbanization is a global phenomenon, yet the level and rate of urbanization vary significantly across geographical areas, regions and countries. Levels and rates of urbanization are relatively higher in the southern, northern and western regions than they are in the eastern region. Giving the overall rates of urbanization in African, it is projected that over 50 percent of Africans will live in urban areas by the year 2030 (United Nations, 2008). Rapid rate of growth in urban populations necessarily entails rapid rate of growth both in the size and number of urban places.

According to a report by the World Bank Africa Region (2001), by 2020, Africa will have 11 mega-cities of 5 million inhabitants or more and almost 3,000 cities with populations of more than 20,000 each. This is an increase of about 300 percent from 1990. The big question that comes to mind when we look at these statistics of urbanization in Africa, is whether Africa's urbanization will prove beneficial for people's lives. This issue will be dealt with in the latter part of this paper, but for now, let us investigate whether a linkage exists between cities as growth poles and urbanization.

The growth pole concept was originally conceived within "economic space", but later transposed into "geographical space". By conceptualizing growth pole in spatial terms, economists sought for a link between growth pole theory and urban accumulation and concentration. The conception of cities as growth poles in the urbanization process sparked a momentum to jumpstart economic growth in developing and industrializing countries in the 1960s and 1970s, mostly countries in Latin America and Southeast Asia, by pursuing a growth pole strategy. Planners and development economists set about identifying locations, which they believed, could act as growth poles or growth centres in the national urban system. Naturally established cities were activated as growth poles and strategically located points in a region were artificially induced as growth poles. These poles tended to be secondary cities within the national urban hierarchy --- places that could grow to fill the gap between the primary city and smaller places.

Growth is defined as "*a steady rise of the indicator of a dimension of the total economy in the region or a nation*", while development is defined as "*a combination of mental and social changes in population, which enables total production to grow, both cumulatively and permanently*". In other words, economic growth can be stimulated through cities as growth poles without being accompanied by development.

Conditions for Urbanization to Generate Growth

A number of factors have been identified as necessary prerequisites for urbanization to generate economic growth. These are:

1) **Possession of a critical population mass:**

There is a positive correlation between the proportion of a country's population living in urban areas and the country's level of income. High population concentration in urban areas brings about economies of scale and richer market structures, lower costs of providing public facilities and infrastructure, and faster diffusion of knowledge. However, economic growth is generated at certain optimal level of urban concentration. Excessive urban concentration creates congestion and higher cost for production and degradation of quality of life, while insufficient urban concentration prevents the synergistic effects of economies of scale and a dense customer base

2) **A favourable economic environment for fostering growth-minded entrepreneurs**

Urban centres serve as platforms for showcasing entrepreneurial expertise. The role of cities as engines of economic growth does not stem from merely physical concentration of people and firms, but also from the city's ability to create an environment where economic agents can easily interact to use productive resources efficiently and to create goods and services. Urban areas must possess the ability to attract capital and labor from other regions.

3) **The prevalence of the capacity for innovation**

Creating a competitive economy requires not only risk-taking entrepreneurs, but also innovative ideas, mobilization of available local and international knowledge, skills and technology. These are elements that are mostly fostered in an urban setting.

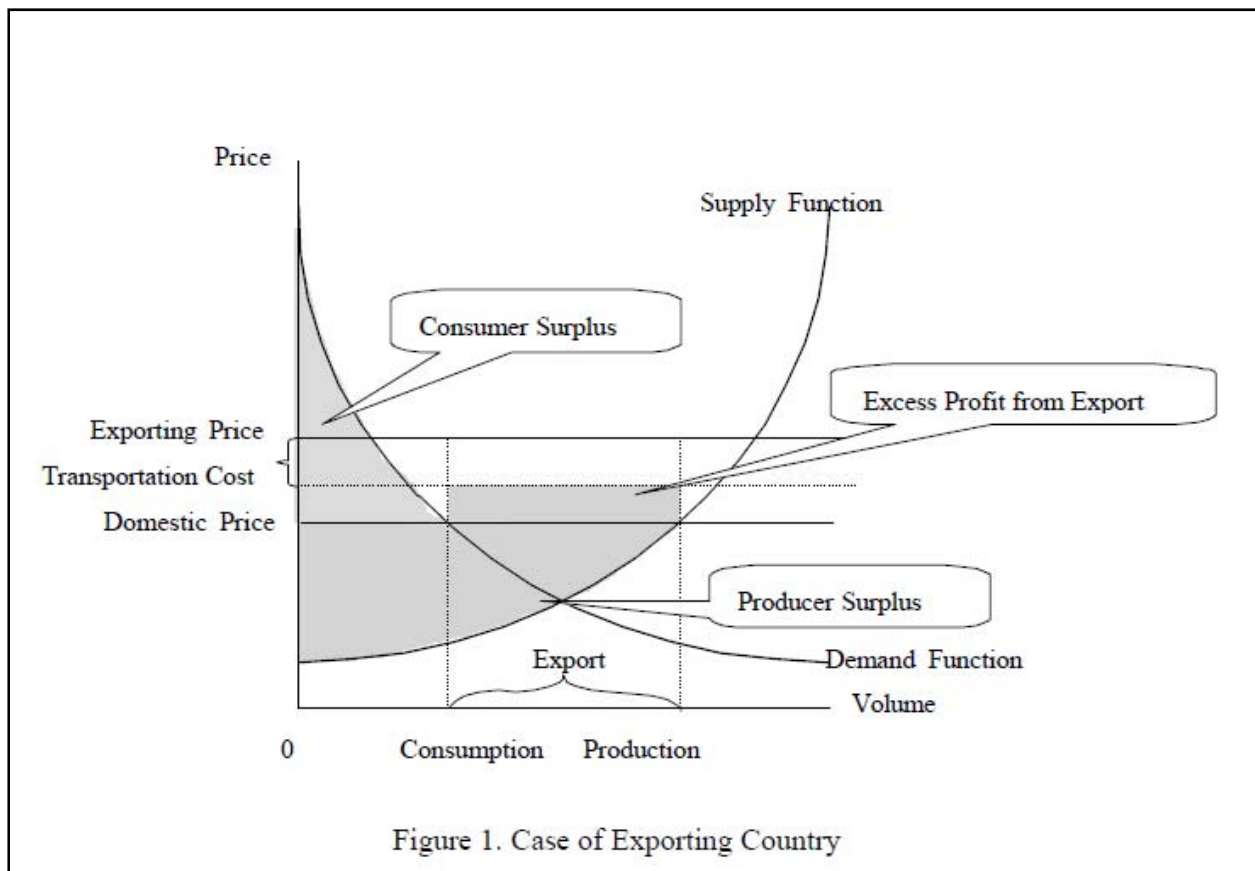
Equally important conditions that should prevail for urbanization to result in economic growth include the following:

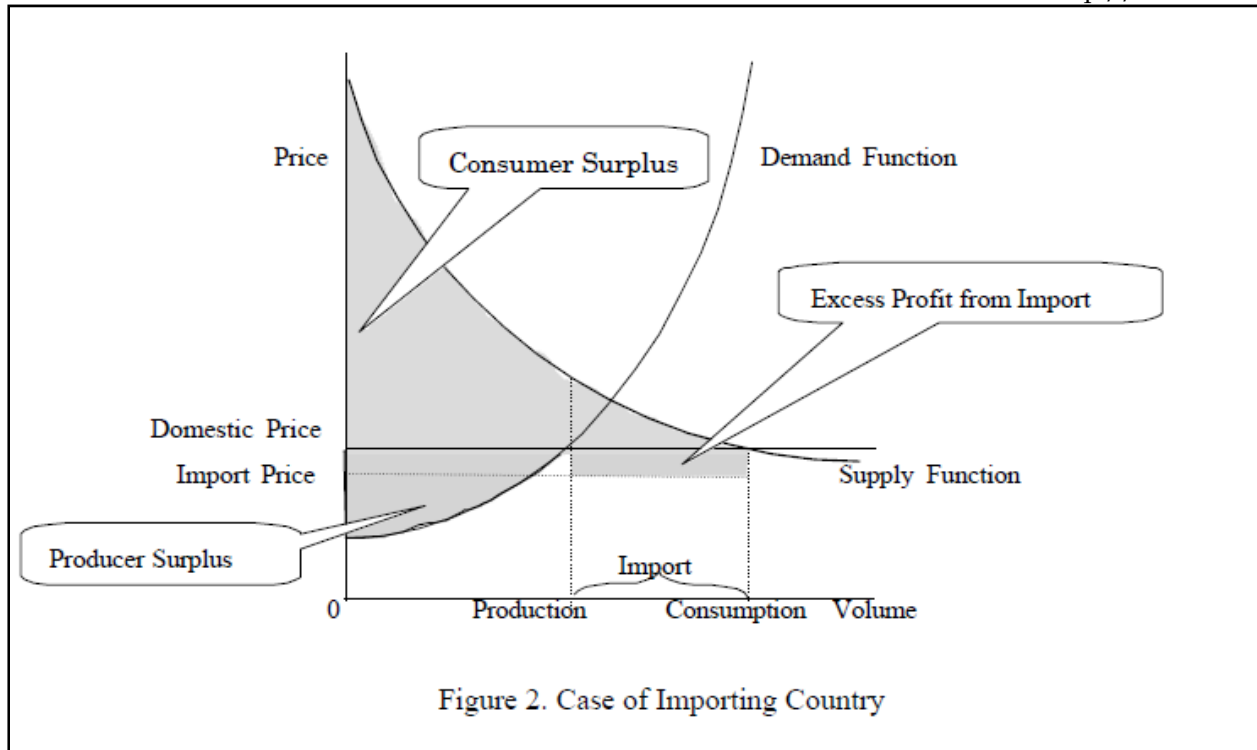
- i. Stable economic and strong political institutions;
- ii. Availability of public facilities/infrastructure, including transportation, potable water, sanitation and waste management systems;
- iii. Efficient urban governance;
- iv. Comprehensive growth management policies for sustainable urban growth, and reduction of social and environmental problems;
- v. Provision of information technology and faster diffusion of knowledge;
- vi. Respecting the rights of women and the urban poor;
- vii. Availability of jobs and the city's ability to match them with available skills, both local and expatriate labor force.

SPATIAL EQUILIBRIUM MODEL

Equilibrium, the state of a system whose configuration or large-scale properties do not change over time. For example, if a hot penny is dropped into a cup of cold water, the system of the water and penny will reach equilibrium when both are at the same temperature.

The Spatial Equilibrium Model can be defined as a model solving simultaneous equilibria of plural regional markets under the assumption of the existence of transportation costs between two regions. This complex proposition can be arranged into a simpler style by applying the theorem that the solution of the competitive equilibrium is equal to the maximization of social surplus (i.e. the total amount of producer and consumer surplus) under perfect competitive market conditions. The social surpluses of one exporting and one importing country are indicated by the shaded area in Figure 1.





Basic Concept of Spatial Equilibrium Model

Spatial Equilibrium Models can be defined as models which solve the simultaneous equilibria of plural regional markets under the assumption of existence of transportation costs between two regions. This complicated proposition can be arranged into a simpler style by applying the theorem that the solution of the competitive equilibrium is equal to the one of the maximization of social surplus (i.e. the total amount of producer surplus and consumer surplus) under perfect competitive market conditions. A unique equilibrium solution could be found by the maximization of the total area under the excess demand curve in each region minus the total transportation costs of all shipments.

