DEPARTMENT OF CIVIL ENGINEERING

CE8004 - URBAN PLANNING AND DEVELOPMENT

III CIVIL

CE 8004 – URBAN PLANNING AND DEVELOPMENT

Course Objectives

The Student should be able

S. No.	Course Objective
	The objective of this course is to enable students to have the knowledge on planning process and introduce to the students about the regulations and laws related to Urban Planning.

Course Outcomes:

On Completion of the course the students will be able to

S.NO	Course Outcome
1	Describe basic issues in urban planning
2	Formulate plans for urban and rural development
3	Plan and analyse socio economic aspects of urban and rural planning
4	Design of urban development projects.
5	Manage urban development projects.

UNIT I BASIC ISSUES 8

Definition of Human settlement, Urban area, Town, City, Urbanisation, Suburbanisation, Urban sprawl, Peri
- urban areas, Central Business District (CBD), Classification of urban areas – Trend of Urbanisation at International, National, Regional and State level.

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Town and Country Planning Act, Land Acquisition and Resettlement Act etc., Urban Planning Standards and Regulations, Involvement of Public, Private, NGO, CBO and Beneficiaries.

UNIT I BASIC ISSUES

Definition of Human settlement, Urban area, Town, City, Urbanisation, Suburbanisation, Urban sprawl, Peri-urban areas, Central Business District (CBD), Classification of urban areas –Trend of Urbanisation at International, National, Regional and State level.

Definition of Human settlement

- Human Settlement means cluster of dwellings of any type or size where human beings live. For this purpose, people may erect houses and other structures and command some area or territory as their economic support-base.
- Thus, the process of settlement inherently involves grouping of people and apportioning of territory as their resource base. Settlements vary in size and type. They range from a hamlet to metropolitan cities.
- With size, the economic character and social structure of settlements changes and so do its ecology and technology.
- Settlements could be small and sparsely spaced; they may also be large and closely spaced.
- The sparsely located small settlements are called villages, specialising in agriculture or other primary activities.
- On the other hand, there are fewer but larger settlements which are termed as urban settlements specialising in secondary and tertiary activities.

The basic differences between rural and urban settlements are as follows:

- The **rural settlements** derive their life support or basic economic needs from land based primary economic activities, whereas, **urban settlements**, depend on processing of raw materials and manufacturing of finished goods on the one hand and a variety of services on the other.

- Cities act as nodes of economic growth, provide goods and services not only to urban dwellers but also to the people of the rural settlements in their hinterlands in return for food and raw materials. This functional relationship between the urban and rural settlements takes place through transport and communication network.

- Rural and urban settlements differ in terms of social relationship, attitude and outlook. Rural people are less mobile and therefore, social relations among them are intimate. In urban areas, on the other hand, way of life is complex and fast, and social relations are formal.

HUMAN SETTLEMENT:

Settlements may also be categorised by their shape and patterns types. The main types classified by shape are

- **Compact or Nucleated settlements:** These settlements are those in which a large number of houses are constructed very close to each other. Such settlements grow along river valleys and in fertile plains. Communities are closely knit and share common professions.
- **Dispersed Settlements:** In these settlements, houses are separated far apart and often scattered with fields. A cultural characteristic such as a place of worship or a market forces the settlement to come together.

Rural Settlements

RURAL SETTLEMENT PATTERNS

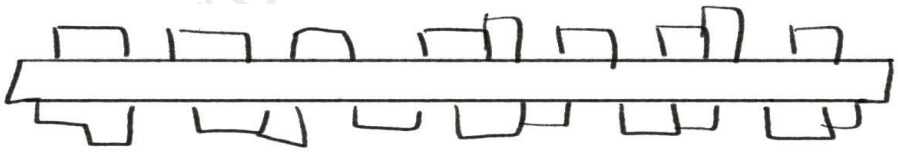
Patterns of rural settlements indicate the way the houses are placed in relation to each other. The position of the village, the neighbouring topography and terrain impact the size and shape of a village. Rural settlements may be classified based on some criteria:

* **Based on the setting:** The main classes are plain villages, coastal villages, plateau villages, desert villages and forest villages.

* **Based on functions:** There may be farming villages, lumberjack villages, fisherman's villages, pastoral villages etc.

* **Based on forms or configurations of the settlements:** These may be a number of geometrical patterns and shapes such as Linear, rectangular, T-shaped village, a circular star-like village, double village, cross-shaped village etc.

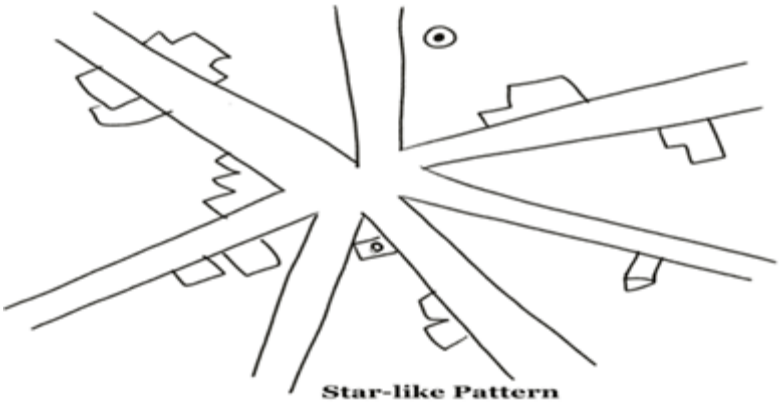
- **Linear pattern:** In such settlements houses are established along a road, river, railway line, canal edge of a valley or along leeve.



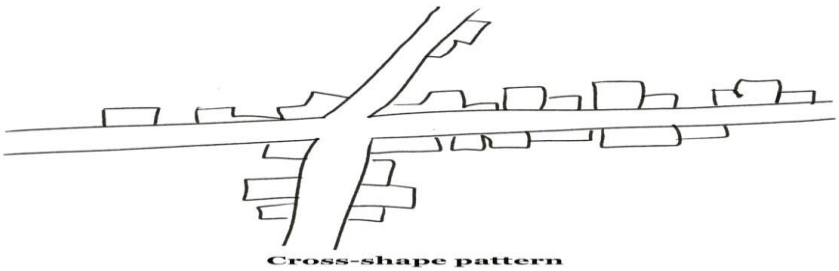
Linear Pattern

Dr. Kumari Nisha Rani

- **Rectangular pattern:** Such models of rural settlements are found in plain regions or wide intermontane valleys. The roads are rectangular and cross each other at right angles.
- **Circular pattern:** Circular villages grow around lakes, tanks and sometimes the village is organised in such a way that the central part remains accessible and is used for keeping the animals to guard them against wild animals.
- **A star-like pattern:** Where several roads meet, star-shaped settlements emerge by the houses built along the roads.


Star-like Pattern

T-shaped, Cross-shaped or cruciform settlements, Y-shaped: T -shaped settlements emerge at tri-junction of the roads while Y- shaped settlements develop as the places where two roads meet on the third one and houses are built along theseroads. Cruciform settlements grow on the cross-roads and houses spread in all the four directions.


Cross-shape pattern

Urban area

An urban area or urban agglomeration, is a human settlement with high population density

and infrastructure of built environment. Urban areas are created through urbanization and are categorized by urban morphology as cities, towns, conurbations or suburbs

Problems of Human Settlements in Developing Countries

The settlements in developing countries experience various problems, such as the unsustainable density of population, overcrowded housing and streets, shortage of drinking water facilities. They also lack basic infrastructural facilities such as electricity, sewage disposal, health and education facilities.

Problems of Urban Settlements

People throng cities to avail of employment possibilities and civic comforts. Since most cities in developing countries are unorganised, it creates severe overcrowding. Lack of housing, vertical extension and growth of slums are marked features of modern cities of developing countries. In many cities, a large proportion of the population resides in inferior housing, e.g. squatter settlements and slums. In most million-plus cities in India, one in four residents lives in unauthorised settlements, which are expanding twice as quick as the rest of the cities. Even in the Asia Pacific nations, around 60% of the urban population resides in squatter settlements.

Economic Problems

The decreasing job opportunities in the rural, as well as small urban areas of the developing countries, is continuously pushing the population to the urban areas. The huge migrant population creates a pool of unskilled and semi-skilled workforce, which is already overfilled in urban areas.

Socio-cultural Problems

Cities in developing countries experience several social ills. Inadequate financial resources fail to produce sufficient social infrastructure providing to the primary needs of the large population. The available health and educational facilities remain beyond the grasp of the urban poor. Health indices also show a dim picture in cities of developing countries. Lack of education and employment tends to exacerbate crime rates. The male selective movement to the urban areas declines the sex ratio in these cities.

Environmental Problems

The vast urban population in developing countries not only uses but also dispose off a large quantity of water and all sorts of waste substances. Several cities of the developing countries even find it very difficult to render the minimum needed quantity of fresh water and water for household and industrial uses. An inappropriate sewerage system generates unhealthy conditions. Extensive use of traditional fuel in the home, as well as the industrial sector, critically pollutes the air. The domestic and industrial excesses are either let into the common sewerages or discharged without processing at unspecified places. Enormous concrete structures constructed to sustain the population and economic create heat islands.

Cities, towns and rural settlements are connected through the movements of goods, people and resources. Urban-rural linkages are of critical interest in the sustainability of human settlements. As the swelling of the rural population has outpaced the creation of employment and economic opportunities, the rural-to-urban movement has firmly increased, especially in

the developing countries, which has put a tremendous burden on urban infrastructure and

services that are already under severe stress. It is essential to eradicate rural poverty and to enhance the quality of living conditions, as well as to generate employment and educational opportunities in rural settlements. The full benefit must be taken of the corresponding contributions and linkages of rural and urban regions by balancing their different economic, social and environmental demands.

Town

Town a built-up area with a name, defined boundaries, and local government, that is larger than a village and generally smaller than a city.

City

A **city** is a large human settlement. It can be defined as a permanent and densely settled place with administratively defined boundaries whose members work primarily on non-agricultural tasks. Cities generally have extensive systems for housing, transportation, sanitation, utilities, land use, and communication. Their density facilitates interaction between people, government organisations and businesses, sometimes benefiting different parties in the process.

Urbanisation

Urbanization (or **urbanisation**) refers to the population shift from rural areas to urban areas, the gradual increase in the proportion of people living in urban areas, and the ways in which each society adapts to this change. It is predominantly the process by which towns and cities are formed and become larger as more people begin living and working in central areas

Reasons of urbanization

a) Migration

People migrate themselves from rural areas to the town, industrial areas because of the relatively better employment opportunities available there.

b) Commercialization

Commercialization and trade comes with the general perception that the towns and cities offer better commercial opportunities and returns compared to the rural areas.

i. Industrial Growth

Industrial growth is a major cause of urbanization. It has expanded the employment opportunities. Rural people have migrated to cities on account of better employment opportunities. When urban population growth rate is 40% in India, the industrial growth rate is about 60% per annum.

ii. Social Factor

Many social factors such as attraction of cities, better standard of living, better educational facilities, need for status also induce people to migrate to cities. There are numerous social benefits attributed to life in the cities and towns.

iii. Employment opportunities:

In rural sector people have to depend mainly on agriculture for their livelihood. But Indian agriculture is depending on monsoon. In drought situations or natural calamities, rural people have to migrate to cities. In cities and towns, there are ample job opportunities that continually draw people from the rural areas to seek better livelihood. Therefore, the majority of people frequently migrate into urban areas to access well paying jobs as urban areas have countless employment opportunities in all developmental sectors such as public health, education, transport, sports and recreation, industries, and business enterprises.

iv. Modernization:

Urban areas are characterized by sophisticated technology better infrastructure, communication, medical facilities, etc. In urban areas, people also embrace changes in the modes of living namely residential habits, attitudes, dressing, food, and beliefs

Suburbanisation

Suburbanization is a population shift from central urban areas into suburbs, resulting in the formation of (sub)urban sprawl. (Sub-urbanization is inversely related to urbanization, which denotes a population shift from rural areas into urban centres)

Urban sprawl

Urban sprawl or **suburban sprawl** mainly refers to the unrestricted growth in many urban areas of housing, commercial development, and roads over large expanses of land, with little concern for urban planning. In addition to describing a particular form of urbanization, the term also relates to the social and environmental consequences associated with this development.

Peri-urban areas

Peri-urban areas (also called rurban space, outskirts or the hinterland) are defined by the structure resulting from the process of peri-urbanisation. It can be described as the landscape interface between town and country, or also as the rural—urban transition zone where urban and rural uses mix and often clash. It can thus be viewed as a landscape type in its own right, one forged from an interaction of urban and rural land use.

Central Business District in India

- A Central Business District (CBD) is a city's focal point or business and commercial center.

- The area is characterized by a concentration of commercial land use with a high number of commercial offices, retail shops, and services such as finance and banking.
- The CBD is also the cultural and transportation center of the city.
- The city's history is almost always reflected by the type and shape of its central business district. Some megacities, especially in Asia, have more than one CBD scattered across the city.
- However, each CBD is unique in terms of their spatial shape.
- Terms such as the financial district, downtown, and city center are sometimes used to refer to the CBD.
- The term Central Business District (CBD) is a widely used term in commercial real estate and is defined as the functional area of a city that has the maximum concentration of commercial, retail and business centres.
- Geographically, it coincides with the city centre and is the focal point for transportation networks of the city. It has maximum urban density than other districts of the town and offers a healthy environment for carrying out various commercial activities

Some of the key characteristics of CBDs include:

- High concentration of offices, banks, financial institutions, and so on.
- High density and high-rise buildings.
- High land values.
- Lack of open and/or green space.
- Department stores and high-end shops.
- Multi-storey car parks.
- Well-managed infrastructure links with other parts of the city.
- Lack of people outside of business hours and at weekends.
- High concentration of pedestrians.

The Peak Land Value Intersection

The CBD is home to the Peak Land Value Intersection in the city. The Peak Land Value Intersection is the intersection with the most valuable real estate in the city. This intersection is the core of the CBD and thus the core of the metropolitan area. One would not typically find a vacant lot at the Peak Land Value Intersection, but instead one would typically find one of the city's tallest and most valuable skyscrapers.

The CBD is often the center of a metropolitan area's transportation system. Public transit, as well as highways, converge on the CBD, making it very accessible to those who live throughout the metropolitan area. On the other hand, the convergence of road networks in the CBD often creates overwhelming traffic jams as commuters from the suburbs attempt to converge on the CBD in the morning and return home at the end of the workday.

Edge Cities

In recent decades, edge cities have begun to develop as suburban CBDs in major metropolitan areas. In some instances, these edge cities have become a larger magnet to the metropolitan area than the original CBD.

Defining the CBD

There are no boundaries to the CBD. The CBD is essentially about perception. It is usually the "postcard image" one has of a particular city. There have been various attempts at delineating the boundaries of the CBD but, for the most part, one can visually or instinctively know when the CBD starts and ends, as it is the core and contains a plethora of tall buildings, high density, a lack of parking, transportation nodes, a large number of pedestrians on the street, and generally just a lot of activity during the daytime. The bottom line is that the CBD is what people think of when they think of a city's downtown area.

Some examples of CBDs in India are:

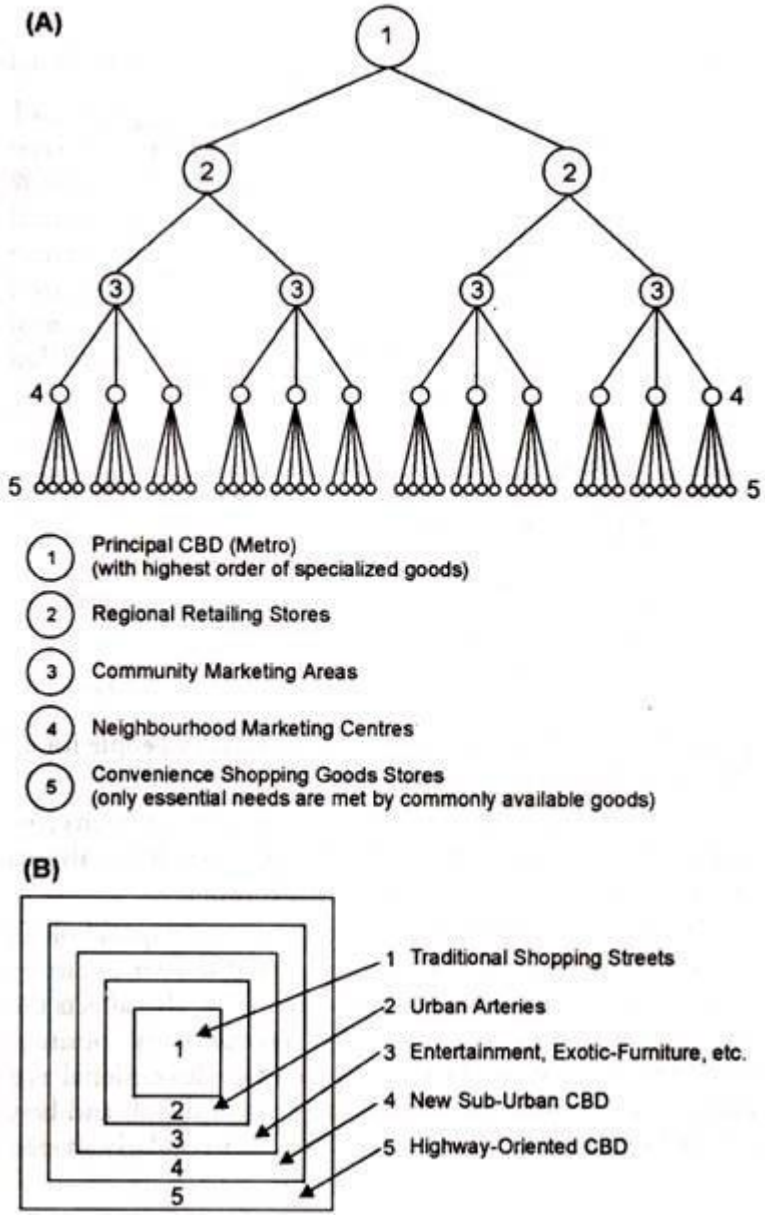
- CBD Belapur, Navi Mumbai
- Connaught Place, New Delhi
- Netaji Subhas Road, Kolkata

Hierarchical Order of CBD:

Now in cities at various places, facilities are available meeting the requirements of central business type. B.J.L. Berry has identified an hierarchical order among various business areas. The demand can be met at the various levels but of varying degree of threshold. Only the very essential goods are made available at the lowest order or at nearest point for consumers. This is the lowest level where only essential goods stores are located and are within easy reach.

At this most convenient point, frequency of consumers is very high. But with the increasing level of hierarchical order, the level or degree of threshold changes and more special nature of goods centres are found with lesser degree of consumers' frequency (Figure 16.1).

Figure 16.1
Hierarchical Order of CBD



Shape of CBD:

Generally CBD resembles with 'Quardrate Cross' in shape (Figure 16.2). It is not necessary that CBD occupies the geographic centre of a city. It may be away from it where specialization of land uses develops to make the point of space a business-area of central order catering all sorts of people for all sorts of goods from all parts of a city. The shape of CBD depends upon nature of a city, its population, areal extent and above all, land uses. It has also its relations with the social and cultural institutions.

The shape and size of the CBD do not evenly spread on all directions. Near its edge, zone of neglect or discard may distort its regular shape. Similarly, zone of assimilation also affects the shape by residences over its edge occupied by business community. On a map, the shape

is seen two-dimensional as a quadrate cross, but in reality it is three-dimensional, and best visualized as a pyramid – like figure with an irregularly shaped base, and a height varying in

proportion to total central business floor area.

Figure 16.2

Groups of CB Uses	*Non-CB Uses*
1. Profit earning retail and services	1. Permanent residential units
2. Financial institutions	2. Govt. offices, educational institutions, parks, etc.
3. Retail marketing stores	3. Place of worship, university campus, college-buildings and play-ground
4. Shops and services for repairing job	4. Industries-Manufacturing, etc. (Exception: Newspaper and Printing Books, etc.)
5. Banks, L.I.C., legal-offices, restaurants, hotels, clubs, etc.	5. Vacant plots and buildings
	6. Wholesale units
	7. Commercial storages
	8. Railways

The following list of the various uses may indicate various CB and non-CB uses:

Delimitation of CBD:

It is a difficult job to delimit CBD accurately because land uses in the central part of a city also vary from cities to cities. There is lot of difference in the central areas of the developed and developing countries. Whatever methods are used by the western authors hardly suit universal urban environment. There is not yet any standard method of its delimitation. However, some of the methods have been given here which may reflect on the nature of fieldwork involved in its delimitation.

(1) W. William – Olsson Technique: This method takes into account a 'shop rent index' which is the total of shop rents of a building divided by the length of its frontage. But because of the difficulties involving in the collection of such data, it is impracticable. In India nobody

discloses the correct value of rents.

(2) Sund and Isachsen used total turnover or trade instead of total shop rents. But, again, this is rather more unreliable to obtain and in the developing countries this type of data obtained from the Municipal Council (Department of Marketing) are totally fake. Therefore, it is very difficult to prepare a map out of the aforesaid data and the picture which is thus obtained is mostly diffused.

(3) Proud foot used to locate intra-city business areas by block-frontage-volume of sales for each side of a block of all stores whose addresses indicate that they front on that side. But Proud foot method too involves weaknesses being unconcerned about the activities of offices and banks.

(4) Other possible efforts include the data of building heights, population distribution, traffic and pedestrian flows, valuation data and land uses. Some minimum building height may be taken as a cut-off point to mark higher heights on a lot basis as the boundary of the CBD area. If the resulting boundary obtained is irregular, the same may be smoothened out by basing the map on blocks rather on lots. Population of dwelling units, pedestrian flows, traffic volume may, similarly help in delimiting the area in question.

An appropriate criterion may be selected after close empirical studies of the central city. Of course, it varies from city to city, to their size, to economies, to culture and to various activities which are centripetal to the area.

Classifications of Urban area

Functional Classification of Urban area:

he towns are classified based on their function they perform which varies across the disciplines, like in political science it refers to duties, so in geography it is synonymous with occupation. Functional classification of towns attempt to categories towns and cities according to their economic functions, identifying their roles within urban systems.

Administrative Urban area:

hese towns are headquarters of administrative departments of central or state governments such as Moscow. Washington D.C. and Beijing. The main function is to administer the state, country or specific territory.

Defensive Urban area:

They are centres of military activities like city of Meerut and its cantonment.

Cultural Urban area:

These are divided into religious towns like Ayodhya, Mecca, educational towns like Oxford, Allahabad and towns performing entertainment functions like Stratford-on-Avon (birth place of William Shakespeare, England).

Urban area Based on Economic Activities:

They developed as trade centres and industrial agglomerations, like Winipeg of Canada, Lahore, Agra, etc.

Resorts:

They are known as recreational towns catering to recreation needs of people like Dehradun, Shimla, Aberdeen (Scotland) Guler (Uganda).

Commercial Cities

The commercial cities are the most common type of cities and they owe their existence to trade and commerce. These commercial cities can be subdivided into two groups as follows:-

(a) **Retail Centers** – Retail centers are smaller cities outside the manufacturing belt or along its border region. These include larger percentage of smaller towns and lesser percentage of metropolitan cities. Durgapur, Berar, Kolhapur etc. belong to this group of towns.
(b) **Wholesale Centers** – the wholesale centers can again be subdivided into two groups. There are small cities engaged in assembling and large cities engaged in distribution. Most of the wholesaling centers are associated with assembling, packing, canning, marketing of various products. Sholapur, Guwahati etc. are such kind of assembling centers. Cities of the second type are usually the largest cities in a wide region like the port cities of Mumbai, Kolkatta etc. and distributing centers are lake cities of U.S.A, Geneva, Liverpool etc. Generally whole-sale and retail-scale cities are closely related and often grouped together. The two principal wholesale and distributing centers of the U.S.A are New York and Chicago, but wholesaling is one of the many important activities associated with this great diversified metropolitan centers. Then again some port cities like New Orleans, Portland, Maine etc. which have been classified as transportation centers could as well be considered as wholesale centers.

Trend of Urbanisation at International, National, Regional and State level

Urbanization in India began to accelerate after, due to the country's adoption of a mixed economy, which gave rise to the development of the private sector. Urbanisation is taking place at a faster rate in India. Population residing in urban areas in India, according to 1901 census, was 11.4%. This count increased to 28.53% according to 2001 census, and crossing 30% as per 2011 census, standing at 31.16%. In 2017, the numbers increased to 34%, according to The World Bank. According to a survey by UN State of the World Population report in 2007, by 2030, 40.76% of country's population is expected to reside in urban areas.[5] As per World Bank, India, along with China, Indonesia, Nigeria, and the United States, will lead the world's urban population surge by 2050.