The main difference between the earlier spatial allocation models and the spatial equilibrium models is that in the latter, supply and demand are expressed as functions, founded on economic theory, and not as fixed values. The other main difference is that the objective function is no longer to minimize costs but rather to maximize the surplus value of trade, or the sum of all consumer and producers surpluses.

Spatial Inequality

Spatial inequalities in income, health, education, and poverty present significant economic and political challenges for the governments of many developing countries. There is the existence of spatial inequalities in many forms in various countries in Asia, Europe, Africa and Latin America. Rapid economic growth is often associated with uneven regional and urban development, therefore, policy makers are concerned that development is likely to exacerbate

rather than reduce spatial inequalities. However, despite these concerns, there seems to be little consensus on the causes of spatial inequality and how policy makers should respond to growing spatial inequalities.

From the standpoint of economic efficiency, spatial inequality may be beneficial or harmful. If spatial inequality results from regional specialization based on comparative advantage or returns to scale in production, then spatial inequality may be beneficial as productivity is increased. But if spatial inequality is caused by external economies that are not internalized, then the level of inequality may not be optimal. In particular, spatial inequality in the form of the excessive concentration of urban population in large primate cities (such as Lagos, Abuja, Ibadan, Kano etc. in Nigeria) may impose a variety of social ills in society. From the standpoint of equity, spatial inequality may be socially undesirable if it contributes to social inequality across regions.

Moreover, spatial inequality may be socially destabilizing if the regional divergence in economic welfare and political interests contributes to general social instability.

Theories of Spatial Inequalities

From the perspective of theory, spatial inequality is fundamentally determined by the location decisions of firms and households. Firms choose locations to maximize profits whereas households do so to maximize job market outcomes and utility. While firms and households generally care about the quality of both of their regional and urban environments, there is no widely accepted general theory of spatial location that seems to incorporate regional and urban location decisions in a unified manner. The traditional regional science models based on the central place theory possessed a regional-urban perspective, but these models have now been discredited as not having a rigorous theoretical foundation. Instead, regional models, to the extent that they exist, are largely based on models of international or interregional trade. In recent years, theoretical innovations in modelling increasing returns have led to the formalization of many traditional concepts such as Marshallian externalities (technological spillovers, labour market pooling, access to non-traded intermediate inputs) and non-pecuniary externalities (forward and backward linkages and market size), which in turn has clarified the forces of spatial agglomeration and dispersion.

In general, spatial inequality is the net result of the balance of forces of concentration and dispersion. From the regional perspective, the centripetal forces of geographic concentration are natural advantages, Marshallian externalities, and non-pecuniary externalities, whereas the centrifugal forces of dispersion are immobility in factors and goods caused by high transportation and communications costs. From an urban perspective, the most important difference is the addition of new costs of concentration in the form of congestion costs that result from the fixed supply of land. Concentration leads to increased housing and commuting costs as well as costs caused by greater crime, pollution, and exposure to disease.

Theories of Regional Inequality

In regional economics, there are two classes of models that possess very different policy implications for dealing with regional inequality. In one class of models based on the standard neoclassical assumptions of constant returns to scale and perfect competition, the role of government involvement is relatively limited to infrastructural investments that affect the mobility of goods, labour, and other factors. Governments may have little ability to influence centripetal forces that are based on comparative advantage stemming from technology or resources, but it may increase regional specialization or inequality by lowering the mobility of

goods or may decrease inequality by lowering the mobility of factors. The potential role for government intervention is significantly higher in the so-called “new models of economic geography” based on imperfect competition and increasing returns.

First, due to the potential for “cumulative causation” forces, small subsidies can potentially have significant first-order effects. Second, infrastructural investments that increase the mobility of goods, labour, and capital may have significant impact on spatial inequality due to the self-enforcing nature of increasing returns. Third, since the equilibrium market allocations are inefficient in these models, markets will not reach the optimal level of spatial inequality without government intervention. When the sources of increasing returns are forward and backward linkages rather than market size and internal scale economies in production, then it is possible to derive an inverted U-pattern of geographic concentration where regional inequality first rises and then falls. Forward linkages exist when increased production by upstream firms provides positive pecuniary externalities to downstream firms. Backward linkages exist when increased production by downstream firms provides positive pecuniary externalities to upstream firms. When labour is immobile, an initial fall in the transportation costs of final goods leads to geographic concentration and regional inequality, but when transportation costs fall further, then regional inequality declines and the location of manufacturing firms becomes more dispersed. Thus, at least in principle, a policy that significantly lowers the transportation costs of final goods may under certain conditions lead to a long-run reduction in regional inequality.

Theories of Urban Inequality

It is critical to understand that urban inequality and regional inequality are highly interdependent. Even though most models of urban inequality do not address the issue of regional inequality, urban inequality affects regional inequality in a variety of ways. First, the well-known urban-rural wage gap will lead to regional inequality if there are regional differences in the rates of urbanization. Thus, an increase in the urban-rural wage gap may contribute to a growing regional inequality. Second, urban specialization in different industries may contribute to regional inequality if regions possess different types of cities. Third, the size distribution of cities will undoubtedly influence regional inequality. If cities are uniformly small, then urbanization is likely to have limited impact on regional inequality. However, if cities differ in size as they usually do, then urban inequality may have a major impact on regional inequality. For example, urban primacy or the concentration of a significant share of the urban population in few central cities will no doubt cause regional inequality. Thus, policies that reduce the importance of urban primacy are likely to contribute to greater regional equality.

The theories of urban inequality differ from those of regional inequality in one important respect: the treatment of land. Whereas regional immobility of factors constrain regional inequality by limiting agglomeration economies, the most important limiting factor for urban scale or inequality is congestion costs associated with land. As firms and workers concentrate in one urban location to take advantage of agglomeration economies, they also bid up land rents. The optimal city size is determined by the balance of agglomeration economies and congestion costs.

C. Strategies for regional planning

MEANING OF PLANNING

Although, there is a widely varied opinion among scholars about the definition of planning. No matter the divergent opinions, planning consists of goals and means. The goals contained in a plan must be explicit and coherent and there must be a means available for achieving the goals. Planning from this perspective can be defined as a 'consciously directed activity with pre-determined goals and means to carry them out (Agrawal and Lal, 1980). However, Hall (1974) defined planning as 'an ordered sequence of operations, designed to lead to the achievement of either a single goal or to balance between several goals'. This implies that the goal may be designed to achieve one objective or the other in the future.

Glasson (1974) define planning as "a future-oriented, problem-solving process". That is a sequence of actions designed to solve current and anticipated problems resulting from the use or misuse of land, location of activities, movement of people and goods, and careless management of the environment. Planning is concerned about the future, hence it is gradual and not a fire-brigade approach. It is concerned with human activities, which are wide ranging and complex, and need to be properly organised, managed, and controlled in space so as to reduce their undesirable consequences on the environment.

NEEDS FOR PLANNING

Proper planning is vital for the sustainable development of the human environment and therefore a need for adequate and future-oriented planning . The following are the major needs for planning.

- i. Planning has been considered as the most effective institutional instrument of controlling the means of production and equitable distribution of resources in socialist countries. It is the state that plan what to produce, how to produce, where and when to produce. Planning is done for effective control of national economy for the best interest of the society as a whole.
- ii. Planning (e.g. economic planning) is carried out by the government to often fix prices of goods and services to avoid economic exploitation and to meet the individual needs and preferences in the society.
- iii. Planning is needed for adequate provision of facilities and public utilities in urban and rural settlements to meet the human needs and aspirations and to ensure proper management of land uses so as to provide habitable and decent forum for the efficient performance of human activities (Onibokun, 1984).
- iv. Resources are limited in quantities and unevenly distributed throughout the country. Planning provides a medium of efficient utilisation of resources of rich regions for the development of the backward regions for balanced regional development and strong political integration especially in a multi-linguistic and culturally diverse nation.

- v. Planning distributes rationally public investment funds among the competing sectors of the national or regional economy for balanced sectoral development, tremendous increase in the gross domestic product and incomes, effective control of inflation and unemployment and alleviation of poverty.

TYPES AND LEVELS OF PLANNING

TYPES OF PLANNING

Physical Planning

Physical planning is concerned with the orderly spatial arrangement of man-made structures and the activities so as to create healthy environment for living, working circulation and recreation. It also involves development of a new town or village, renewal of decay city core and re-planning of shanty settlements in the urban fringe. It is also called [Spatial Planning](#).

Economic Planning

Economic planning is concerned with centrally directed allocation of resources to primary, secondary, and tertiary sectors of the economy. It aims at increasing the gross national product, agricultural production, industrial output, savings, and investments. Economic planning is also called [Sectoral Planning](#).

Development or Innovative Planning

Development planning is a process of formulating consistent social policies, economic programmes and institutional reforms that are capable of putting the economy on the path of progress. Development planning is concerned with equitable allocation of public investment funds into various sectors of the economy and distribution of productive investments to various parts of the country so as to provide a firm basis for sustained increase in the per capital income and improvement in the standard of living of the people over a long period of time. Development planning is also called [Innovative Planning](#).

Indicative and Imperative Planning

Indicative planning is a process of laying down policy guidelines that the government agencies, private companies and investors will follow in their day-to-day activities. Government rarely intervenes in the affairs of private industries as long as they function within the framework of the economic policies formulated. Directly, this type of planning co-ordinates the policy-making of government within a coherent whole. Indirectly, the rest of the economy is steered along the guidelines of the government policy.

Fixed or Rolling Planning

Fixed planning is a process of preparing a plan for a rigidly fixed period of time. A plan may be for five years say 2005-2010, it therefore mean that the programmes and policies contained in the plan will not change between 2005-2010. Thereafter, another 5-year plan, starting from the year 2010-2015 will be formulated and implemented. Fixed plan show the uni-direction of government policy to investors, but fails to incorporate certain unforeseen changes and developments such as shortfall in crude oil revenues, that may arise within the planned period.

Rolling Planning on the other hand is a continuous process of changing the yearly dates of a plan. If, for instance, a plan spans five years (2005-2010), after the first year is over in 2005, another year is added (2006), so that it becomes 2006-2011) period. Thereafter, with the passage of one year, the beginning year moves out simultaneously with the new terminal year moves in. That keeps the time-length of a plan intact, but not the content. The decisions and adjustments of the rolling plan may not be limited to the time-length, but certain key elements of the plan such as projections and resource-supplies.