Mumbai saw large-scale rural-urban migration in the 20th century. Mumbai, in 2018, accommodates 22.1 million people, and is the largest metropolis by population in India, followed by Delhi with 28 million inhabitants. Witnessing the fastest rate of urbanisation in the world, as per 2011 census, Delhi's population rises by 4.1%, Mumbai's by 3.1% and Kolkata's by 2% as per 2011 census compared to 2001 census. It is quite understandable that when people or an entire group of people for that matter move from one place to another,especially from rural(gaon of India) to urban(especially Delhi,Mumbai,Chandigarh) areas they look forward to a better standard of living(majorly farmers).Then,to meet these

standards.

Causes of urbanization in India

The main causes of urbanisation in India are:

- Expansion in government services, as a result of the Second World War
- Migration of people during the partition of India
- The Industrial Revolution
- Eleventh five-year plan that aimed at *urbanisation* for the economic development of India
- Economic opportunities are just one reason people move into cities
- Infrastructure facilities in the urban areas
- Growth of private sector after 1990 .
- Growth of employment in cities is attracting people from rural areas as well as smaller cities to large towns. According to Mckinsey India's urban population will grow from 340 million in 2008 to 590 million in 2030.
- Therefore, it is being driven by economic compulsions where people move out for economic advancements to areas offering better job opportunities.
- It is also driven by land fragmentations, villages being erased due to roads and highway constructions, dam constructions and other activities.

Agriculture is the primary source of livelihood, but it's no more profitable: Indian rural economy is primarily based on agriculture. Indian agriculture sector accounts for 18 percent [20] of India's gross domestic product (GDP) and it is estimated that it provides employment to 50% of the countries workforce, but ground reality differs. Many farmers in different states of India are leaving farming, primarily because of high input cost and low income from agriculture. Also on the other hand with usage of fertilizers, chemicals and hybrid seeds, land fertility is declining. This encourages many farmers to commit suicide. In 2014, the National Crime Records Bureau of India reported 5,650 farmer suicides. As per the figures given by central government in 2015, there were 12602 farmer suicides. This includes 8,007 farmers-cultivators and 4,595 agricultural labourers.[21] The farmer's suicide rate in India has ranged between 1.4 and 1.8 per 100,000 total populations, over a 10-year period through 2005. Thus people (including farmers) are migrating to cities.

Consequences of urbanization in India

Rapid rise in urban population, in India, is leading to many problems like increasing slums, decrease in standard of living in urban areas, also causing environmental damage.[22]

The Industrial Revolution of the 18th century caused countries like the United States and the United Kingdom to become superpowers, but conditions elsewhere are worsening. India's urban growth rate is 2.07%; seemingly insignificant compared to Rwanda, with 7.6%. India has around 300 million people living in metropolitan areas. This has greatly increased housing issues: with overcrowded cities, many people are forced to live in unsafe conditions, such as illegal buildings. Water lines, roads and electricity are lacking in quality, resulting in a decline of living standards. It is also contributing to the issues presented by pollution.

Urbanization also results in a disparity in the market, owing to the large demands of the growing population and the primary sector struggling to cope.

Allan Chirare, 15 August 2015 quotes: "Urbanization is just becoming a disaster to the city of Mumbai in India."

It could be argued that urbanization impacts the migrants themselves on multiple levels. Networks of friends and family become support systems during the initial transformation phase and the struggle to find work in a fast-paced environment. Their struggles may take months, or even years, to adjust to the new surrounds in order to find a stable job. Migrants are responsible for supporting both themselves in the city and the family left at home.

Some of the positive effects resulting from rural to urban migration occur in the agrarian communities from which migrants came. Family members left at home, usually the elderly and young, are eased out of financial pressures as their relatives work to provide higher standards of living for their dependants. Their quality of life is often additionally improved by the provisions that the migrant sends back.

On the other hand, rural to urban migration poses a big challenge for the developing cities due to migrant populations flocking in. How will cities support it in terms of resources, land and space?

Cities offer solutions in terms of high rise buildings (affordable housing), metros (affordable transport), affordable schooling, established local clinics, water ATMs and many new initiatives. However, the problems include:

1. National Institution for Transforming India [NITI Ayog], has released report 'Composite Water Management Index' in June 2018 and stated that 21 cities (including Delhi, Mumbai, and Bangalore) in India would run out of groundwater by 2020.

2. The latest database of Numbeo lists three Indian cities among the top 10 cities of the world for having worst traffic conditions. These cities include Mumbai, Pune and Kolkata.[26]

2. Population growth and rapid urbanization are combining to create huge challenges for Indian cities. According to McKinsey, the country's cities are expected to grow from 340 million people in 2008 to a whopping 590 million in 2030 and this growth will be very rapid. Meeting demand for urban services in these cities will require US$1.1 trillion in capital investment over the next 20 years. Without the right design and planning, this massive urban growth could exacerbate existing problems of congestion, pollution, and traffic safety.

4. Delhi is now considered the most polluted city in the world, according to the Brookings Institute, while at least two-and-a-half million premature deaths are blamed on poor air quality across the country as a whole.

5. The Economic Survey Report of India 2017-18 estimated that percentage of agricultural workers of total work force would drop to 25.7 per cent by 2050 from 58.2 per cent in 2001. What is the cause of this decline? People migrating to cities and adding to the unemployment in cities. It is interesting to know that because of migration from rural pockets to urban (cities), unemployment in cities is increasing and in rural pockets it's decreasing. As per Centre for Monitoring Indian Economy (CMIE) overall unemployment rate of India as on 18th October 2018 is 6.9% , whereas for urban India its 7.5% and for rural India its 6.6%.

Volume and Trend of Urbanisation in India

India shares most characteristic features of urbanisation in the developing countries. Number of urban agglomeration /town has grown from 1827 in 1901 to 7935 in 2011. Number of the total population has increased from 23.84 crores in 1901 to 121.7 crores in 2011 whereas number of the population residing in urban areas has increased from 2.58 crores in 1901 to 37.71 crores in 2011. It reflects a gradual increasing trend of urbanization. India is at acceleration stage of the process of urbanization.

UNIT 2- PLANNING PROCESS

Principles of Planning –Types and Level of Plan, Stages in Planning Process – Goals, Objectives, Delineation of Planning Areas, Surveys and Questionnaire Design.

4) Principles of urban planning

Principles are general assumptions, fundamental rules, paradigms that guide the spirit of planning policies, proposals, standards and implementation measures. Principles should be based on community values, generally accepted good planning practices, technological level of a community, and planning objectives.

Urban planning Principles serve for the preparation of plans. Principles should take contextual situations; but there are some basic ones that emanate from higher policy frameworks such as the Constitution, general development plans, federal urban development policy, etc.

The following the main principles of urban planning;

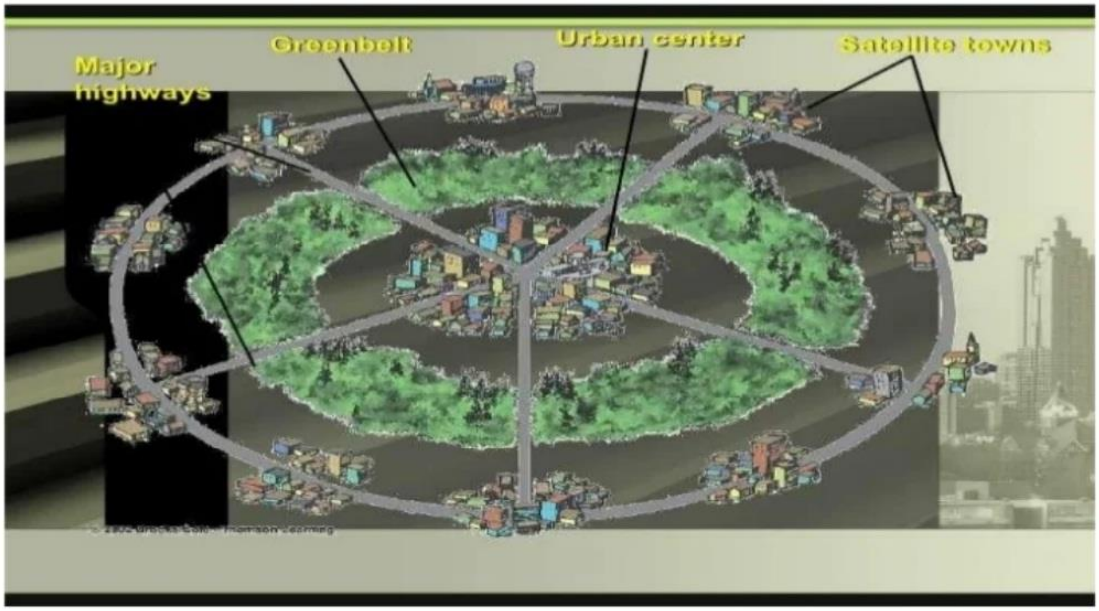
- Green Belts
- Housing
- Transportation
- Public Buildings
- Zoning
- Recreations
- Roads System

4.1 GREEN BELTS:

Green belt is non-development zone on the periphery of the town. It prevents the haphazard sprawl of the town restricting its size. In essence, a green belt is an

4.1 GREEN BELTS:

Green belt is non-development zone on the periphery of the town. It prevents the haphazard sprawl of the town restricting its size. In essence, a green belt is an invisible line designating a border around a certain area, preventing development of the area and allowing wildlife to return and be established. Greenways and green wedges have a linear character and may run across the town and not around the town.



4.2 HOUSING

a lot of care should be taken while providing housing accommodation to different categories of people. It should be made sure that there is no developments of slums and in future if occur it must be discouraged and removed by the authorities.
When a land use plan is made, zones for independent housing, midrise buildings, high rise buildings are allocated.

4.3 TRANSPORTATION:

The town must be provided with suitable facilities at easy access so that there is least time consumed from work place to residency. The essential format of transportation planning process is based upon two fundamental assumptions.

Firstly, the various land use activities that are pursued at both origin and destinations.

Secondly, that a relationship inevitably emerges from these movement demands which not only be readily quantified but also remains constant in future.

4.4 RECREATION:

As per size of town enough space must be given for the recreation centers for general public.

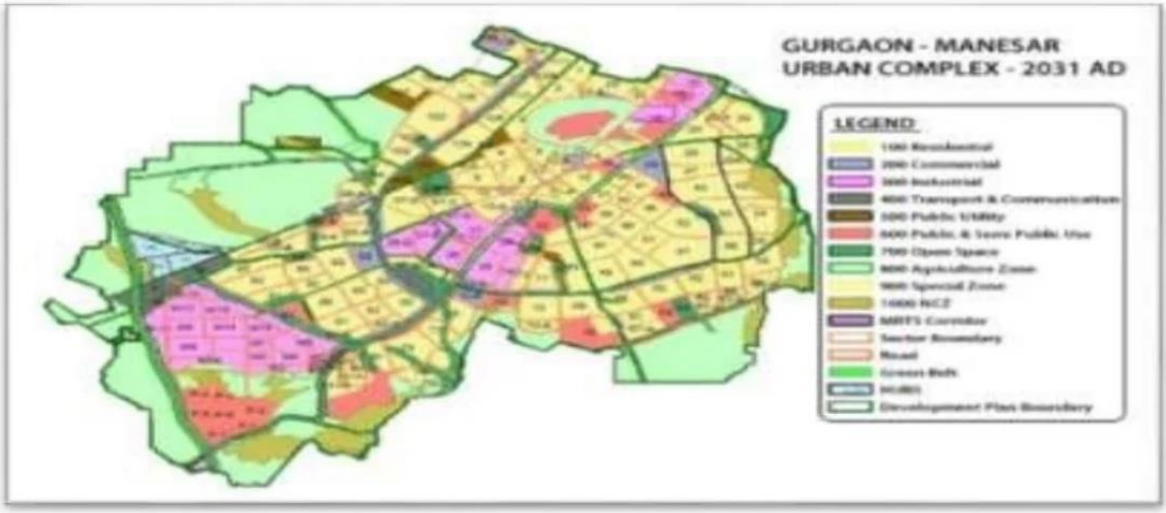
Following are the factor which determines its demands:

Population growth, changing work pattern, Income, Education, Car ownership

these are the things which are necessary at the time of plotting the recreation in any area. Keeping these aspects in mind a planner can easily provide such recreation which is up-to date and also for the necessities of future.

4.5 ZONNING:

The town should be divided into suitable zones such as commercial zone, industrial zone, residential zone, etc. and suitable rules and regulations should be formed for the development of each zone.



4.6 PUBLIC BUILDINGS:

It includes everything a community needs to support its residents, capital buildings, libraries, museums, parks, parking structures, conference centers, courthouses, fire station and police station, other administrative spaces and offices.

Planner is concerned with thousands of such projects worth in billions. These projects or buildings are design by planner keeping in mind the assessments from public, construction services, professional excellence thus he achieve his goal by these skills and meet the requirements of public. Planner keep in mind that the buildings should be sophisticated following success and community's identity.

4.7 Road systems

Road network hierarchy is very important. The efficiency of any town is measured by the layout of its roads. A nicely designed road system puts a great impression in the minds of people, especially the visitors to the town. The provision of a faulty road system in the initial stages of town formation proves to be too difficult and costly to repair or to re-arrange in future.

To sum up in principle an urban planning should be;

a. ***Comprehensive*** – all significant options and impacts are considered.
b. **Efficient** – the process should not waste time or money.
c. ***Inclusive*** – people affected by the plan have opportunities to be involved.
d. ***Informative*** – results are understood by stakeholders (people affected by a decision).
e. ***Integrated*** – individual, short-term decisions should support strategic, long-term goals.
f. ***Logical*** – each step leads to the next.
g. ***Transparent*** – everybody involved understands how the process operates

Urban planning

Urban planning is a technical and political process concerned with the development and design of land use and the built environment, including air, water, and the infrastructure passing into and out of urban areas, such as transportation, communications, and distribution networks.[1] Urban planning deals with physical layout of human settlements. The primary concern is the public welfare, which includes considerations of efficiency, sanitation, protection and use of the environment, as well as effects on social and economic activities. Urban planning is considered an interdisciplinary field that includes social science, engineering and design sciences. It is closely related to the field of urban design and some urban planners provide designs for streets, parks, buildings and other urban areas. Urban planning is also referred to as **urban and regional planning**, **regional planning**, **town planning**, **city planning**, **rural planning**, **urban development** or some combination in various areas worldwide.

Issues In Urban Planning

Some of the Main Problems faced in Urban Planning are as follows:

The city-town planner usually considers the physical appearance of towns and cities and how to organize various elements physically.

But in reality, the basic concern of city-town planning is the internal form, structure, function

and appearance of urban areas. Physical aspects such as buildings, roads, land use, etc., play an important role in urban planning, at the same time social, economic and technological forces should also be considered while planning so that a healthy environment is created in the city/town. Apart from this problem, some factors also complicate the task of planning.

1. Individual Control or Small Parcels of Land:

Within the city limits, both the government and the private parties including individual owned small parcels of land exist. Although wide variations occur from one city to another, individuals own much less area of land, but when all these small landowners are put together the collective land ownership comes to more than half of the total urban land.

They may own the land in the form of residences, stores, factories, commercial centres including recreational centre, and vacant land. The government generally owns the remaining land in the form of public property. It might be in the form of public streets, parks, playgrounds, schools, government buildings, railroads, commercial recreation facilities and unoccupied land. Private ownership of small parcels of urban land sometimes interferes with the effective control of the space pattern of the city like the following.

i. If a private owner enjoys unrestricted right to use his/her land as he wishes, he may build a shop or a factory in the residential area, thus decreasing the value of the nearby residences.

ii. If in a continuous residential area where two houses walls are shared, the problem arises in such areas when one house owner is willing to renovate the house and another is not in case of deterioration. They may develop conflict, which may turn out to be a problem in the future.

iii. If a private builder wants to undertake a project—developing or reconstructing the building on the same land, he/she may face two problems—one is he/she may have to pay more money to the existing house owner and the second is he/she has to face the problems created by a neighbour. Both of such events are detrimental for the urban development.

Such examples as the above suggest that some sort of municipal regulation is useful as a means of controlling the undesirable consequences of private ownership of small parcels of urban land.

2. Arbitrary Political Boundaries:

Effective urban planning requires that the city/town be dealt with as an integrated natural unit. An adequate plan covers not only the built-up area of the city but also parts of the unoccupied hinterland, which need to be controlled in order to secure both orderly future growth of the city/town and reasonable protection of its residents.

Specific examples of difficulties resulting from the lack of integrated control or the lack of proper demarcation may be found explicitly in peripheral urban areas. But it is also true of inner city areas also. The following cases can help understand this problem properly:

i. During a real-estate boom, private owners may break up tracts of farmland into town-sized building lots. In case the city-town does not have a coordinated plan to handle such a situation, they (private owners) may create more urban building lots within a decade than

probably will be needed for several generations. Such exaggerated subdividing activity distorts local land values and interferes with orderly urban growth.

ii. A person who builds in an unzoned area outside of municipal boundary lines may later find that his/her residence is the next door to a store or a petrol bunk. Even if an entire high-grade residential subdivision is erected as a unit, it may later be surrounded by cheaply constructed homes or hedged in by objectionable road- houses or factories.

3. Irregularity of Environmental Site:

Every city/town occupies a unique environmental site, hills, valleys, rivers, waterfronts, or any other physical features make one city/town look different from another. As an effective urban plan has to take into account all these unique features, the concrete plan of every city/town differs from all the other cities.

Features of physical site influence the spatial pattern of the city/town like:

i. Different sections of the city have unequal value as building sites as the underlying soil and rock formations affect the soundness of the foundations, characteristics of subsoil drainage, etc. All these make for differences in the cost of underground construction. At the same time, rough terrain has different advantages and disadvantages for different kinds of buildings

ii. Topography affects the routes of transportation. If a heavy rail line has to be constructed, it needs a level route, but if the city/town does not possess this feature, then transportation is affected. Means of transportation in turn influence the location of factories, commercial centers and residences.

iii. Breaks in transportation like from waterway to land-way or from roadway to railway prove advantageous for certain manufacturing and commercial activities. The location of many transportation breaks depends on the characteristics of physical site.

iv. Some parts of the city provide better amenities than others. The amenities can be in the form of better view and access to market. The city planner has to take into account these and other site features in designing the most effective spatial pattern for any individual city/town.

4. Heritage of Past Construction:

With few exceptions, most of the cities of the town have grown without the early guidance of comprehensive city plans. Some which have grown, based on plan, have now outgrown their earlier designs. Consequently, most city planners have dealt primarily with built-up urban areas characterized by the established patterns of streets, transportation lines and buildings. Under these conditions, their work has been greatly limited and modified by the almost overwhelming heritage of past construction.

The heritage of the city-town unfortunately does not comply with the contemporary needs. For example, the narrow streets of yesteryears may not be capable of handling the motor traffic of today, similarly factories, which were once properly located in the outskirts of the city, are now in the centre of the city.

Thus, the heritage of the past does not satisfy the needs of the present population; hence it presents both urgent problems and formidable obstacles to the planner.

5. Anticipation of Future Change:

The city planner cannot exactly say the future changes that may affect the city. But he can anticipate some of the changes and provide for it in the plan. These may turn out to be

inadequate in the long run. Thus, a planner in trying to anticipate the future needs as related to the spatial pattern of the city faces exceptional difficulties because he/she cannot always foresee new inventions or their effects. For example, unlike in the past, people now move in different types of automobiles, which the urban planner could not have anticipated about 50 years ago.

Similarly, an urban planner cannot predict the prices of the urban land, or the population of the city/town in the near future. If he/she can predict, he/she can recommend for reserving certain parcels of land for parks, playgrounds, recreational centres, etc. that are actually needed by the expanding population of the city. The planner can only gamble by anticipating

the future growth and recommending some things that may conform to the needs of the people in the long run.

Types Of Plans

Master plan :

A coordinated act of planning proposals, for the physical development of a city, via the purposeful transformation of its socio-economic, natural and built environment, taking into consideration the existing requirements and the future needs , with population as the basic parameter.

Contents of the master plan

- extent of planning area
- immediate surrounding area and its effects
- broad delineation of the land use
- major circulation pattern of the city
- major work centers
- delineation of high and low population density zones
- zone and sub zone divisions
- development codes and norms
- allocation o land for various use zones
- policies and proposals for development

Main functions of the plan :

- to develop the town or city as a combined unit and maintain a balance b/w the spatial allocations for the distribution of facilities
- formulation of policies for the development of the town/city, aiming at the decentralisation of city centre
- presenting broad circulation links, for inter-city & intra-city traffic and a multi modal mass transport system
- Preservation of the natural features of the city
- division of the city in sub-divisions or zones.

Zonal development plans :

The master plan divides the city into sub-divisions or zones

Criteria's followed are :

1. physical & historical growth
2. character of land
3. intensity of land – use
4. circulation pattern (railways , major arteries etc.)
5. municipal boundaries , election & census wards

Contents of a zonal plan

- land use plan confirming to the master plan
- location and extent of land uses
- more detailed circulation pattern
- special objectives of the zone if any
- allocation of use zones into further use premises

Functions of a zonal plan

- A zonal development plan details out and elaborates the policies of the master plan
- Acts as a link between the master plan and the layout plans
- Contains a land-use plan for the development of the zone and show the approximate locations and extents of land-uses proposed in the zone
- The schemes and layout plans indicating use premises should confirm to the master plan

Local area plan

A local area plan (lap) sets out a strategy for the proper planning and sustainable development of a specific area within a local authority and for a timescale as specified by the authority.

Contents of a local area plan

1. Land use zoning & density
2. Public open space
3. Private open space
4. Car parking
5. Provision of infrastructure
6. Conservation of built heritage
7. Conservation of natural environment
8. Provision of traveller accommodation
9. Community facilities
10. Design & development standards.

Functions of a local area plan

- a local area plans gives plot level detail
- it is also used to check if the master plan is confirming with land.

A sector plan consists of a group of neighborhoods where it is possible to provide higher order facilities for larger population

Contents of a sector plan

- it is a detailed site plan with broad identification of residential clusters
- Allocation of commercial areas and other facilities based on access requirement
- Formation of a boundary depending on circulation pattern and administrative setup

- Social and physical infrastructure to be allocated based on development control norms laid down in master plan
- Traffic links to be identified between arterials and collector roads

Functions of a sector plan

- Each sector plan has to identify the various neighborhoods with population ranging from 3500-15000
- It is the lowest level plan for the implementation of the various levels of planning proposals extensively detailed out

Planning Stages

1. Master Plan

A master plan is the main product of a comprehensive planning process. A master plan describes at different levels of detail the desired outcomes of the planning process and the policy-measures to achieve said outcomes. A useful analogy is to think of it as a map showing the destination (the point, state, etc. that the community wants to reach), and the way to get there (given by the objectives and policy-measures). When a plan covers only part of the urban system, there will typically be a master plan for middle- and long-term horizons. An example is a road network master plan of a city, which represents exiting and planned roads. This includes large-scale projects, both in terms of fiscal budget and time. Implementation should be made step-wise according to priority selection and feasibility study.

2. Feasibility Study

Before any part of a master plan is implemented, a feasibility study should be conducted. A typical example is a subway project in a city. Feasibility is tested from three major viewpoints: technical, economic and financial evaluation. Technical evaluation is made from the engineering viewpoint, and should include an assessment of the possible environmental impacts caused by the construction and operation of the project (EIA). The level of welfare is examined from an economic viewpoint based on cost-benefit analysis. Financial analysis is required to assess the viability of the body in charge of the operation of the project. The financial analysis heavily influences the feasibility of the project. .

3. Detailed Design

Detailed design follows the feasibility study to design the structure and other details of infrastructure. In the case of non-physical measures such as taxation or land-use control zoning, fine tuning of detailed taxation scheme setting and land-use designation in small block level are examples of detailed design

7 Types of Urban Planning

1. Strategic Urban Planning

Strategic urban planning focuses on setting high-level goals and determining desired areas of growth for a city or metropolitan area. The result of the planning process is a **strategic plan**—also called the development plan, core strategy, or comprehensive plan. The strategic plan's goals may include easing transportation throughout the city, creating more community spaces, improving citizens' quality of life, or encouraging people to visit or move to the city.This is generally the highest level of the planning process and other components of planning typically will fit into this type of plan.

2. Land-Use Planning

Land-use planning largely concerns legislation and policy, adopting planning instruments like governmental statutes, regulations, rules, codes, and policies to influence land use.