LEVELS OF PLANNING

a) Inter-National Planning

This is planning efforts among countries. Such countries may share common boundaries or in the same ecological zone, and may pool their resources together and agree to solve problems that threatened national boundaries such as smuggling, illegal migration and armed robberies. Others countries may agree on a common currency, free movement of people and goods between one country and the other like the ECOWAS. Such activities can also be at the world level, largely through United Nation Agencies. Planning is confined to the activities agreed upon.

b) National Planning

National planning is the highest level of planning in a federation. It involves the physical, social and economic forms of planning of a nation. It is a centrally directed allocation of resources (industries, social institutions, public funds and utilities) to states or regions in order to achieve rational population re-distribution, balanced development, national integration and stable political atmosphere. The successes of National Planning depends on its ability to formulate goals that reflect the aspiration of the people and achieve the articulated goals more successfully than would unplanned activity.

c) Regional Planning

REGIONAL PLANNING

This the second level of planning in a unitary state. Within a nation, planning, for separate region is described as regional planning. The term '*region*' can be applied to different countries or groups of countries or different areas within the same country or even the world. Regional planning is considered as a sequence of programmed and coordinated actions designed to solve current and anticipated problems of a region. It is a kind of response to certain problems of urban region arising from population growth, increasing urbanization, increasing cost of living and personal mobility and problems of depressed industrial and rural regions suffering from economic malaise. While urban planning integrates land use planning and transportation planning to improve the built, economic and social environments of communities, regional planning deals with a still larger environment, at a less detailed level. According to Friedman (1967), regional planning can occur at four levels in a hierarchy of spatial system: sub-national, national, multi-national or the world.

d) State Planning

This is the second level of planning in a federation. It is planning of a political region (state). State planning demand exploitation of resources within the state and channelling of public investment funds and distributing industries, public utilities and social amenities to the various Local Government Areas in the state for balanced development. State planning is a useful component of the national planning.

e) Sub-Regional Planning

It is the third level of planning in a unitary state. It is a process of exploiting and distributing resources among the urban and rural areas in order to meet the needs and aspirations of the local people. It address peculiar problems that cannot be specifically addressed by the regional and national forms of planning.

f) Local Planning

This is the third level of planning in a federated state, involving the preparation and implementation of consistent plan that will guide the development of local areas within the state. It involves the exploitation of local resources to meet the peculiar needs and aspirations of the local people. It ensures orderly arrangement of land uses in both urban and rural communities so as to check incompatible land uses and haphazard developments. It is also concerned with the detailed layout of the various districts contained in the Urban and Rural Development Plans.

URBAN PLANNING

Urban Planning involves the planning of the physical and social development of a city through the design of its layout and the provision of services and facilities Urban or city planning, is the unified development of cities and their environs. For most of its history, urban planning dealt primarily with the regulation of land use and the physical arrangement of city structures, as guided by architectural, engineering, and land-development criteria. In the mid-20th century it broadened to include the comprehensive guidance of the physical, economic, and social environment of a community. Elements characteristic of urban or city planning include

- a. general plans that summarize the objectives of (and restraints on) land development;
- b. zoning and subdivision controls that specify permissible land uses, densities, and requirements for streets, utility services, and other improvements;
- c. plans for traffic flow and public transportation;
- d. strategies for economic revitalization of depressed urban and rural areas;
- e. strategies for supportive action to help disadvantaged social groups; and
- f. guidelines for environmental protection and preservation of scarce resources.

Urban planning is conducted by governments on all levels—local, county, regional, state, and federal—and by private groups. It is also a subject of university-level study. Professional societies include the American Planning Association, the Canadian Institute of Planners, in Nigeria, the Nigeria Institute of Town Planners (NITP), and in the United Kingdom, the Royal Town Planning Institute.

Urban planning can include urban renewal, by adapting urban planning methods to existing cities suffering from decay and lack of investment. Urban planning is similar to [Regional planning](#) deals with a still larger environment, at a less detailed level.

REGIONAL PLANNING PROCESS

Regional planning process is a series of connected actions designed to collect and analyse mass of data necessary for the preparation and implementation of a Regional Development Plan. The process can be describe in terms of three inter-related phases: the information-analysis phase, programming phase and the implementation phase.

a. Information Phase:

- i. **Reconnaissance survey:** is carried out at this phase and it involves casual observation and preliminary investigation of the existing situation in a region or sub-region before a more comprehensive and detailed research work is conducted. It enables a researcher to have a general knowledge of the region necessary for proper delineation of the selected areas in the field, selection of sample unit and appreciation of local problem that can affect the conduct of the survey.
- ii. **Problem identification:** which involves proper diagnosis of the nature, causes and effects of regional problems. In addition, human, material and environmental resources that can be explored and exploited for regional development can be identified and delineated.
- iii. **Goal Definition:** The broad goal of the regional plan will be defined based on the deep knowledge of the existing condition, identified problems, and available resources. It is difficult to plan without a goal. A goal must be explicit so as to determine the type of data needed, the method of data collection and evaluation of alternative course of action. The goal of a regional plan must be tailored towards meeting the needs and aspirations of the people.
- iv. **Formulation of Objectives:** A set of objectives is necessary for achieving the broad aim (goal) of the study must be formulated. There is a hierarchy of objectives, from general to specific, the abstract to the particular and from immeasurable to the measurable.
- v. **Data Collection:** A casual observation of the existing conditions may not give the clearest picture of the nature , causes and effects of the regional problems. Information can be gathered through primary sources (questionnaire, maps, aerial photographs, etc.) and secondary sources (books, journals, magazines, newspapers etc.) The gathering of data necessary for the preparation of regional plan must be given adequate publicity, and series of meeting must be held with the community

leaders and pressure groups so as to harness all possible ideas from all segments of the society, measure their feelings and understand their needs and problems. These will make the plan to be relevant, effective and result-oriented.

- vi. **Data Analysis:** The mass of data collected from primary and secondary sources must be thoroughly examined, analysed, arranged, interpreted and presented in forms of words, tables, graphs and charts in order to have the clearest picture of the region's needs, potentialities and problems within the framework of the objectives of the regional development plan.

b. Regional Plan Preparation Phase:

- i. **Alternative Plan Generation:** This is the process of preparing two or more regional development plans based on the regional problems identified, wide range of alternative solution generated, the available resources and the perceptions of the researcher and client.
- ii. **Regional Plan Evaluation:** The alternative plans prepared will be thoroughly examined and evaluated using sophisticated cost-benefit analysis, Impact Assessment Matrix and Welfare Improvement Matrix Methods etc. based on the objectives of the regional plans, problems identified, available resources and government's priorities.

c. Regional Plan Implementation Phase:

- i. **Regional Plan Implementation:** A prepared plan is useless, unless if it is implemented, therefore for a plan to be successful, implemented, the plan must be understood and accepted by a great many people, and the planner must communicate both his diagnosis and prescription to those responsible for implementation. Public participation in project implementation often increase the enthusiasm and self-confidence of the neglected groups in the community and thereby encourage them to cooperate with the development efforts.

A properly preferred plan can achieve the desired results, if the government provides the necessary administrative framework, legal backing and adequate resources for its implementation.

- ii. **Regional Plan Monitoring:** This is the process of checking and collecting information about what actually happens to the plan that has been implemented so as to see whether changes need to be effected in the project overtime.

- iii. **Regional Plan Review:** After a plan has been implemented and closely monitored, unforeseen problems need to be solved and positive changes need to be made in the plan so as to keep abreast with the emerging situations, changing values, needs and circumstances.

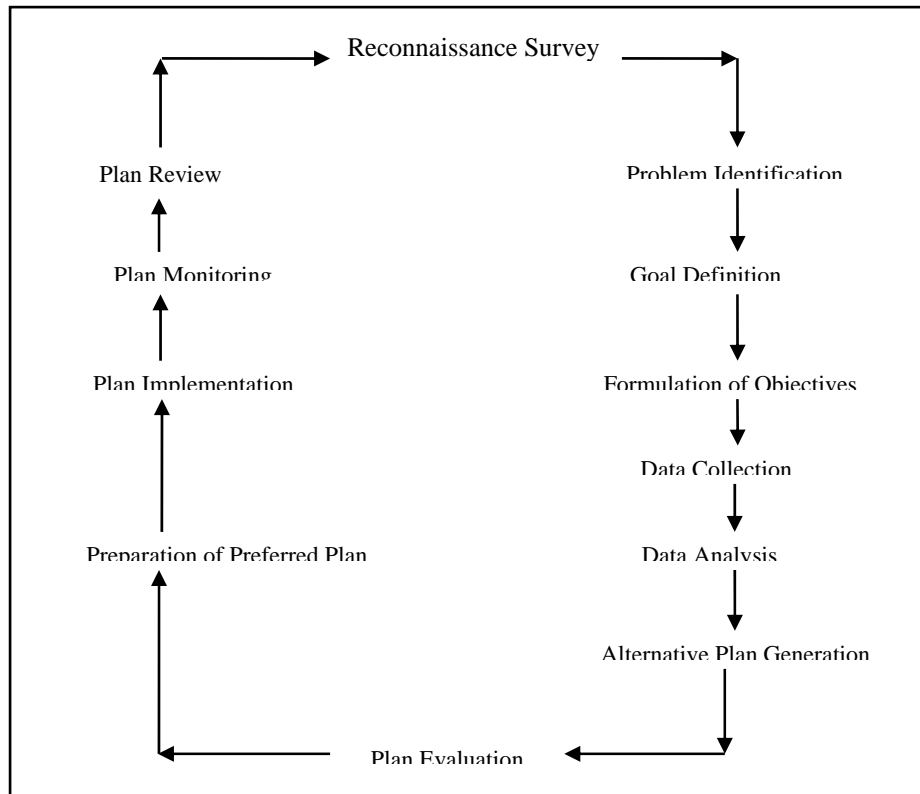


Diagram showing the Regional Planning Process

In Nigeria, regional planning is faced with many setbacks or problems which constitute a clog in the wheel of all developmental efforts no matter how well prepared the development plans are made.

1. Colonial orientation of Nigerian Urban space
2. Lack of properly prepared development plans for most urban areas
3. Complex urban development problems
4. Non-chalant attitudes of government to physical planning
5. Non-appreciation of the developmental roles of physical planners by the Nigerian society
6. Lack of integrated administrative framework for physical planning
7. Limited information resources
8. Limited Fiscal resources
9. Manpower problems
10. Non-implementation of urban and regional planning law of 1992

REGIONAL PLANNING STRATEGIES

Case study of Nigeria and other developing countries to be discussed.

D. Human and Environmental impacts on regional planning

HUMAN AND ENVIRONMENTAL IMPACTS ON REGIONAL PLANNING

Having a large number of cities with multimillion populations is a new condition in our history, as is the urbanization of over half the people in the world. Urban agglomerations are today the engines of consumption of the world's environment: they occupy only 2% of the world's land surface, but use over 75% of the world's resources. Humans now consume nearly half of the world's total photosynthetic capacity, and cities are the major factor in this. Cities in the North require an average of 4 to 5 hectares of ecologically productive land per inhabitant. Further, much economic activity that takes place outside cities is geared towards cities. With the expansion of the global economy we have raised our capability to annex growing portions of the world to support a limited number of industries and places. Cities also have a pronounced effect on traditional rural economies and their long-standing cultural adaptation to biological diversity.

One major problems to regional planning due to uncontrolled expansion of cities is that of urban decay and blight (generally lower in quality and less spacious housing especially in developing countries)

URBAN DECAY

Urban decay is the decline in the social, physical, and economic fabric of a city. It is usually found in the oldest part of the settlement or the inner city. Urban decay is a process by which a city, or a part of a city, falls into a state of disrepair and neglect. It is characterized by depopulation, economic restructuring, property abandonment, high unemployment, fragmented families, political disenfranchisement, crime, and desolate urban landscapes. Urban decay was often associated with central areas of cities in North America and Europe especially during the 1970s and 1980s. As at that time, changes in global economies, demographics, transportation, and policies fostered urban decay. Starting in the 1990s, many of the central urban areas in North America have been experiencing a reversal of the urban decay, with rising real estate values, smarter development, demolition of obsolete social housing and a wider variety of housing choice. Massive urbanization over the last few decades has created a set of global ecological conditions never seen before.

Areas devastated by war or invasion challenge urban planners. Resources are scarce and the existing population has needs. Buildings, roads, services and basic infrastructure like power, water and sewerage are often damaged, but with salvageable parts. Historic, religious or social centres also need to be preserved and re-integrated into the new city plan. A prime example of this is the capital city of Kabul, Afghanistan, which, after decades of civil war and occupation, has regions of rubble and desolation. Despite this, the indigenous population continues to live in the area, constructing makeshift homes and shops out of salvaged materials.

URBAN BLIGHT

Urban Blight is often the emergence of low quality houses and slums in the urban centres especially in areas occupied by the urban poor. Blight may sometimes cause communities to

consider redeveloping and urban planning. Urban -based housing in developing countries is generally lower in quality and less spacious than housing in developed nations. Government efforts to upgrade housing conditions are progressing slowly. In the 1950s, many cities, including Manila in the Philippines and Baghdad in Iraq, instituted slum demolition on a large scale. The intent was to remove the blight from the urban landscape. In the 1960s, new planned cities, such as Brazil's capital, Brasília, and Nigeria's capital, Abuja, became commonplace. The new towns were to decentralize government functions and industries and related jobs and populations. These strategies, which did not include the provision of low-cost housing, often proved ineffective. Slum demolition usually accompanied the construction of new shanties elsewhere on the periphery of the city, and the new towns often proved to be islands in a sea of slums.

Housing in developing nations and poor parts of developed countries continues to be of insufficient quality and quantity to meet increasing demand. Poverty, such as that in the slums of Mexico City, is common in the large cities of Asia, South America, and Africa. In the United States, vacant and abandoned central-city housing exists alongside usable but overcrowded buildings that are structurally reclaimable but functionally obsolete. Thus, the demand for low-cost housing is generally unmet. This is true for developing countries as well. As more people move to already overcrowded cities, shantytowns are built on the edge of the city to accommodate the new migrants, but they often do not have electricity, running water, sewage systems, or social amenities such as schools and health clinics.

Housing is a critical component in the social, economic, and health fabric of all nations. No country can claim to have provided adequate housing to the various socio-economic groups that make up its population, but especially the poor. Thus, most nations, in one form or another, continue to place access to affordable housing at the top of their priority lists.

Transport within urbanized areas presents unique problems. The density of an urban environment increases traffic, which can harm businesses and increase pollution unless properly managed. Parking space for private vehicles requires the construction of large parking garages in high density areas. This space could often be more valuable for other development.

Good planning uses transit oriented development, which attempts to place higher densities of jobs or residents near high-volume transportation. For example, some cities permit commerce and multi-story apartment buildings only within one block of train stations and multilane boulevards, and accept single-family dwellings and parks farther away.

City authorities may try to encourage higher densities to reduce per-capita infrastructure costs. In the UK, recent years have seen a concerted effort to increase the density of residential development in order to better achieve sustainable development. Increasing development density has the advantage of making mass transport systems, district heating and other community facilities (schools, health centres, etc.) more viable. However critics of this approach dub the densification of development as 'town cramming' and claim that it lowers quality of life and restricts market-led choice. Problems can often occur at residential densities between about two and five. These densities can cause traffic jams for automobiles, yet are too low to be commercially served by trains or light rail systems. The conventional solution is to use buses, but these and light rail systems may fail where automobiles and excess road network capacity are both available, achieving less than 2% ridership.

Suburbanization

Declining satisfaction with the urban environment is held to blame for continuing migration to smaller towns and rural areas (so-called urban exodus). Successful urban planning supported Regional planning can bring benefits to a much larger hinterland or city region and help to reduce both congestion along transport routes and the wastage of energy implied by excessive commuting.

Environmental factors and Regional Planning

Environmental protection and conservation are of utmost importance to many planning systems across the world. Not only are the specific effects of development to be mitigated, but attempts are made to minimize the overall effect of development on the local and global environment. This is commonly done through the assessment of Sustainable urban infrastructure and microclimate. In Europe this process is known as a Sustainability Appraisal.

In most advanced urban or village planning models, local context is critical. In many, gardening and other outdoor activities assumes a central role in the daily life of citizens. Environmental planners focus now on smaller and larger systems of resource extraction and consumption, energy production, and waste disposal. An urban planner can use a number of quantitative tools to forecast impacts of development on the environmental, including roadway air dispersion models to predict air quality impacts of urban highways and roadway noise models to predict noise pollution effects of urban highways. As early as the 1960s, noise pollution was addressed in the design of urban highways as well as noise barriers. The Phase I Environmental Site Assessment can be an important tool to the urban planner by identifying early in the planning process any geographic areas or parcels which have toxic constraints.

Tall buildings in particular can have a substantial effect in channelling winds and shading large areas. The microclimate around the building will typically be assessed as part of the environmental impact assessment for the building.

Light and sound

The **urban canyon effect** is a colloquial, non-scientific term referring to street space bordered by very high buildings. This type of environment may shade the sidewalk level from direct sunlight during most daylight hours. While an oft-decried phenomenon, it is rare except in very dense, hyper-tall urban environments, such as those found in Lower and Midtown Manhattan, Chicago's Loop and Kowloon in Hong Kong.

Light pollution has become a problem in urban residential areas, not only as it relates to its effects on the night sky, but as some lighting is so intrusive as to cause conflict in the residential areas and paradoxically intense improperly installed security lighting may pose a danger to the public, producing excessive glare.

Urbanists and Environmentalists

Environmentalists are beginning to address urban questions, particularly through the notion of sustainable cities and more environmentally friendly forms of urban growth. The articulation of environmental and urban research has not been facilitated by the lack of a clear definition of key categories such as environment and sustainability. One difficulty is that environment has many different meanings, depending on ideology, politics, situation, positionality, and economic and political capacities. Nonetheless, there is a whole range of ecological issues central to how we should be thinking about our rapidly urbanizing world. How we respond to some of the large global scale issues (warming, ozone, emissions) will have profound implications for urbanization processes

Beyond this overall difference, the environmental agenda being developed in the North may neglect issues of household level environmental problems such as sanitation, which may be crucial to sustainability in the South, but have often been solved for most people, though not the very poor (see e.g. Bullard 1994; Florini et al. 1990), in the North. (On these various issues see Satterthwaite 1999.) The conditions that create high infant mortality and disease are, for some, of similarly global import as the destruction of forests, and are among the most urgent ones that need to be addressed. The consequences of hazardous indoor air quality (household airborne and water carried diseases) and inadequate sanitation have a far more direct and often fatal impact on large sectors of the world's population than the effects of global warming and emissions. Perhaps in one of the clearest formulations of this position, Gottlieb (1993) posits that we have to shift environmental analysis "from an argument about protection or management of the natural environment to a discussion of social movements in response to the urban and industrial forces of the past hundred years." A growing range of issues never previously understood in terms of class, such as global warming, environmental damage and destruction of local cultures, can now be interpreted as class questions.

The notion of sustainable cities and sustainable development introduces a broad, often ill-defined range of issues. It is often not clear what the 'sustainable' refers to: cities, programs, or existing arrangements (Satterthwaite 1999; Marcuse 1998). There is a difference between those focused on meeting human needs and those who are more ecocentric and posit that the ecosystem should be allowed to develop on its own terms, without separate reference to the needs of humans. There are different meanings in the literature on sustainable development, though most are centered on ecological sustainability with little mention of development in the sense of meeting human needs (Mitlin 1992). Partly in reaction there is now a second literature that focuses exclusively on meeting human needs (e.g. the Habitat II documents). A third literature, mostly from international agencies, refers to sustainability in terms of the longevity of those projects instituted by these agencies once they themselves leave; there is often little reference to the ecological impact of these same projects.

One of the major contributions of the Brundtland Commission (1987) was its insistence that meeting human needs must be combined with ecological sustainability. It argued that the challenge is to meet today's needs without compromising the future ability to meet needs. Hardoy, Satterthwaite and Mitlin (1992) suggest that 'sustainable' should refer to avoiding the depletion of environmental capital, and that development should refer to meeting human needs. They see this as an elaboration of the social, economic, and political goals coming out of the Brundtland Commission, with a commitment to limit or stop the depletion of major types of environmental capital. Haughton and Hunter (1999) identify three principles that expand on this definition: intergenerational equity, social justice (a form of distributional equity), and transfrontier responsibility. These are principles of justice between generations, social classes and strata, and between places (see also Baker et al., 1997).

Drawing a distinction between ecological sustainability and the development components of sustainable development has the advantage of avoiding the confusions generated by terms such

as economic sustainability, social sustainability, and cultural sustainability, where it is uncertain what is being sustained and how it would affect environmental capital (Marcuse, 1998). The same can be said about “sustainable cities,” sustainable human settlements, sustainable urbanization. Hardoy, Satherwaite, and Mitlin (1992) note that sustainable development is not about the cities or the social structures in cities today but about the need to meet human needs without depleting the environmental capital; this would require some sharp changes in those conditions. They argue that pursuing this also means seeking international regulatory frameworks in which “democratic and accountable city and municipal authorities ensure that the needs of the people within their boundaries are addressed while minimizing the transferring of environmental costs to other people or ecosystems or into the future.” This in turn requires consideration of the kinds of national policies, legal and international frameworks, and international agreements that encourage city and municipal authorities in this direction (see generally Pronk 1997; Weiss 1999; Bartone et al. 1994; Vig and Axelrod 1999).

E. Criteria for settlement classification

DEFINITION OF SETTLEMENTS

In terms of settlements two issues needed to be addressed in the preparation of the study:

- the identification of which settlements would be included in the study; and
- how those settlements were to be defined in terms of their boundaries

CLASSIFICATION OF SETTLEMENTS

A functional classification of settlements in the different regions of the world sometimes pose problem to regional geographers or planners. A review of work undertaken elsewhere at the national, regional and local levels suggests that there is no common approach to settlement classification. However, several common features do, emerge with service role, size and accessibility forming the basis of a number of classifications. No single classification provide the comprehensive understanding of the current characteristics, roles, functions and interrelationships of settlements.

Rather than limit the scope of the study by attempting to classify settlements in terms of a single set of criteria, an alternative approach was adopted which considered each settlement in terms of four key areas - its location or physical relationship to other settlements, its service role, its functions and its prosperity. Each of these was divided into several categories:

- i. location
 - linked settlements
 - stand alone settlements within an urban hinterland
 - stand alone settlements outside an urban hinterland
 - remote settlements
- ii. Service role
 - sub-regional centres
 - principal service centres
 - local service centres
 - basic service centres
- iii. Functions
 - commuter settlements
 - employment centres
 - tourist centres
 - settlements with no dominant role
- iv. Prosperity
 - prosperous
 - stable
 - less prosperous

The location categories are based solely on physical location, notably on distance and do not take account of accessibility factors; the service roles used in the analysis exclude regional centres as a category as Lagos, Enugu, Kano and Maiduguri.