On a broad level, these planning instruments deal with the type, location, and amount of land needed to carry out different functions of the city. They also serve to zone or reserve land for certain purposes such as:

- **Residential**, for buildings like apartment homes, single-family residences, and condominiums
- **Commercial**, for buildings like retail shops and office buildings
- **Industrial**, for structures like manufacturing plants and warehouses
- **Municipal**, for structures like police stations and courthouses

As with subsequent types of urban planning, consulting with the community and relevant stakeholders is an important part of land-use planning to ensure transparency, and incorporate a wide range of interests into the overall plan. If you communicate your strategic plan well, then transportation, commercial and industrial planning should flow right into your plans

3. Master Planning

Master planning is typically used for greenfield development projects, or building on undeveloped land—instead of modifying pre-existing structures or spaces, you're starting from scratch.

This type of urban planning envisions a future state for a given space, and what it will take to achieve that vision. Urban planners must consider the required zoning (from your land-use plan) and infrastructure (see concept 7 below) to make the project possible, such as residential and commercial land, transportation considerations, road locations, etc. They must also plan the location of urban amenities such as community facilities, schools, parks, and the like.

Again, consulting with landowners and government agencies impacted by the plan is an essential task here. Additionally, you may need to bring in professional consultants to gather important expertise and insights, ensure the plan considers all potential angles, and set the completed space up for success for years to come.

4. Urban Revitalization

In contrast to master planning, *urban revitalization* focuses on improving areas that are in a state of decline. The exact definition of a declining area will differ from city to city—for example, areas that have a troubling number of failing businesses or a stagnant or decreasing population growth. The improvement tactics city leaders use for revitalization will depend on the root cause of decline, and may include things like repairing roads, developing infrastructure, cleaning up pollution, and adding to parks and other public spaces, etc.

Community interaction is especially important with this urban planning concept, as local residents and business owners often have insights that can help inform and tailor planning efforts. You may need to change land use (see concept #2) from industrial to residential to get the loft apartments you want, or you may need to involve environmental planning (see concept #6) to clean up any messes from previous use cases.

5. Economic Development

Economic development is about identifying areas of growth to foster greater financial prosperity within the city, specifically by enticing companies to build or move offices there. Subsequently, those companies then hire local talent and drive commuter traffic to the new office. More workers dining at local restaurants for lunch, getting gas at nearby gas stations, and stopping by local grocery stores on the way home will boost visibility and spend in the area.

Sometimes an economic development department lives outside of the planning department of a municipality, so it is important to help that group navigate Land Use Plans, Master Plans, and Infrastructure Plans to ensure that any development projects are workable. Of course it will be important to coordinate with environmental plans as well (see below).

6. Environmental Planning

Environmental planning is a type of strategic development that emphasizes sustainability. Considerations for this type of urban planning include air pollution, noise pollution, wetlands, habitats of endangered species, flood zone susceptibility, and coastal zone erosion, along with a host of other environmental factors dealing with the relationship between natural and human systems.

Environmental plans need to be filed alongside master, revitalization, and infrastructure plans. If it seems like there are a lot of steps and a lot of requirements, don't get discouraged. While it seems complicated, it will be best in the long run if your plans all interact well.

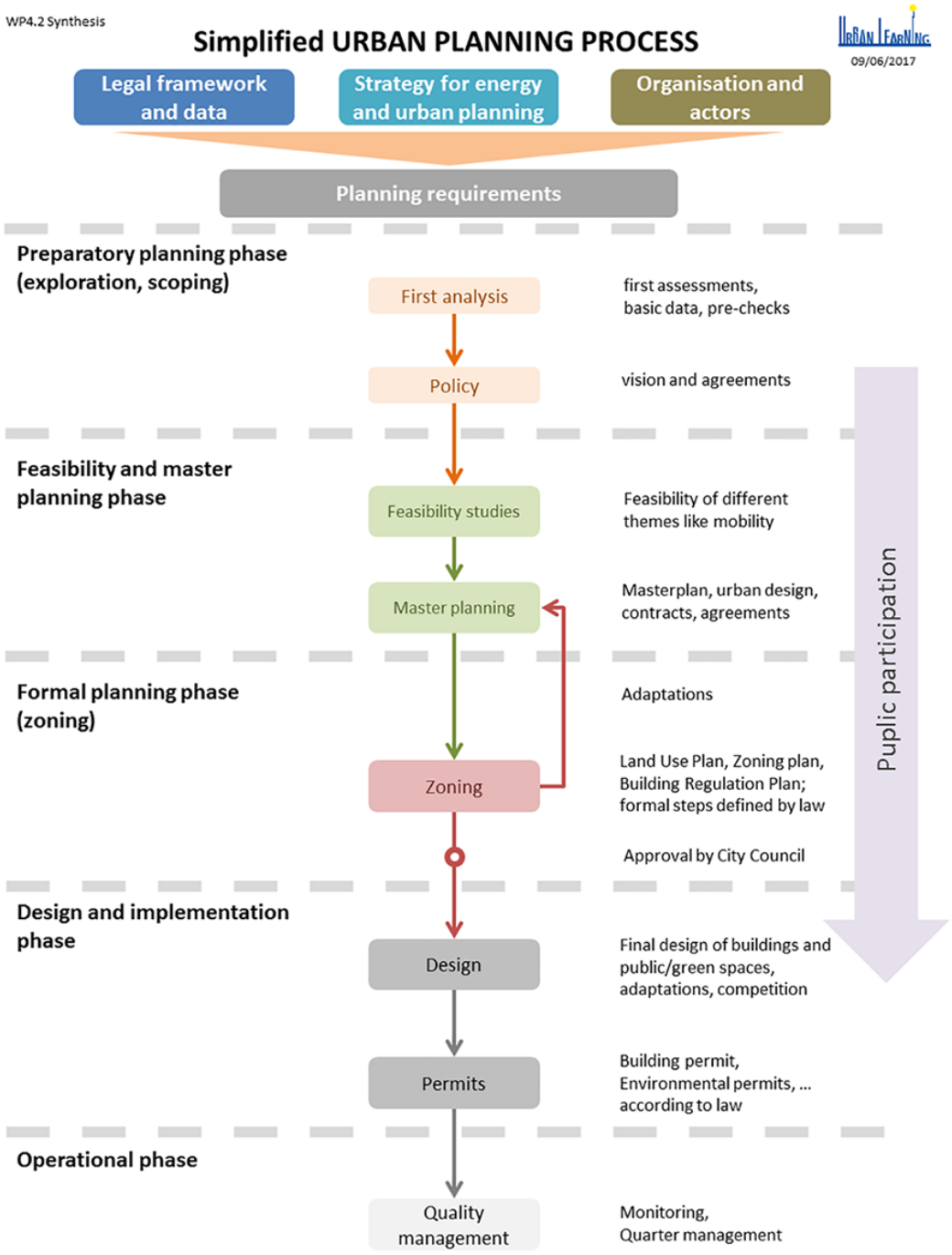
6. Infrastructure Planning

Infrastructure planning deals with the fundamental facilities and systems that serve a city and its people, and how those facilities can support goals laid out in the strategic plan. This type of urban planning covers:

- **Public works infrastructure** such as water supply, sewage, electricity, and telecommunications
- **Community infrastructure** such as schools, hospitals, and parks
- **Safety and transportation** such as roads, police, and fire facilities

As you can see from the above urban planning concepts, good planning takes a lot of work. But when done correctly, planning at the city, county, and state levels can have a positive, lasting impact on your community.

Stages in urban Planning Process



The principal phases of an urban planning process are:

- Preparatory / exploration phase.
- Feasibility / planning phase.
- Formal planning / zoning phase.
- Design and implementation phase.
- Operational phase.

A) Preparatory / exploration phase

Purpose of the element

Working group on energy supply for urban development areas

Description of the element

This group is composed of different departments, the main energy provider and grid operator –as first step the group tries to clarify potential solutions (especially about grids) for urban development areas before the planning has started. The energy planning department takes the lead. This group will carry out about the feasibility of district heating and gas. Furthermore, they discuss the possibilities to integrate renewable and waste heat. The developed solutions or criteria should be integrated in further processes and negotiations of the urban development area. It is planned to meet four times a year, but the frequency depends on the need, urgency and number of areas

Key benefits

- Find as early as possible a decision between centralised or decentralised solutions – this make it easier to regard it in the further processes and finally design of the buildings
- Increasing the planning security for the providers and developers

B) Feasibility / planning phase

Purpose of the element

The urban planning process is related to some contracts: between the city and the urban developer for the urban project and between the urban developer and a property developer for each building plot. This situation gives an opportunity to fix energy requirements inboth urban development concession contract and land sale contract.

Description of the element

Urban Development Contract
The feasibility studies allow preparing the necessary tasks to make the urban plots suitable for construction. The planning of the plots and the realization of the shared equipment are entrusted to the developer through the concession contract whereby the city transfers the project management competence to a developer. The project manager will be responsible for the design and implementation of the urban project: acquisition or control of land, servicing of the land, building of equipment and networks and marketing of lots. The Planning Act does not specifically provide for specific provisions for the integration of environmental objectives into urban development concessions. The City of Paris outlines the energy objectives that have been defined in the Master plan in the design phase. These objectives will have to be transposed into selection criteria which will be indicated in the consultation

and which will have to cover the 3 stages of the development operation: Conception: max energy consumption, renewable energy rate, connection to district heating Implementation: material reuse, waste and site management Life time: performance guarantees of system over time LAND SALES CONTRACT During the implementation phase, the promoters and the landlords commit themselves to respect the objectives fixed in the project for the development of each plot. The administrative document that allows to contract with an operator is the specification of land transfer (CCCT). As an annex to the act of sale of the land, the CCCT has a contractual scope. However, the non-respect of the obligations can in no case motivate the refusal of the building permit. At best, it may result in refusal to conclude the sale or result in contractual penalties.

Key benefits

Energy efficiency, renewable energy production, monitoring.

C) Formal planning / zoning phase

Purpose of the element

Each urban project has to combine specific political commitments and specific environmental situation. In some cases, energy is a key item regarding the contest (important local production potential) and the political vision (carbon neutral district, positive energy district), but it is essential to fix a basis of minimum requirements for any urban project. In addition, Energy is generally assessed in the preliminary studies but the results of the assessment are not specific enough to lead to an efficient and comprehensive energy choice for the urban project. It is once again necessary to fix specific and detailed requirements on both the vision and the studies to carry out..

Description of the element

An energy supply study must be carried out in order to identify potential energy sources on the site (energy grids, local production of renewable energy, etc.) and associated potentials. On the basis of these elements, several energy supply scenarios must be proposed. A grid of analysis can then allowcomparing the options according to different criteria (cost of investment, cost of works, cost to the end user, renewable energy, GHG emissions ...).

Key benefits
Energy efficiency, renewable energy production, energy grid development

D)Design and implementation phase

Purpose of the element

The Environmental Impact Assessment (EIA) for urban development projects covers all environmental topics. Energy relevant topics are emissions, mobility, land use and energy concept. It is mandatory for urban development projects with a surface of at least 15 ha and a gross floor area of more than 150.000 m². It is based on a national law according to the

European Directive for EIAs. This instrument was selected as a tool because of its usefulness to assess energy issues.

Description of the element

Energy relevance:The developer has to provide an energy concept for the area to ensure an energy supply for heating according to the state-of-the-art in Vienna. Therefore, the emissions for heating are limited to 140 g CO2/kWh (final energy consumption for heating as technical state-of-the-art) as well as 75% of the heating demand should be covered by renewable (regarding the technical and economic feasibility). This threshold avoids the use of gas! The defined criteria could be changed for other areas in the perspective of the state-of-the-art. For the energy part of an EIA the Department for energy planning (MA20) is the public authority for defining the state-of-the-art of the energy supply and checking the developer's energy concept.

Delineation

Delineation of formal **regions** involves the grouping together of local units which have similar characteristics according to certain clearly defined criteria and which differ significantly from the units outside the **region** on the basis of certain chosen criteria.