Population	138,283,240 (2008 estimate)
Population growth	
Population growth rate	2.38 percent (2008 estimate)
Projected population in 2025	206,165,946 (2025 estimate)
Projected population in 2050	356,523,597 (2050 estimate)
Population density	
	152 persons per sq km (2008 estimate)
	393 persons per sq mi (2008 estimate)
Urban/rural distribution	
Share urban	48 percent (2005 estimate)
Share rural	52 percent (2005 estimate)
Largest cities, with population	
Lagos	11,100,000 (2005 estimate)
Ibadan	3,570,000 (2007 estimate)
Ogbomosho	861,300 (2007 estimate)
Kano	3,630,000 (2007 estimate)

Sources: United States Census Bureau, International Programs Center, International Data Base (IDB) (www.census.gov). Urban and rural population data are from the Food and Agriculture Organization (FAO) of the United Nations (UN), FAOSTAT database (www.fao.org). Largest cities population data and political divisions data are from the statistical bureaus of individual countries.

RURILITY

The concept of rurality relates to rural living as opposed to urbanism which is related to urban areas.

URBANISM

The human population has lived a rural lifestyle through most of history. The world's population, however, is quickly becoming urbanized as people migrate to the cities. The world witnessed rapid the urban population growth between 1950 and the year 2000. In 1950, less than 30% of the world's population lived in cities. This number grew to 47% in the year 2000 (2.8 billion people), and it is expected to grow to 60% by the year 2025. Developed nations have a

higher percentage of urban residents than less developed countries. However, urbanization is occurring rapidly in many less developed countries, and it is expected that most urban growth will occur in less developed countries during the next decades.

The definition of an urban area changes from country to country. In general, there are no standards, and each country develops its own set of criteria for distinguishing cities or urban areas. A city is generally defined as a political unit, i.e., a place organized and governed by an administrative body. A way of defining a city or an urban area is by the number of residents. The United Nations defines settlements of over 20,000 as *urban*, and those with more than 100,000 as *cities*. The United States defines an urbanized area as a city and surrounding area, with a minimum population of 50,000. A *metropolitan* area includes both urban areas and rural areas that are socially and economically integrated with a particular city.

Cities with over 5 million inhabitants are known as megacities. There were 41 in the year 2000. This number is expected to grow as the population increases in the next few decades. It is predicted that by the year 2015, 50 megacities will exist, and 23 of these are expected to have over 10 million people. The table below shows a list of the world's 25 largest cities in 1995.

The World's 25 Largest Cities, 1995	
Country, City	Population (Millions)
Tokyo, Japan	26.8
Sao Paulo, Brazil	16.4
New York, USA	16.3
Mexico City, Mexico	15.6
Bombay, India	15.1
Shanghai, China	15.1
Los Angeles, USA	12.4
Beijing, China	12.4
Calcutta, India	11.7
Seoul, South Korea	11.6
Jakarta, Indonesia	11.5
Buenos Aires, Argentina	11.0
Tianjin, China	10.7
Osaka, Japan	10.6
Lagos, Nigeria	10.3
Rio de Janeiro, Brazil	9.9
Delhi, India	9.9
Karachi, Pakistan	9.9

Cairo, Egypt	9.7
Paris, France	9.5
Metropolitan Manila, Philippines	9.3
Moscow, Russia	9.2
Dhaka, Bangladesh	7.8
Istanbul, Turkey	7.8
Lima, Peru	7.2

Source: United Nations, Population Division. *World Urbanization Prospects. 1994*

The rapid growth of urban areas is the result of two factors: natural increase in population (excess of births over deaths), and migration to urban areas.

NATURAL INCREASE IN POPULATION.

The population growth rate measures a country's population increase (or decrease) in a given year due to natural increase (or decrease) or net migration. It is expressed as a percentage of the existing total population. The rate of population growth reflects reproductive health and the status of birth control in a country's population, as well as the number of people entering (or leaving) the country.

MIGRATION

Migration is defined as the long-term relocation of an individual, household or group to a new location outside the community of origin. Today the movement of people from rural to urban areas (internal migration) is most significant. Although smaller than the movement of people within borders, international migration is also increasing. Both internal and international migration contribute to urbanization.

Migration is often explained in terms of either “*push factors*” – conditions in the place of origin which are perceived by migrants as detrimental to their well-being or economic security, and “*pull factors*” – the circumstances in new places that attract individuals to move there. Examples of push factors include high unemployment and political persecution, while that of pull factors include job opportunities or moving to a better climate.

Typically, a pull factor initiates migration that can be sustained by push and other factors that facilitate or make possible the change. For example, a farmer in rural area of Alabata (Nigeria), whose land has become unproductive because of drought (push factor) may decide to move to Abeokuta or Lagos where he perceives more job opportunities and possibilities for a better lifestyle (pull factor). In general, cities are perceived as places where one could have a better life, because of better opportunities, higher salaries, better services, and better lifestyles. The perceived better conditions attract poor people from rural areas.

Government economic policies may also be adduced as the causes of rural migration. For instance, in order to pay foreign debt and to be more competitive in international markets, national governments may try to encouraged the export of national resources and agricultural products. Agricultural products (sugar, flowers, coffee, etc.), and primary-sector goods (timber, fish, minerals, etc) become natural resource capital that can be traded to bolster the national economy. And, in order to produce agricultural products quickly, efficiently, and for a decent

prize, national governments often look to decrease the number of small producers, and turn agricultural production and resource extraction over to larger enterprises, with larger production facilities, and a lower per-unit cost of production. This trend turns land into a commodity, that can be bought and sold, and it is viewed only in terms of its productive capabilities. Free market economics pursues economic efficiency to deliver goods at the lowest possible price, and its advocates maintain that any government intervention diminishes this efficiency. Consequently, they seek to eliminate farm programs such as farm subsidies, cheap credit policies, etc. intended to help the farmer, and to maintain stable prices. This scenario leaves farmers to shoulder the burden of farming, sometimes with no alternative but to sell their land to a foreign investor or a domestic-owned enterprise, and move to the cities, where the farmer hopes to have a better life.

Other policies reinforce the above scenario. In this case, in order to boost the production of cheaper goods, governments have maintained artificially low food prices in urban areas. The strategy here is to maintain urban food prices below market levels to reduce the cost of urban labor and urban life. This policy has resulted in inadequate compensation of rural producers for the costs they incur to produce food products and thus have aggravated rural poverty. On the other hand, these policies have also made city life more attractive and pulled them from rural areas.

International migration includes labour migration, refugees and undocumented migrants. Similar to rural-to-urban migration, individuals move in search of jobs and a better life. Income disparities among regions, and job opportunities, are key motivating factors. The migration policies of sending and receiving countries also play a key role. The best current estimate from the United Nations Population Fund, indicates that more than 100 million people were living outside their countries of birth or citizenship in 1998. There is a number of reasons why this figure is rising, but an important one is that the native labour pool in the industrialized countries is shrinking, while the developing world's workforce is rapidly increasing. Today, international migration is at an all-time high. About 2% of the Earth's population has moved away from the country of origin.

Urban spaces have become more differentiated and contested, in response to technological change, globalisation and social restructuring. Development pressure on existing urban places, especially those that are well serviced by transit, will result in much higher land costs, making it that much more difficult to accommodate a society increasingly stratified by race, ethnicity, class, age, household type and other social factors. The result is likely to be not only further displacement and isolation of low-income populations, but also the rise of an urban pattern defined by spatial segregation of various kinds. Urban places have become increasingly diverse and increase in density. As environmental, political and financial pressures work to contain urban sprawl, increase access to urban amenities, and lessen energy and infrastructure costs, pressure to develop in the core or in established, better-serviced neighbourhoods will increase, encouraged by a variety of containment strategies and regulatory requirements, in addition to consumer preference.

The current support for New Urbanism rests upon its claims to address many of the current 'sustainability' issues facing society including: urban sprawl, car dependence, congestion, pollution, walkability, community isolation and obesity, underpinned by 'slick' professional marketing and promotional campaigns. New Urbanism promotes compact, pedestrian-friendly, mixed-use residential developments close to amenities and public transport. It is claimed that such designs reduce crime by increasing opportunities for surveillance, encouraging walking and social interaction, and promoting a sense of community and social control.

G. Rural and Urban relationships

RURAL-URBAN LINKAGES

The term urban-rural relationship has a long history in the study of economics, geography and regional planning. It was coined to mark a departure from the traditional view of the rural-urban dichotomy which was particularly prevalent at the turn of the 19th Century. This was a time when many European countries were experiencing a rapid transformation from largely rural to industrial economies and when North American cities were transformed by waves of immigration from the rural south and from Europe. Later, as the physical and functional boundaries of urban and rural areas became gradually blurred, it has become increasingly difficult to perceive urban and rural areas as mutually exclusive entities. Hence, the concept of urban-rural linkages was adopted by organizations such as the United Nation Centre for Human Settlements and the EU Committee of Spatial Development. The term urban-rural relationships is used to emphasize the visible and invisible flows of people, capital, goods, information and technology between urban and rural area. Rural-urban linkages need to be understood and addressed in the context of globalization trends which highlight these linkages in terms of worldwide systems of production, finance, trade and labour markets. This is more so because the conventional view of rural areas as equivalent to agriculture is no longer reflective of the reality of either rural regions or the rural component of rural-urban relationships. The urban-rural relationships need to be strengthened in a way that benefits both urban and rural populations.

To an increasing extent, the relationships between rural and urban areas are intertwined. They are based on urban processes and demands to rural areas and rural processes and demands to urban areas. The urban demand to the green landscape in rural areas includes leisure opportunities, a better quality of life (health, environment, biodiversity), but also houses, industrialization, food production, waste and water storage. The rural demand to urban areas includes among others employment, services, knowledge, subsidies, but also 'autonomy' within urban steered policies. The urban and rural processes have in common that they tend to exchange economic activities and flows with each other. The consequences of this exchange and entanglement of processes and demands are that rural and urban areas become highly dependent from each other and their internal boundaries tend to blur. However, the demand to rural areas includes also issues related to the preservation and development of nature.

Despite the blurring boundaries between rural and urban areas, the opportunity for rural areas to provide complementary facilities might be more emphasised. The unique selling point of rural areas plays an important role within this. For urban dwellers the maintenance of a green landscape (and nature) is becoming more important. Emphasis on the quality of life will increase the demand for Rural Goods and Services (RGS) related to the rural landscape and regulations with compensation payments. Examples of RGS are quality and health products, ecological services, accessible nature, and leisure activities.

ANALYSIS OF RURAL-URBAN ISSUES

The discussion about the relationship between rural and urban areas and the role of urban pressure is not new. Gradually, a further diversification in rural cultures occurred as a result of the impact of urbanisation. In many places urbanisation resulted in an extension of residential areas and brought an influx of rich middle-class newcomers having urban-oriented lifestyles. The certainties of agricultural production as the traditional mainstay of rurality are giving way to a more polyvalent rural scene. Before to discuss urban pressure on rural areas, it is conceivable to clarify the concept of rurality and the level of rural-urban analysis. As a result of the changes

taking place in rural areas at present, new conceptual parameters are being sought. Concerning rural-urban issues three levels of analysis are relevant.