Methods

1**. Survey of Approaches to Regional Delineation**

Problem of Regional Delineation was defined as determination of boundary around an urban area such that-interdependence of the urban area and the region

a) Superimposition of Maps

This method is rather the first attempt made by-geographers to determine a boundary- of a region based upon a number of criteria. In the present- case, one may include milk supply, vegetable supply, medical facilities, educational facilities etc., in the list 'of criteria that jointly determine the interdependence of city with the region around it. For each one of these single criteria maps could be drawn as above. In this way one will have as many maps as the number of criteria variables. Let us also assume that all these maps are drawn on the same scale. One may then superimpose these maps over each other. This super-imposition will provide a/configuration of boundaries. One may then draw a boundary based upon judgement

that passes through the middle. The region bounded by such a boundary is said to have been determined by the method of super-imposition of maps. The boundary drawn as above could differ from one person to the other, to the extent they are different in respect of their judgement which is the most likely situation in actual practice. Such a situation could lead to lack of uniqueness in boundary determination and actually such a procedure lacks scientific approach. Second drawback of this method is due to excessive reliance on magnitude of variables while interdependence amongst variables is not accounted for in the process. Later attempts in this regard have tried to meet this challenge with varying degree of success.

a) Nodal Method

This method found its origin in the works of transport planners. The basic data in this method are transport routes, specifically roads. Intersection of two or more roads is termed as a node. In actual practice such nodes are found to occur with specific pattern within the dispersal region under consideration. The nodes attract several important activities namely, service stations, catering shops, pan shops, etc. The intensity of such activity is more at nodal points that are nearer to the city centres in comparison to others. Indirectly these, nodes represent the degree of influence of the urban place around itself because the activities that develop there are linked with urban character. If one, therefore, joins such nodes around a city, the boundary thus determined can be said to include within itself the area around the city, that is highly influenced by the same. This is precisely the rationale behind this method. While using

this method we assume implicitly that the roads do not ^therefore, joins such nodes around a city, the boundary thus determined can be said to include within itself the area around the city, that is highly influenced by the same. This is precisely the rationale behind this method. While using this method we assume implicitly that the roads do not necessarily pass through places which have high developmental potential though development follows after the road is laid out. Another drawback - of this approach can be seen in the fact that it does not .incorporate other important variables that determine the interdependence between city and region.

C) Hexagonal Method

The method was developed by Losch and Christaller and later used by several persons in regional delineation (47). We will describe this method with the help of an example. Let us consider the problem of finding the region around-Ahmedabad. We could identify six relatively more developed settlements around Ahmedabad such that these centres when joined on map with Ahmedabad and with each other could provide a geometrical shape similar to hexagon. The choice of hexagon facilitates consideration of areas around the city. that are better distributed on all sides of the city. Often in actual practice one may not find such six settlements because development' is not happening in all the directions. In that case the basic assumptions made by using this method are not satisfied in strict sense but if' one is still interested in using this method, for regional delineation, one may have to select six such settlements around 29a city even though all of them are not ranked high in respect of their - urbanisation or level of development . Again if we suppose that Ahmadabad city is related

with its. surrounding area in respect of K variables, then, the method would emphatically assume the following :

(1) The spread of all the, K variables is uniform in all the directions emanating from the city

(2) The degree of influence in respect of all K variables keeps on declining in all the directions as one goes away from the city till one -reaches the middle points and thereafter it start increasing' till one reaches centres selected for the purpose. Uniformity of transport cost would support this assumption. Following steps are involved in delineation of region according to this, method % . .(1) Identify six settlements around the*city as described above. Let these settlements be represented by S2 . S^ S,_ and Sg (2) Join each one of S^ S2j S^ S ^ and Sg with C the centre of the city, as shown -inFig.2.1. This gives the hexagon whose nodes are connected with C. (3) Mark out middle points so that represents middle points of line CS^ (i= 1 6)(4) Join M1 M2 M4 and Mg with each other as shown below. The region surrounded within M, ,M^ gives the desired region according to this method.

The demerits of the method can he explained as under :

(1) Assumptions (1) and (2) stated above are not satisfied owing to several reasons.

(2) Transport cost and node is determined by-market forces. It is often controlled by public system in India where costs are fixed in certain cases via price fixation uniformly irrespective of developmental potential.

(3) Difficulty in getting six points.

(4) It has all the problems of nodal method.

D) Gravity Model

A model similar to gravity relation in Physics can be evolved in case of urban areas by considering the movement pattern of people. This model is described in greater detail in Isard (45). We shall provide here a brief version of the same ,in context to present study. Like metropolitan cities, Ahmadabad is also growing in various directions with a number of satellite settlements around it. All these together could be considered as a potential extended urban settlements.

E) Classificational Methods

Some methods of classification were evolved by biologists in their effort to classify living beings into appropriate groups, or alternatively known as 36species. . They considered a number of characteristics of plants or animals for this purpose. They called the group of such characteristics as 'Taxa*. Thus each taxa can be said to consist of number of Operational Taxonomical Units (OTU) which are the same as -the number of characteristics involved. This gave rise to problem of classification into homogeneous groups, where a large number-of OTU’s are involved. The methods of classification employed for this purpose are also

known as Taxonomical Method

SURVEYS IN URBAN PLANNING AREAS

- There is quite good relation between surveying and urban planning in development of layouts as the development of sustainable society.
- The urban planner is centrally concerned with the design of layout, allocation of resources between regions to achieve central regional and National objectives. It includes physical, social and economic planning of development within regions and sub regions.
- urban planner must be aware of the various works that the specialists do and also the scopes of their works.
- He specifies the data to be collected by them and he also must keep an idea how to analyse them to get the relevant information. to collect the relevant data each specialist is required to undergo survey works and one must know the various types of surveys and the processess involved therein.

Need

- "Survey before plan" the principle advocated by Sir Patrick Gedded is emphasized by many town planners.
- To collect the data and information based on spot observation.
- To draw mental picture of the region, the town and its various elements like residential and working areas, the survey serves broad canvas picturing the present state of the town and to proper means for its development, in future.
- Town planning/ urban planning Survey is also essential in following ways,
    i. Planning work becomes easy by analysing the data of existing town gathered from surveys.
    ii. It helps to know that what is lacking and what is to be needed for the development of Town.
    iii. A survey focuses on the inter-relation of different inter-mingled activities of an urban life.
    iv. It helps to understand the parasites from which an urban space suffers and provides a proper treatment to be given, i.e. it diagnoses the disease.
    v. It involves the public opinion and views in favour of the town planning scheme, etc.

ADVANTAGES:

'Survey before Plan' the principle advocated by Sir Patrick Geddes, is emphasized by many town planners.
• It is the 'Diagnosis before treatment' or 'Diagnostic approach' without which no adequate planning scheme can be prepared for a town.
• The survey data so collected can be analysed and will be represented in the form of maps, charts, tables and models. Such a fully illustrated and clearly documented survey is helpful and advantageous.

OBJECTIVES:

• To provide the data of the existing town and corroborative evidence for the concerned authority. Thus the planning work becomes easy.

• To know exactly what is lacking and what is needed for the development of the town.

• To throw light on the inter-relationship of activities of the town-life, i.e. whether a particular development has provided a favourable or adverse effect on its surroundings.

• To know the evils from which the town suffers and provides a proper treatment be given, i.e. it helps to diagnose before treatment, as pioneered by Sir Patrick Geddes, etc.

COLLECTION OF DATA:

The basic data to be collected include,

• The present land use.
• Population growth.
• Traffic System.
• Industrial position.
• Economic base.
• Origin, history and growth of the town.

CLASSIFICATION OF PLANNING SURVEYS:

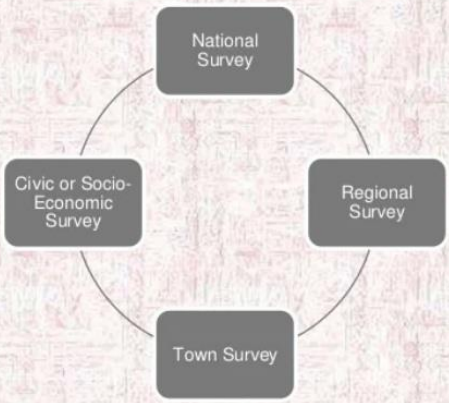
Planning surveys are broadly seen in two perspectives,

i. Pre-planning Surveys
ii. ii. Post-planning Surveys Pre-planning Surveys: The goals and objectives of planning surveys had cleared that the survey is essential prior to a development. Post-planning Surveys

TYPES OF SURVEYS:

- Collect information of natural resources and potentialities and to locate the industries in different regions .
- Survey for fixing railway alignments, Irrigation, Hydro-electric works, Heavy industries come under national survey.

survey conducted at local level for re-development scheme, slum improvement scheme and Master plan is different from town survey.
house to house survey is the socio-economic survey which is the foundation stone of the planning structure.
from this survey the town planner/ urban planner can make a correct diagnosis of various ills from which the town is suffering and prescribe the correct remedies for their cure.



- They are those surveys which are done over a region dealing with,

i. Physical factors
ii. Physical economic factors
iii. Social economic factors

- consist of number of townships and villages.
- Surveys for regional highways, regional transport, regional water supply come under regional survey.
- It helps to develop the whole region in a co-ordinated manner.

- They are done at much small scale and apart from the above data collected from the regional surveys it also includes,

i. Physical Survey
ii. Social Survey
iii. Economic Survey

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TYPES OF SURVEYS

These are broadly classified as

1. Preliminary survey
2. Regionla Survey
3. National Survey
4. Civic Survey

1.**Preliminary Survey**

The preliminary survey is in the form oif restricted inquiries made for thetown planning schemes. The data collected in the preliminary survey are of general nature and it is conduicted prior to national regional or civic surveys.The main object of the preliminary survey is to decide approximately the boundaryt of area to bed plannaed and to find out the problems requiring further attention. The topics which are covered in the preliminary survey are as follows:

- The study of civic art, parks, playground, etc.
- The conditions of the existing roads with respect to their construction andmaintenance problems are studied.
- The study of the existing housing conditions with respect to lighting,ventilation, sanitation, conveniences and amenities.
- The industrial development including the arrtangement and classificationof various industries, location and distribution of the manufacturing units,etc.
- The density and character of structures, divisions and uses of land, etc.
- The study of the sources and distribution of power and location of power supply units.

2.Regional Survey

The regionall surveys carried out on much larger unit than civic survey,which may consists of number of townships and villages. The investigationscarried out are of general nature such as social, physical, economic conditionsof region. Surveys for regional highways, rfegional transport, regional water supply come under regional survey. The topics to be covered in the regionalsurvey are more or less the same as those of the civic survey. It helps to developthe whole region in a co-ordinated manner.

3**. Nationala Survey**

It helps to collect information regarding natural resources and potentialities and to locate the industries in different regions. Care should betakent to see that no one regioin is allowed to develop at the cost of other regions. Survey for fixing Railway alignment, Irrigation, Hydroelectric works,Heavy industries come under national survey.The datge collectged with rfespect to following areas:> The availability of natural resources in the form of oil,minerals, gas,water, etc

4.**Civic Survey or Socio-economic Survey**

In this type of survey house to house survey conducted for this purpose isthe socio-economic survey.The town plananer can make a correct diagnosis of various ills fromwhich the town is suffering and prescribe the corredct remedies for their curefrom this survey.The data collected during the civic survey are as follows:> The means of communication such as roads, railways, airways andwaterways are studied together with their inter-relationship.> The study of contours of the area helps in deciding the gradients of roads,location of water works and sewage plants, location of public buioldingsand airports, etc

TOWN SURVEY PHYSICAL SURVEY:

The data can be collected either by Land Survey or Aerial Survey.

A. Natural features:

- Location in relation to other major towns in the region.
- Topography
- Climatology

B. Conditions of the Buildings

Very Good - 50 years and above
Good - 30 to 49 years
Moderate - 15 to 29 years
Bad - 5 to 14 years
Poor- Unfit

C. Land use

- Residential
- Commercial
- Public and Semi-public
- Open Spaces
- Transportation
- Agriculture
- Water-sheets
- Vacant
- Other uses: Refuse disposal areas, cemeteries, grave-yards, area under defence, etc.

D. Communication:

- Highways connecting the town.
- Traffic on roads and railways and at junctions.
- Parking survey.
- Origin and Destination surveys (O&D surveys).

SOCIAL SURVEY:

A. Population:
- Trends in population growth for last 40 to 50 years
- Characteristics of present population
- Future growth of population considering rural migration, development of new industries
- Demographic survey
- Distribution and density of population in the town.