First, the characteristics (and facts) of rural and urban areas are different. This holds in particular for the morphological and functional characteristics. Rural and urban areas differ in the type and density of activities as has been illustrated by OECD and EU classifications. This descriptive approach for defining rurality is based on socio-spatial parameters, such as land-use and population density. Generally rural areas are synonymous with more extensive activities and less population than urban areas have. The assumption behind this analysis is the idea of a dichotomy between the characteristics of rural and urban areas. On the level of characteristics, urban pressure means the increase of activities and a growth of the population in rural areas.

Second, an approach based on the organisation and allocation of activities between rural and urban areas. This analysis is relevant to cope with the differences in the type and density of activities such as the provision of employment and services. Compared to urban areas, rural areas provide a lower level of employment and services than urban areas do. The assumption about the organisation of activities varies depending to the extent rural areas ought to provide subsistence. On the level of organisation and allocation, urban pressure implies the uneven organisation and allocation of activities in disfavour of rural areas.

Third, a socio-cultural approach which discusses the different perceptions of rural and urban areas in terms of the use and meaning of places. A central theme in this normative discussion about the use and meaning of places is the valuation of the quality of urban and rural life. The assumption behind the contrasting view on the relation between city and country is that urban people are supposed to have a hurried and hectic life, whereas the life of rural people is supposed being relaxed and easy-going. On the level of meanings, urban pressure is often assumed to decrease rural values.

The latter, more subjective approach assumes that the experience of the rural is, to a large extent, dependent on personal perceptions and interpretations of everyday reality. For instance, the 'urban newcomers' often conceive rural areas as areas of beauty and naturalness, where urban people can relax from the stress of live, whereas the farmers and the autochthonous population conceive it as shaped by farming practices. The symbolic meanings attached to the countryside may differ significantly for individuals, irrespectively of its socio-physical attributes.

Each individual builds its mental construct of the countryside, which is fed by norms and values, former experiences and personal interests. These mental constructs can be called 'social representations'. The theory of social representations tries to make clear how people understand, explain and articulate the complexity of stimuli and experiences emanating from the social and physical environment in which they are immersed (Halfacree, 1993).

The lack of distinction between city and countryside are a result of spatial processes in which the relations between rural and urban actors are changing. Mutual dependencies are becoming more 'footloose' relations. Urban residents visit rural areas more for personal reasons and less for social motives. This holds in particular for the Atlantic countries of Europe, where farmers have become a minority among the rural actors. Due to the changing income perspectives in agriculture, they need more often a licence to produce.

The old hierarchical relationship between rural and urban areas – where rural areas were viewed simply as suppliers of food to more developed urban areas - has gone. Rural areas are multi-functional. They still provide resources, both commodities and the less tangible natural and cultural resources we increasingly value such as biodiversity and traditional landscapes. But

they are also the location for economic activities such as knowledge-intensive services. This more complex reality should be reflected in the way we conceptualize the relationship between rural and urban areas.

PHYSICAL, SOCIAL AND ECONOMIC STRUCTURE OF A VILLAGE

H. Environmental and other constraints of rural development

CHALLENGES FOR THE RURAL AREAS

The principal challenges for the rural poor can be grouped under the headings of political, economic, social, and environmental factors. Causation is complex, the effects are not always negative, and out of the challenges there arise opportunities. Four principal challenges have been addressed: globalization and barriers to entry into competitive international markets; labour markets; international development policies; and climate change. Significant issues in the health and social arena and in physical infrastructure have been addressed only parenthetically.

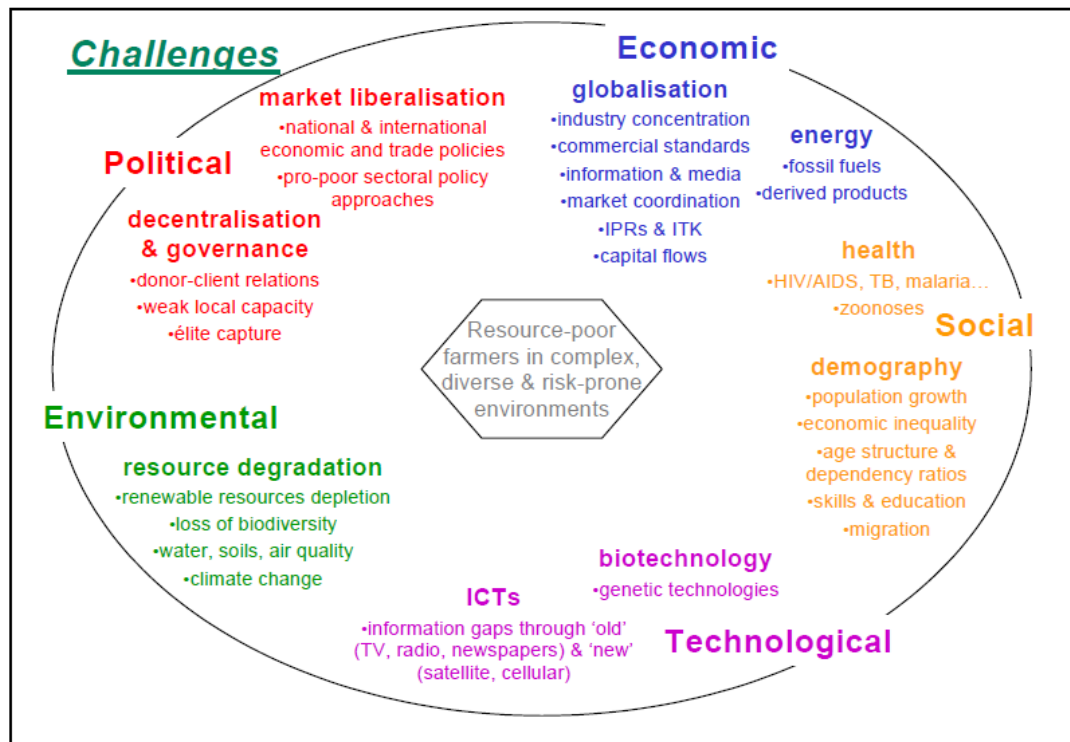


Fig. Challenges and the rural poor

The impact of these challenges and the extent to which the rural poor can take advantage of the opportunities are affected by the constraints faced by the rural poor, and the outcomes will determine the rate of progress towards achieving the poverty reduction and development goals set by the international community.

Globalisation is associated with a range of technological changes in information systems and in the production, transformation and distribution of goods and services. Globalisation has many homogenizing tendencies, but the impacts are by no means ubiquitous or even:

- the advantages of globalization such as cheap, effective information systems are not equally available to the rural poorest;
- improvements in transportation and communications infrastructure are homogenizing global demand and increasing the level of competition in product markets; however, the rural poorest are those least endowed in terms of essential physical and social infrastructure to be able to take advantage of these opportunities;
- increasing industrial concentration in the supply of agricultural inputs and services, in the purchase, manufacture and processing of rural raw products, and in the distribution

channels of products to final consumers – in particular, the spread of the super marketing phenomenon – are major factors affecting rural producers;

- increasing market competition and the proliferation and globalization of health and safety concerns and social responsibility are increasing the business, ethical and environmental standards, increasing entry barriers, and worsening the terms of trade between poor rural areas and principal markets.

Climate change poses perhaps the greatest threat to life on earth, and will have significant developmental consequences for all countries and economies. Effects on poor regions in developing countries are likely to be most marked. Both institutional and technological responses will be needed to the challenges of climate change, but the willingness of the international community to address these challenges is highly uncertain. Adaptation will be an important strategy in developing countries but awareness of the local challenges is limited. Adaptation has to be specific to context, and therefore will require close attention of all stakeholders, including research to develop indicators of change, projections of likely impact, and alternative strategies to orientate agricultural systems in general.

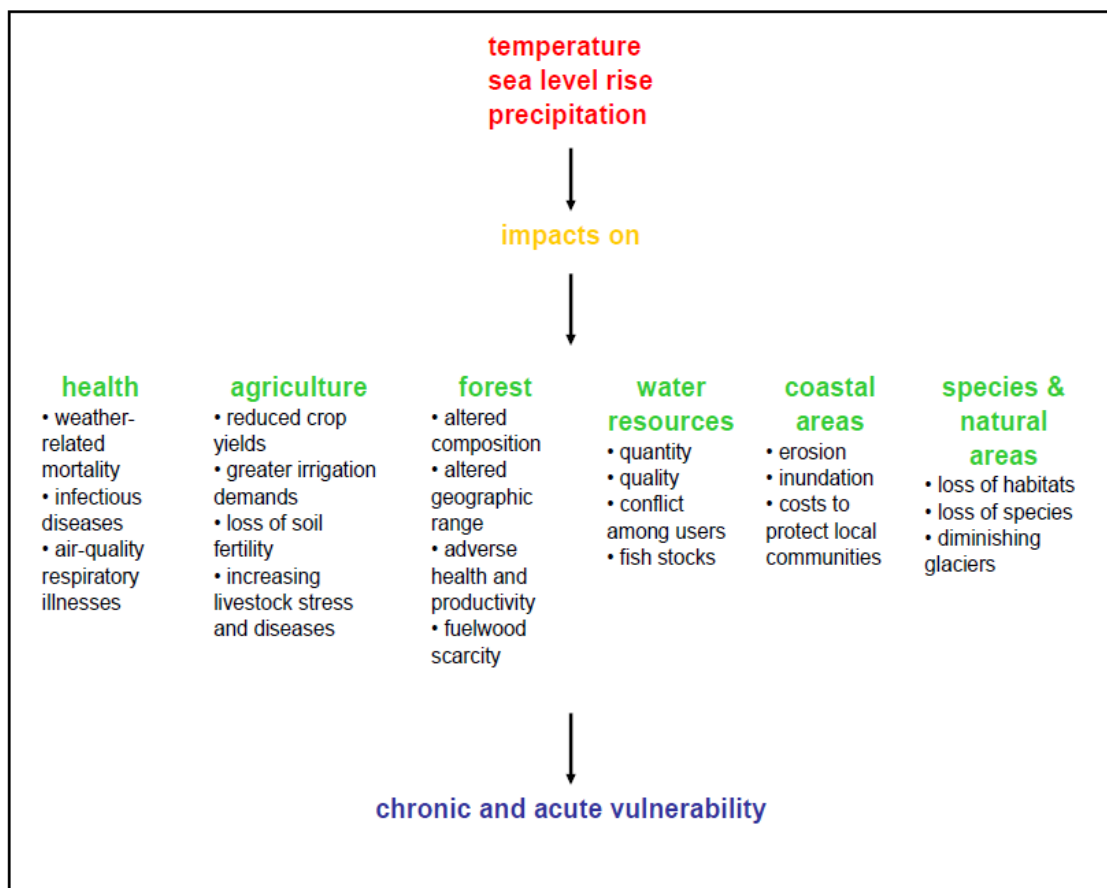


Fig. 3 Potential impacts of climate change

From the rural development policy perspective, urban and rural areas are partners, not competitors, and that they exist in a state of mutual inter-dependence which the need for more sustainable use of resources will intensify. There is also e also need to recognize that there are different types of rural and urban area, depending on settlement patterns, geographical features and levels of economic development and that consequently there is no one single 'urban-rural relationship', but a variety of relationships which need to be constructed to reflect the needs of the partners involved and to create win-win scenarios. This will be all the more likely if we

avoid focusing on narrow micro-regions – a city or urban agglomeration and only its immediate rural surroundings – but look instead at the wider regional, national or trans-national context in which the inter-relationship between rural and urban areas is more complex.

To reach the rural poor, key pointers for (International Fund for Agricultural Development(IFAD) to consider are:

- From livelihood assets pentagon to hexagon: embrace broadly defined ‘culture’ as a critical livelihoods asset;
- Learning: organizational learning should be enhanced by analysis of success stories;
- Identification: mapping the rural poor and understanding the heterogeneity of poverty;
- Focus: rural development strategies should be targeted towards specific and local conditions;
- Flexibility: funding instruments should be flexible and focused on local scale constraints;
- Evaluation: performance should not be measured solely or primarily by economic criteria;
- Targeting: targeting the poorest involves higher transaction costs in the identification of the poorest, and in the monitoring and evaluation of portfolio which includes smaller, specialized projects;
- Longer time-frames: longer timeframes are needed to permit development to occur;
- Risk: risk-taking in innovation-support policies is likely to increase the failure rate as well as the chances of successful innovation;
- Up-scaling and replication: specificity means that there may be limited economies to be gained in up-scaling, and the result of a sharpened focus is that replicability of successful interventions is problematic, and the requirement for up-scaling and replicability needs to be addressed with careful analysis;
- Field presence: in-field staff and expertise are required;
- Policy inconsistency: conflicting tendencies between a standardizing ‘international development architecture’ and the need for focused, flexible responses to context-specific challenges and opportunities defined by rural poorest.

DIRECT: OPPORTUNITIES TO SUPPORT	STRATEGY	MECHANISMS/OUTCOMES
Production technologies	Increased productivity & efficiency in CDR regions Conservation of resources	New varieties New tillage practices Water management Biodiversity conservation
Overcome market access barriers	Improved quality through standards setting & regulation Supplier capacity building	Demand orientation Supply of appropriate quantities & qualities
New market opportunities	Niche export markets Develop regional trade in staple foodstuffs	Exploitation of unique/comparative advantages in supply Local economic multiplier effects
Institutional & marketing arrangements	Supply chain linkages, producer organisations & network building Reduced transaction costs Supplier concentration & power Achieve scale efficiencies	Develop business relationships Supply chain efficiencies Strengthen identity & social empowerment
Rural energy	Alternative sources Alternative products	Value addition Local economic multiplier effects New products
INDIRECT: ACTIONS TO ADDRESS	CATALYTIC ROLE IN PROVISION OF:	PARTNERSHIPS
Agricultural research	Technologies for CDR regions with social & climatic stresses	CGIAR & NARS Commercial biotechnology firms
Rural infrastructure: roads & energy	Transport communications to improve input & product logistical efficiencies Energy	Local & national government National & global private sector energy firms International donors and IFIs
Information & communications systems	Information & communications infrastructure to enhance provision of market(ing) information & financial services	Local & national government National & global private sector telecoms & finance firms
Selective industrial policies	Protection of infant industries & local economies IPR for ITK & rural genetic resources	National governments & international trade & other organisations (eg UNCTAD, WIPO, NGOs)
Lobbying & advocacy	Reshaping policy processes for pro-poor focus	Donor & development community National governments Mass media

Source: IFAD, 2005

- Rural assets of the rural poor (reflecting multiple livelihoods)
- Technology and knowledge to benefit the rural poor
- Access to markets and rural enterprises by the rural poor
- The role of the ICTs for poverty reduction
- Sustainable natural resource management in the interest of the rural poor

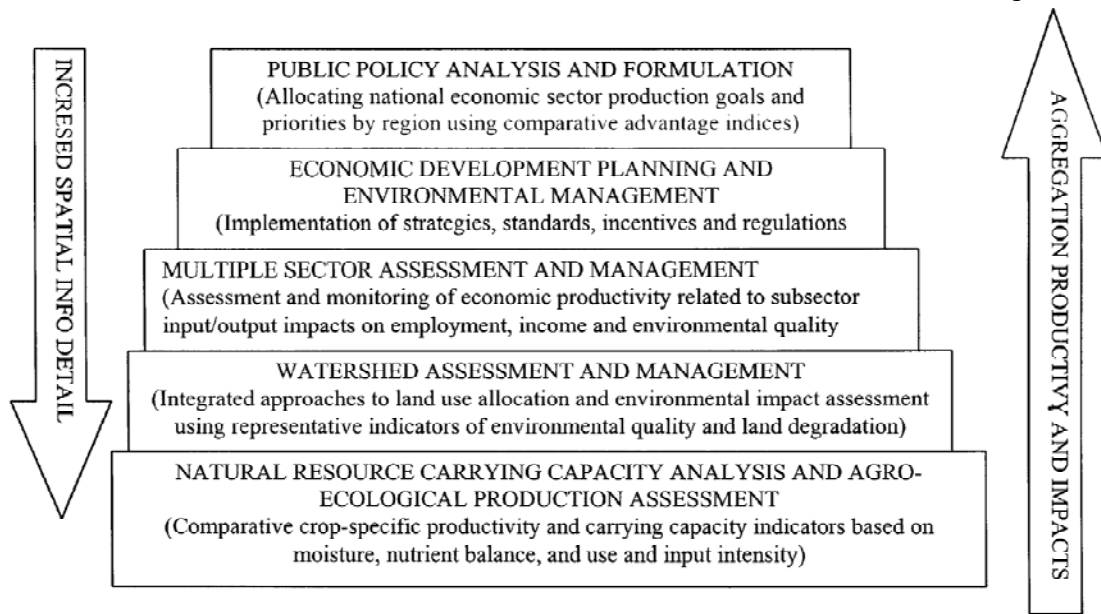
1. Rural community development strategies & rural planning

DEVELOPMENT PLANNING

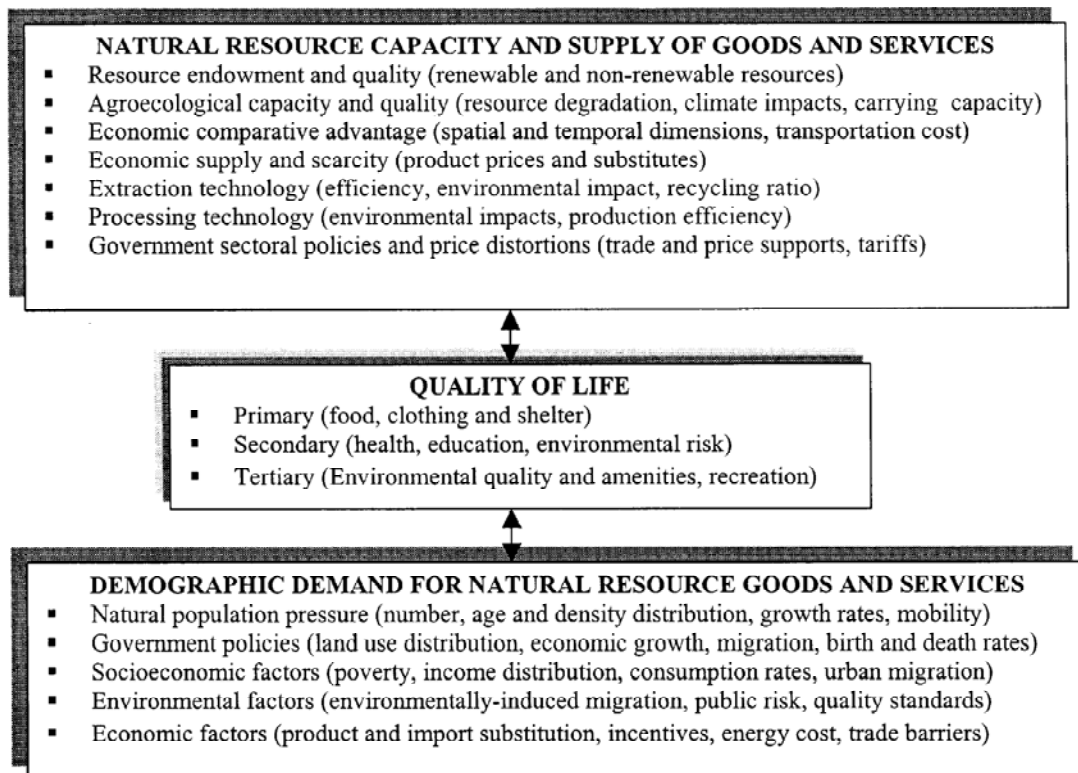
The primary goal of development planning is to improve the quality of life of human populations by means of a systematic evaluation, selection and implementation of sustainable development alternatives that reflect both environmental constraints and opportunities. Here, sustainable development refers to the promotion of development policies and plans with carefully defined objectives that aim to achieve a sustainable flow of goods and services that enhance quality of life. More precisely, sustainable development must ensure that public policies are based on the selection of development alternatives, which are both ecologically sustainable and economically viable. As such, sustainable development addresses the development and management of environmental resources to ensure or enhance the long-term productive capacity of the resource base with the goal to improve long-term societal wealth and well being.

A primary challenge in this public policy formulation process is to balance environmental productive capacity (e.g. sustainable production rates based on certain input regimes and management practices) and the derived supply of natural resource goods and services with demographic demand, thereby ensuring that sustainable production capacities are not exceeded. A good example of this approach is the FAO study of the capacity of land in the developing world to support potential populations (Higgins et al., 1982). In a policy analysis context, determining supply means a systematic assessment of the resource production capacities by location and over time. To be effective, the information resulting from this assessment must be expressed in spatially referenced quantitative indicators that directly reflect resource production outputs (complex goods and services).

To be realistic, production scenarios must represent input scenarios and management regimes that do not degrade the long-term production capacity or the environmental quality (including the genetic diversity) of the natural resource base. Social demand needs to be related to the sustainable supply of natural resource goods and services: specifically, the resource capacity to affect quality of life — creating a better place to live, a location capable, productive and efficient in meeting complex human needs. Fundamentally, quality of life must reflect the comprehensive continuum of human needs: primary- food, clothing and shelter; secondary educational opportunities, health needs and environmental risks; and tertiary- environmental quality and amenity resources and associated recreational opportunities. For the same reasons, sustainable planning should include systematic production capacity assessment as an integrated component in the hierarchical process of public policy formulation and development planning (Fig. 1).



A great number of factors affect natural resources production capacity, economic supply and demographic demand. Some of the basic factors are identified later (Fig. 2). The challenge, therefore, is to define production capacity in the form of relevant productivity and supply indicators, which, in turn, may be used to represent sustainable production scenarios to meet final consumer demand.



Enhancing food security

- ✓ Food security and sustainable agriculture taking account of community-based and indigenous approaches to sustainable food production
- ✓ Early warning systems for monitoring food supply and household supply and demand and household access to food, weather insurance schemes for farmers and agriculture related disaster management programmes;
- ✓ Application of risk-mapping, remote sensing, agro-methodological modelling, integrated multi-disciplinary crop-forecasting techniques, and computerised food supply/ demand analysis

Providing a conducive environment for agricultural production and economic returns

- ✓ Enhancing agricultural productivity and farmer's incomes
- ✓ Diversification of agricultural production systems
- ✓ Agrarian reform and measures to secure equitable access to land by both genders;
- ✓ Infrastructure development to enhance distribution to markets;

Reducing poverty through rural development

- ✓ Integrating rural development strategies into Poverty Reduction Strategies (PRSPs) or other economic/development strategies and the empowerment of local rural communities, especially those living in poverty and their organizations,
- ✓ Supporting main driving forces for economic growth and social development in rural areas (e.g. agriculture, small and medium enterprise development, employment and other non-agricultural sector) as well as improving access to basic services and infrastructure in rural areas (e.g. adequate shelter, education, employment opportunities, health, sanitation, energy) ;

Reducing the environmental impact of agricultural production

- ✓ Programmes to improve soil fertility, environmentally sound agricultural pest control and improvements in water management in agriculture
- ✓ Improving access to international agricultural markets
- ✓ Bilateral, regional and multilateral agreements relating to liberalization of agricultural product markets with specific focus on support for other African countries to improve regional trade and economic integration between African countries.