B. Housing:
- Housing condition.
- Density of accommodation.
- Height of the buildings.
- Materials used for construction.
- Tenancy status; Rented and owned

C. Community facilities:
- Education
- Health
- Recreational
- Others: Museums, historical and religious buildings.

ECONOMIC SURVEY:

A. Occupational condition:
Workers classified according to the nature of employment. Workers employed in,
- Household industry

- Cultivation
- Agriculture
- Trade and commerce
- Construction work
- Manufacturing industry
- Transport and communication
- Quarrying
- Other services

B. Financial position of local authority:
- Income and expenditure
- Taxation

C. Survey of Industries:
- Classification of industries
- Location of industries
- Availability of raw material
- Workers employed
- Quantity of goods produced
- Type of nuisance created

SELECTION OF SAMPLES (SPECIFICALLY FOR CIVIC SURVEY) Questionnaire:

It is not possible to ask each and every person about his or her opinion. Hence, certain number of persons are selected for conducting the surveys and these selected persons are known as 'Samples' of surveying. The selection of the number of samples is of utmost importance. The basic rules for selection of sample size are as follows, A. More disastrous the results of poor information, larger sample size is required: B. The more varied the expected responses, larger sample size is required. C. Larger the total population, smaller the percentage of the population is required to be surveyed. The various types of selection of samples are, i. Simple Random sampling ii. Systematic Sampling iii. Stratified sampling iv. Clustered sampling

UNIT I BASIC ISSUES

Definition of Human settlement, Urban area, Town, City, Urbanisation, Suburbanisation, Urban sprawl, Peri-urban areas, Central Business District (CBD), Classification of urban areas –Trend of Urbanisation at International, National, Regional and State level.

PART -A (2 MARKS)

1. **Define: Human settlement**

   Human Settlement means cluster of dwellings of any type or size where human beings live. For this purpose, people may erect houses and other structures and command some area or territory as their economic support-base.

2. **What do you mean by urban area?**

   An urban area or urban agglomeration, is a human settlement with high population density and infrastructure of built environment. Urban areas are created through urbanization and are categorized by urban morphology as cities, towns, conurbations or suburbs.

3. **Differentiate between city and town.**

   City

   A **city** is a large human settlement. It can be defined as a permanent and densely settled place with administratively defined boundaries whose members work primarily on non-agricultural tasks.

   Town

   Town a built-up area with a name, defined boundaries, and local government, that is larger than a village and generally smaller than a city.

4. **Define the term urbanisation.**

   Urbanization (or **urbanisation**) refers to the population shift from rural areas to urban areas, the gradual increase in the proportion of people living in urban areas, and the ways in which each society adapts to this change.

5. **What are the reasons for urbanisation?**
   a) Migration
   b) Commercialization
      i. Industrial Growth
      ii. Social Factor
      iii. Employment opportunities
      iv. Modernization

6. **Define: Urban Sprawl.**

Urban sprawl or suburban sprawl mainly refers to the unrestricted growth in many urban areas of housing, commercial development, and roads over large expanses of land, with little concern for urban planning. In addition to describing a particular form of urbanization, the term also relates to the social and environmental consequences associated with this development.

7. what are the characteristics of CBD?

- High concentration of offices, banks, financial institutions, and so on.
- High density and high-rise buildings.
- High land values.
- Lack of open and/or green space.
- Department stores and high-end shops.
- Multi-storey car parks.

8. What are the classifications of urban area?

a) Administrative Urban area
b) Defensive Urban area
c) Cultural Urban area

9. What are the causes of urbanisation?

- Expansion in government services, as a result of the Second World War
- Migration of people during the partition of India
- The Industrial Revolution
- Eleventh five-year plan that aimed at urbanisation for the economic development of India
- Economic opportunities are just one reason people move into cities
- Infrastructure facilities in the urban areas

10. What do you mean by Peri- urban area?

Peri-urban areas (also called rurban space, outskirts or the hinterland) are defined by the structure resulting from the process of peri-urbanisation. It can be described as the landscape interface between town and country, or also as the rural—urban transition zone where urban and rural uses mix and often clash.

11. How will you differ rural settlement from urban settlement?

- The **rural settlements** derive their life support or basic economic needs from land based primary economic activities, whereas, **urban settlements**, depend on processing of raw materials and manufacturing of finished goods on the one hand and a variety of services on the other.
- Rural and urban settlements differ in terms of social relationship, attitude and outlook. Rural people are less mobile and therefore, social relations among them are intimate. In urban areas, on the other hand, way of life is complex and fast, and social relations are formal.

12. Give some examples for CBD.

- CBD Belapur, Navi Mumbai
- Connaught Place, New Delhi
- Netaji Subhas Road, Kolkata

Part- B (16 Marks)

1. Explain in detail about human settlement.
2. What do you mean by CBD? Discuss in detail.
3. Explain in detail about the various classifications of urban area.
4. Explain in detail. i) the hierarchical order of CBD
   ii) the shape of CBD
5. Explain in detail about the trends of urbanisation.
6. What are the problems faced in urban settlement? Explain each in detail.

Part- C (15 Marks)

1. Explain the Delimitation of CBD.
2. Explain the Problems of Human Settlements in Developing Countries.
3. Explain in detail about the various Reasons of urbanization

UNIT

2- PLANNING PROCESS

Principles of Planning –Types and Level of Plan, Stages in Planning Process – Goals, Objectives, Delineation of Planning Areas, Surveys and Questionnaire Design.

PART -A (2 MARKS)

1. Define Urban planning

Urban planning is a technical and political process concerned with the development and design of land use and the built environment, including air, water, and the infrastructure passing into and out of urban areas, such as transportation, communications, and distribution networks

2. What are the issues in Urban planning?

- Individual Control or Small Parcels of Land:
- Arbitrary Political Boundaries
- Irregularity of Environmental Site
- Heritage of Past Construction
- Anticipation of Future Change

3. What are the Types Of Plans in urban planning?

- Master plan
- Zonal development plan
- Local area plan
- sector plan

4. What are the Stages in urban Planning Process?

- Preparatory / exploration phase.
- Feasibility / planning phase.
- Formal planning / zoning phase.
- Design and implementation phase.
- Operational phase

5. Define Delineation

Delineation of formal **regions** involves the grouping together of local units which have similar characteristics according to certain clearly defined criteria and which differ significantly from the units outside the **region** on the basis of certain chosen criteria.

6. What are the Main functions of the master plan?

- To develop the town or city as a combined unit and maintain a balance b/w the spatial allocations for the distribution of facilities
- Formulation of policies for the development of the town/city, aiming at the

decentralisation of city centre

- Presenting broad circulation links, for inter-city & intra-city traffic and a multi modal mass transport system
- Preservation of the natural features of the city
- division of the city in sub-divisions or zones

7. What are the Criteria's followed in Zonal development plans?

1. physical & historical growth
2. character of land
3. intensity of land – use
4. circulation pattern (railways , major arteries etc.)
5. municipal boundaries , election & census wards

8. what do you mean by Local area plan?

A local area plan (lap) sets out a strategy for the proper planning and sustainable development of a specific area within a local authority and for a timescale as specified by the authority.

PART -B (16 Marks)

1. Explain in detail about the various Principles Of Urban Planning.

2. Explain in detail about the various types of urban planning

3.Explain in detail about the various levels of urban planning

4. Discuss in detail the stages of urban planning?

5. Explain the delineation in urban planning.

6. Explain the various surveys in urban planning area.

PART -C (15 Marks)

1. Discuss in detail the zonal development plan and local area plan in urban planning.

2. Discuss in detail the Preparatory / exploration phase and Design and implementation phase in urban planning.

3. Discuss in detail the classifications of planning surveys.

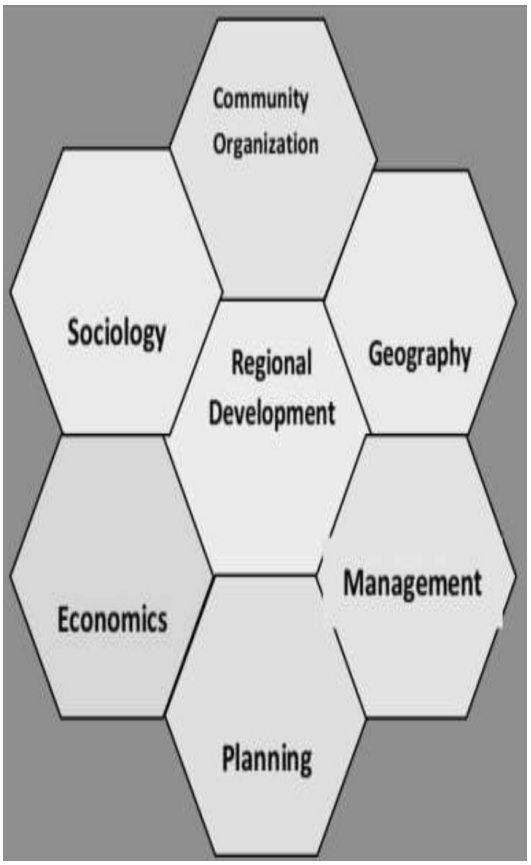
UNIT III

DEVELOPMENT PLANS, PLAN FORMULATION AND EVALUATION

Scope and Content of Regional Plan, Master Plan, Detailed Development Plan, Development Control Rules, Transfer of Development Rights , Special Economic Zones-Development of small town and smart cities-case studies

Definition of Regional Planning

Regional planning deals with the efficient placement of land use activities, infrastructure and settlement growth across a larger area of land than an individual city or town



"Planning is primarily a way of thinking about social and economic problems. Planning is oriented predominantly towards the future, is deeply concerned with the relation of goals to collective decisions and strives for comprehensiveness in policy and program. Wherever these models of thought are applied, there-is a presumption that planning is being done" *(Friedman,1978-'79)*

Advantages of Regional Planning

- Helps local government insure adequate services for its citizens; and minimizes costs for Town funded projects.
- Establishes and preserves acceptable land andwater use patterns foragriculture, business, industries, communities, recreation and highways.
- Assists in preventing premature urbanization and overcrowding of areas, which would result in increased demands for services and facilities and the need for higher taxes to support these facilities and services.

Types of Regional planning.

1. Physical Planning
2. Economic Planning
3. Allocative Planning
4. Innovative Planning
5. Indicative Planning
6. Imperative Planning

Physical Regional Planning

- Related to the ordering of space – landuse, infrastructure network, new town/ settlement
- A basis for development control mechanism
- Ex: Planning of a new town by Urban Development Agency (UDA)

Economic Regional Planning

- Focuses on economic structure of an area & its overall economicperformance
- Related to resource allocation and distribution
- Example: Resource planning by State Economic Planning Unit

Allocative Regional Planning

- Emphasis on conflict solving (in line with policy changes) Also a control mechanism; based on functions and Priorities
- Controls resource allocation when there are changes in financial/ economic policies
- Example: New Economic Plan (NEP) and development of public housing to allow the low income grouphave the opportunity to own a house.

Innovative Regional Planning

- Not just look at function and efficiency, but also involve improvement to the system
- Renews ideas & allows changes
- Example: Development of LRT system in Kuala Lumpur to overcome the problem of vehicle overcrowding or the opening of small medium industries in the rural areas to create more job opportunities

Indicative Regional Planning

- Advisory in nature, involve general guidelines
- Introduce basic economic activities and establish modern facilities throughout the states;
- Economically improve the less developed states

Imperative Regional Planning

- Order through Act and specific Guidelines
- Example: Town & Country Planning Act 1974; Malaysia

Principles of Regional Planning:

- **The Principle of Vertical Unity of Phenomena**
- **The Principle of Horizontal Spatial Unity**
- **The Principle of Space-time Continuum**
- **The Principle of Comprehensive Development**
- **The Principle of Community Development**
- **The Principle of Equilibrium between SocialDesirability and Economic Viability**
- **The Principle of Ecological Equilibrium**

The Principle of Vertical Unity of Phenomena

All phenomena (both physical and cultural) that operate in a regional space are fully integrated with each other. Therefore, planning for anysingle phenomenon independent of other phenomena shall not be in the real spirit of regionalplanning.

The Principle of Horizontal Spatial Unity

Each region constitutes a sub- system of the whole regional system i.e. various regions, constituting regional space for planning process, do not exist in isolation from each other, insteadthey exist in integration with each other as part of the regional system whole.

The Principle of Space-time Continuum

Spatial reality is four dimensional consisting of threedimensions of space and one dimension of time, and the two, i.e., space and time; areinseparable. A region is a living dynamic entity that operates simultaneously in the past, present, and future like the human body's DNA. The regional planner must, therefore, recognize the fact that regionalspace is a continuously growing as an organic whole.

The Principle of Comprehensive Development

Regional planning seeks to achieve the comprehensivedevelopment of the entireregional space; the regionalsystem in its entirety. It seeks thedevelopment of all sectors of economy along with advancement of all segments of society.

The Principle of Community Development

Equal opportunities to all for selfdevelopment. The entirecommunity is considered as anorganic whole. It is only through equal opportunities to each individual (education, health andemployment) that the whole society can be developed into community with the sense of belonging to each other. The regional planning, therefore, should be to create socially harmonious communities.