To sustain and renew established rural communities and the existing stock of investment in a way that responds to the various spatial, structural and economic changes taking place, while protecting the important assets rural areas possess.

To strengthen the established structure of villages and smaller settlements both to support local economies and to accommodate additional population in a way that supports the viability of public transport and local infrastructure and services such as schools and water services.

To ensure that key assets in rural areas such as water quality and the natural and cultural heritage are protected to support quality of life and economic vitality.

To ensure that rural settlement policies take account of and are appropriate to local circumstances.

J. Management of urban environment

URBAN ENVIRONMENT

What are the Problems Associated with Rapid Urban Growth?

The urbanization process refers to much more than simple population growth; it involves changes in the economic, social and political structures of a region. Rapid urban growth is responsible for many environmental and social changes in the urban environment and its effects are strongly related to global change issues. The rapid growth of cities strains their capacity to provide services such as energy, education, health care, transportation, sanitation and physical security. Because governments have less revenue to spend on the basic upkeep of cities and the provision of services, cities have become areas of massive sprawl, serious environmental problems, and widespread poverty.

During the 19th and early 20th centuries, urbanization resulted from and contributed to industrialization. New job opportunities in the cities motivated the mass movement of surplus population away from the countryside. At the same time, migrants provided cheap, plentiful labor for the emerging factories. Today, due to movements such as globalization, the circumstances are similar in developing countries. Here the concentration of investments in cities attracts large numbers of migrants looking for employment, thereby creating a large surplus labor force, which keeps wages low. This situation is attractive to foreign investment companies from developed countries who can produce goods for far less than if the goods were produced where wages are higher. Thus, one might wonder if urban poverty serves a distinct function for the benefit of global capital.

One of the major effects of rapid urban growth is "urban sprawl"- scattered development that increases traffic, saps local resources and destroys open space. Urban sprawl is responsible for changes in the physical environment, and in the form and spatial organization of cities.

Developed and less developed countries of the world differ not only in the percent living in cities, but also in the way in which urbanization is occurring. In Mexico City (950 square miles), as in many other megacities in the developing world, urban sprawl exists as nearly 40% of city dwellers live in the urban periphery in poverty and environmental degradation. These high density settlements are often highly polluted owing to the lack of urban services, including running water, trash pickup, electricity or paved roads. Nevertheless, cities provide poor people with more opportunities and greater access to resources to transform their situation than rural areas

K. Institutional arrangement for urban planning (edicts, laws)

Introduction

Over the last three decades, most Third World cities have experienced rapid growth accompanied by dwindling local and central government resources and management capacities. Traditional approaches to urban planning and administration, such as master plans or 'blueprints' for development, did not work and became increasingly obsolete in the 1970s and 1980s. Shortages of public finance and technical capacity within the local and central authorities that were responsible for controlling and directing urban development were exacerbated in the 1990s as the impacts of structural adjustment were felt. Urban planning and management approaches also suffered other shortcomings, including:

- failure to facilitate cross-sectoral co-ordination or inter-departmental and inter-institutional collaboration;
- insufficient mechanisms and tools for substantive participation by community-based stakeholders;
- absence of modalities for collaboration between the public and private sector;
- overemphasis on physical outputs rather than the process for achieving them..

As a result, unmanaged urban growth, characterised by the poor quality or absence of basic public infrastructure, services, and facilities, increasing environmental degradation, and the depletion of natural resources, is the norm in most cities

It was in response to these worsening urban management problems and conditions that Habitat (UNCHS), in collaboration with the United Nations Environment Programme (UNEP), developed and began promoting its urban Environmental Planning and Management (EPM) agenda. Underlying the EPM approach is the concern to create a harmonious balance between physical development and the environment in urban settings, and to involve those groups interested in and affected by urban development in seeking solutions to problems that may arise. EPM emphasises the interrelations between and among social actors and environmental issues and thus puts partnership among the key stakeholders at its centre. These partners or stakeholders typically include actors in the public, private, and popular sectors, civil society, and NGOs

L. Concept of sustainable urban development (Green Cities)

CITIES AND DAMAGE

There is today a growing recognition among specialists that cities are the places where critical components of ecological modification associated with development come together. There may be sites that more directly reflect the sharpest environmental transformation, e.g. the desertification of once fertile land, but it is in cities where the multiple dynamics intersect and interact with complex multiplier effects. It is the concentration of intense economic processes and high levels of resource consumption that mark the urban condition. Unlike natural systems, cities are highly dependent on external supplies, both natural and man-made. Practitioners and researchers have focused on several aspects of these developments. For instance we can identify the following:

- a) the specific characteristics and effects of urbanization on the deterioration of local environments and on their contribution to global environmental change;
- b) the socioeconomic impacts of urban environmental degradation;
- c) the significance of environmental issues for the efficient and effective provision of urban goods, infrastructure and services;
- d) the environmental impacts of different architectural and planning practices and policies;
- e) the significance of environmental issues for the sustainability of cities and development models.

SUSTAINABLE CITY

A sustainable city, or eco-city is a city designed with consideration of environmental impact, inhabited by people dedicated to minimization of required inputs of energy, water and food, and waste output of heat, air pollution - CO₂, [methane](#), and water pollution. Richard Register first coined the term "ecocity" in his 1987 book, *Ecocity Berkeley: building cities for a healthy future*. Other leading figures who envisioned the sustainable city are [architect Paul F Downton](#), who later founded the company Ecopolis Pty Ltd, and authors [Timothy Beatley](#) and [Steffen Lehmann](#), who have written extensively on the subject. The field of [industrial ecology](#) is sometimes used in planning these cities.

A sustainable city can feed itself with minimal reliance on the surrounding countryside, and power itself with renewable sources of energy. The crux of this is to create the smallest possible [ecological footprint](#), and to produce the lowest quantity of [pollution](#) possible, to efficiently use land; compost used materials, recycle it or convert waste-to-energy, and thus the city's overall contribution to [climate change](#) will be minimal, if such practices are adhered to.

It is estimated that around 50% of the world's population now lives in cities and urban areas. These large communities provide both challenges and opportunities for environmentally conscious developers. In order to make them more sustainable, building design and practice, as well as perception and lifestyle must adopt sustainability thinking

These ecological cities are achieved through various means, such as:

- Different [agricultural systems](#) such as agricultural plots within the city ([suburbs](#) or [centre](#)). This reduces the distance food has to travel from [field to fork](#). Practical work out of this may be done by either small scale/private farming plots or through larger scale agriculture (e.g. [farm scrapers](#)).
- [Renewable energy](#) sources, such as [wind turbines](#), [solar panels](#), or [bio-gas](#) created from [sewage](#). Cities provide [economies of scale](#) that make such energy sources viable.
- Various methods to reduce the need for [air conditioning](#) (a massive energy demand), such as planting trees and lightening surface colors, [natural ventilation systems](#), an increase in water features, and green spaces equaling at least 20% of the city's surface. These measures counter the "[heat island effect](#)" caused by an abundance of tarmac and asphalt, which can make urban areas several degrees warmer than surrounding rural areas—as much as six degrees Celsius during the evening.
- Improved [public transport](#) and an increase in pedestrianization to reduce car emissions. This requires a radically different approach to city planning, with integrated business, industrial, and residential zones. Roads may be designed to make driving difficult.
- Optimal building density to make public transport viable but avoid the creation of [urban heat islands](#).
- Solutions to decrease [urban sprawl](#), by seeking new ways of allowing people to live closer to the workspace. Since the workplace tends to be in the city, downtown, or urban center, they are seeking a way to increase density by changing the antiquated attitudes many suburbanites have towards inner-city areas. One of the new ways to achieve this is by solutions worked out by the [Smart Growth](#) Movement.
- [Green roofs](#)
- [Zero-emission transport](#)
- [Zero-energy building](#)
- [Sustainable urban drainage systems](#) or SUDS
- [energy conservation systems/devices](#)
- [Xeriscaping](#) - garden and landscape design for water conservation
- [Key Performance Indicators](#) - development and operational management tool providing guidance and M&V for city administrators.

International examples

Australia

- Melbourne
 - City of Melbourne. Over the past 10 years, various methods of improving public transport have been implemented, car free zones and entire streets have also been implemented.

Brazil

Deforestation of native rainforest in Rio de Janeiro City for extraction of clay for civil engineering (2009 picture). An example of unsustainable city in Brazil

Canada

In 2010, Calgary ranked as the top eco-city in the planet for its, "excellent level of service on waste removal, sewage systems, and water drinkability and availability, coupled with relatively low air pollution." The survey was performed in conjunction with the reputable Mercer Quality of Living Survey.

China

- China is working with investment and technology supplied by the Singapore government to build an ecocity in the Coastal New District of Tianjin City in northern China, named the "Sino-Singapore Tianjin Eco-city"
- Dongtan Eco-city is the name of another project on the third largest island in China at the mouth of the Yangtze River near Shanghai. The project was scheduled to accommodate 50,000 residents by 2010, but its developer has currently put construction on hold.

Denmark

- ✓ The industrial park in Kalundborg is often cited as a model for industrial ecology.

Germany

- ✓ No other country has built more eco-city projects than Germany. Freiburg im Breisgau is often referred to as green city. It is one of the few cities with a green mayor and is known for its strong solar economy. Vauban, Freiburg is a sustainable model district. All houses are built to a low energy consumption standard and the whole district is designed to be carfree. Another green district in Freiburg is Rieselfeld, where houses generate more energy than they consume. There are several other green sustainable city projects such as Kronsberg in Hannover and current developments around Munich, Hamburg and Frankfurt.

India

- ✓ India is working on Gujarat International Finance Tec-City or GIFT which is an under-construction world-class city in the Indian state of Gujarat. It will come up on 500 acres (2.0 km²) land. It will also be first of its kind fully Sustainable City.

Kenya

- ✓ Hacienda - Mombasa, Kenya. It is the largest development of eco-friendly residential properties in East Africa; construction is currently ongoing, and it will eventually be one of Africa's first self-sustaining estates.

United Kingdom

- St Davids the smallest city in the United Kingdom aims to be the first carbon neutral city in the world
- Leicester is the United Kingdom's first environment city

United States

- Arcosanti, Arizona

- Treasure Island, San Francisco: is another project that aims to create a small eco city.
- Coyote Springs Nevada largest planned city in the United States.
- Babcock Ranch Florida a proposed solar-powered city.

Sustainable development is commonly defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development encompasses environmental, economic and social issues. Regarding environmental issues we can identify as priorities in the EU sustainable development strategy - climate change and clean energy, sustainable transport and the conservation and management of natural resources – but also those that are outside it such as land use and spatial planning.