The Principle of Equilibrium between SocialDesirability and Economic Viability

While planning forcomprehensive development of all regions, the regional planner has to maintain a balance between what is socially desirable and what is economically viable. The regional plans should not only begood intentioned, but also be economically viable.

The Principle of Ecological Equilibrium

The regional planning should make the ecology and environment sustainable. He/She has to develop the regional space at his disposal only within the framework of ecological equilibrium. All developments in a region should be carried out without disturbing the ecological balance.

Objectives of Regional Planning

- Achieve effective land use planning on regionallevel
- Promote affordable housing of all types on regional scale
- Assure regional renewal in all inner-city areas
- Reduce air and water pollution as needed.Conserve water.
- Minimize freeway expansion through promoting key major street improvements
- Maximize mass transit expansion throughoutregion
- To achieve quality education on all levels and to allresidents
- Assure appropriate job creation and job training
- Maximize airport system balance for all types and sizesthroughout region
- Focus on tax base sharing in all forms
- Create and maintain a quality region-wide health caresystem
- Minimize public sector budgetary waste and balance budgets

Scope and Content of Regional Plan

- The overall objective of Regional Plan is to achieve sustainable development harmonizing social, economic and environmental needs through appropriate planning and management of land and its resources.

Regional planning

- Regional planning is a branch of land use planning and deals with the efficient placement of land use activities, infrastructure and settlement growth across a significantly larger area of land than an individual city or town.
- Regional planning addresses problems of economic, social and political transformations at geographical scales greater than a municipality, state or even country. The region is connected and united by cultural identity, economic interests, geographic features, as well as common developmental and environmental concerns. Since the independence, the need for regional planning has arisen from changing social and economic phenomena affecting local communities and regions throughout the country.

Aim of Regional Planning

a) Utilizing Resources in an optimal manner so as to realize the development potential of the region over a given time-frame with minimal negative impacts in order to achieve economic-equity.

b) Securing the planning and equitable distribution of population and economic resources of a country.

c) The task of arranging the available land in a pattern which is most profitable and productive to the region and the country at large.

d) Allocation of certain basic resources to generate economic activity in backward regions for stabilization of their economy by planning an adequate number of medium sized towns and to provide them with services, employment, and social and cultural facilities.

e) Preventing irregular and unhealthy urban expansion.

Development Strategies in Regional Planning

The main question is how to achieve these objectives in regional development programmers and what strategies could be adopted for that purpose. It is different from region to region depending upon degree of region's natural endowments, status of its present development problem that may have surfaced and constraints to future development. Yet certain common factors spelt out and the total regions although the total package that may emerge for any particular region will have its own distinctive pattern of contents. These common factors may be stated;

1) Growth in both economic and social terms
2) Human resources assessment both quantitatively and qualitatively

3) Natural resources endowments
4) Development infrastructure

5) Inter-regional linkage and trade-off

The development strategies for any particular region would be an admixture of these **5 factors**. The features are briefly discussed below.

1) Growth in both economic and social terms:

At the national level two distinct situations are possible, one where economic growth has achieved a high level as in the case of advanced countries with high consequent to such economic growth, social development fairly advanced with high per capita income, and high level of services available to the people. The second situation is that developing countries with low rate of growth, less than adequate level of services which neverthless one being increased by means of appropriate development programmes. In the former case the development strategy, if we may continue to call it development is concerned with sustaining the present high level of growth in the future also and if necessary even bringing down, the high level to level at which the resources of the country would sustain it on a long term basis. In the latter case, namely the developing countries it is the husbanding of the resources and their exploitation so as to make it possible to reach a higher rate of economy growth.

2) Human Resource

The economic growth possibilities are greatly depends upon the human resources in each region, their present level of capability, equipment and talent and the readiness with which they can be drawn into the programs of accelerated economic development. It is not usual that in the underdeveloped areas, the manpower is very much unprepared for the development task which they have to undertake to achieve rapid growth. This is owing to the migration in the past of talented people to devaluated areas impoverishing the man power in that region and more seriously lack of attention to the development of man power. Therefore manpower development will be the one the key tasks which will determine the successes or otherwise the regional development strategies.

In dealing with such manpower planning and developing, it will be necessary to recognize the constraints which the cultural milieu of that area imposes on its developments. A hasty imposition of manpower training programs not geared to those areas specially may tend to break down the traditional and long standing economic and social fabric in those areas and thereby render the human resources incapable of either adopting the traditional pattern or accepting the new pattern with any efficiency or effort. The great sensitivity with which manpower planning and development is developed will largely determine the success of the regional development program. Thus the development of appropriate manpower and skills with indigenous resources will be a crucial aspect of development strategy.

3) Natural Resources endowment

The level of development of any specific region is largely dependent on its resources endowment in terms of cultivable land, forests, water, minerals and so on. The distribution of this resources are not uniform specially in a large regions which are poorly endowed and

regions which are richly endowed in degree of endowments the populations in these region

can also be rich or poor.

4) Infrastructure

Once the economic growth rate is stipulated, a programme for manpower development is evolved and the needed natural endowment is secured through the process of regionalization, the next step in the regional development strategy is to consider infrastructure development within each region. By infrastructure we mean here not merely water, power and transportation requirement but also more important component of the settlement system which serves the need of economic developmental activates and at the same time makes it possible to achieve better social well, energy and transportation requirement and largely governed by the pattern of economic activity envisaged in each region and the infrastructure support which they need.

5) Inter regional linkages

At the sub national level it is obvious that we are not dealing with a region as a unit in isolation; there are no barriers across the boundaries of the several region hindering the flow of economic activities and social activities. Population and essentially dealing with a very fluid unit and regional development strategy must recognize the dynamite of the situation and appropriately provide for it. In fact this dynamism is of utmost important as it provides for inter regional exchanges and thereby helps to even out the differences that may be there because of different patterns not being the same in all the achievement of a satisfactory mix of goods and services to be provided to the people of each region and this can be achieved through only multi lateral exchange amongst the different regions. There may be a tendency for inter directions only and that would go against the policy of balanced growth. The regional development strategy must foresee such trends and structure the production pattern so as to ensure that flows are evenly distributed in multi lateral direction.

Master Plan

It is an instrument to work out land and infrastructure requirements for various urban and rural uses, and allocate land for various uses to result in harmonious and sustainable distribution of activities so that towns / cities are provided with a form and structure within which they can perform all their economic and social functions efficiently and effectively. The purpose of a Master Plan is to promote growth and guide and regulate present and future development of towns and cities with a perspective of 20-25 years.

Basic Characteristics of Master Plan

It's a Physical plan: the plan is fundamentally a guide to the physical development of the community; It is long ranged: involves long term planning; It is comprehensive: encompasses all the functions that make a community work, such as transportation, housing, land use, utility systems, and recreation. Moreover, the plan considers the interrelationships of function; Guide to decision making: for the planning board, the governing board and

mayor or manager; Statement of public policy: The plan translates community values,

desires, and visions into land use and development principles that can guide the future growth of your community.

Concept of Master Plan

Master Plan is comprehensive that is it integrates various aspects of planning like housing, transportation, infrastructure etc. All the aspects are considered that affects the quality of life of people and all the interrelationships between various aspects;

Multidisciplinary in nature: it encompasses various disciplines of studies like social aspects, economics, environment, engineering, architecture etc.;

Master plan is a long term document. It clears out the vision for prospective year for the city and plans out development for future;

Master plan focuses on rational use of land that is demarking land for the use most optimal for the activity at a place.

It efficiently uses resources to meet the present and future requirements of the citizens; Master plan should consider the environmental and costs related to it. The proposals for development should be **environmentally sustainable.;**

Master Plan is based on inclusive planning. It considers all sections of people in society in development proposals and **focuses on affordability. ;**

Master plan gives restrictions on ecologically sensitive areas, **on heritage sites and traditional built up areas** and gives special norms for these places. ;

Master Plan leads to a **balanced growth** of the city.

It prevents concentration of a particular activity at one place and takes into account efficient distribution of facilities, infrastructure, networks and housing and follows neighbourhood concept of development.

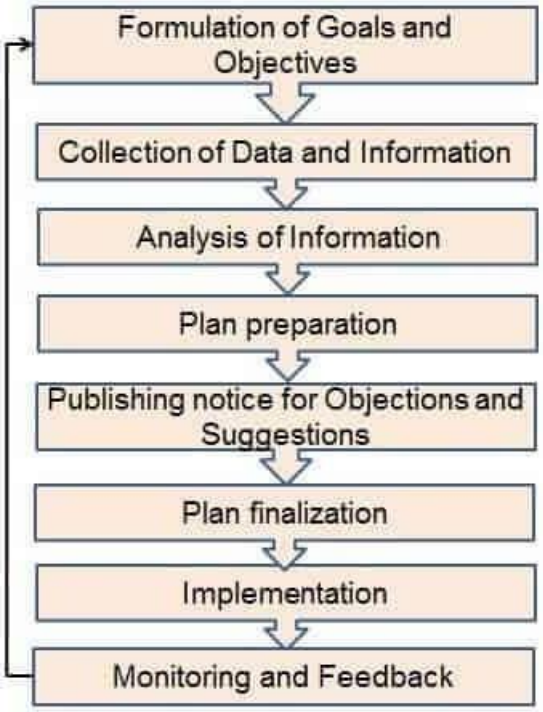
Process of Master Plan preparation

Legal Process

A statutory backing is needed to prepare any legal plan so that it can be implemented on ground. It is governed by principles, statutes, and codes which is derived from the state. Various legislations which provide legal backing are: Development authority act; urban improvement trust act; Town and country planning act. The need for statutory backing is that it gives power to exercise police power and power of eminent domain. Any construction which does not follow master plan can be given court notice and demolished. Most of the planning processes taking place follows rational planning model.

Technical Process

It includes the framework of working in order to prepare a plan starting from defining goals to monitoring. Master Plan preparation is based on the "Systems view of planning" which involves instrumental rationality. The stages and steps followed by a particular authority or the concerned plan making body might differ. Complexity of the city and the organisation itself has a direct impact on the process adopted



Public process

Involving community in plan preparation is one of the most important components in plan making as they are better verse of their local issues and solutions. In India public participation is in the form of public hearing.This process is also called as "Public Participation" or "Public Hearing". The whole aim of having a master plan growth of area for the residents of the place thus it becomes essential to take their views, objections and suggestions into account.

Management process

Planning process is to be managed taking care of the resources like time manpower, internal organization of departments and working relationships and coordination among various departments and planning agencies. The number of stakeholders at times are numerous as in case of metropolis where the division of work is precise and given to different “boards” or other subdivision of concerned departments. This classification makes it integral to take into account all the concerned departments and agencies and thus their management.

Weakness of Master Plan

Master Plan is a future plan document which uses the present data or maybe past data for future projections. So, it is outdated by the time it gets implemented; Usually no physical surveys are conducted each time a master plan is made; It is a rigid document; Lack of implementation on time; Lack of actual public participation; Often the coordination between various agencies is missing which leads to poor implementation of the policies.

Development plans

Development plans set out how an area should look in the future by deciding the type and scale of development and where buildings should be allowed.

Development plans in the planning process

Each council must prepare a development plan for their area in consultation with the local community.

The aim of the plan is to make sure there is enough land available for the area's housing, employment and community facilities, while protecting important landscape and environmental features.

Through the development plan, councils can identify the best locations for new homes, businesses and infrastructure while also protecting places of value to people or wildlife. The plans are an important consideration in dealing with planning applications and should help guide decision making.

Key concepts of a successful development plan:

- The employee owns the plan
- The supervisor and employee have jointly created the plan
- The supervisor and employee have realistically balanced benefits with costs
- The supervisor is committed to helping the employee accomplish the plan
- The plan is outcome-focused, not activity-focused (i.e., shows how both supervisor and employee will know when the employee has improved)

- Development goals are not rated during the performance review—they are part of planning; and
- Training is not the only way to develop. In fact, the majority of development occurs "on-the-job."So, focus on the outcomes that are hoped to be achieved, and then plan multiple ways in which to achieve them.

Preparing a development plan

When preparing a development plan, the council should consider:

- The council's Community Plan, this is a long term vision for the social, environmental and economic well-being of their area and its citizens
- The council's Statement of Community Involvement (SCI) which sets out who, how, where and when consultation and policy making is to take place
- The Regional Development Strategy (RDS) 2035, which is the spatial strategy for Northern Ireland
- Planning policy and guidance
- A sustainability appraisal prepared by the council so that economic and social factors are considered alongside environmental factors when developing the plan

Development plan process

Councils complete five stages to produce a development plan.

Stage 1: Timetable

Each council will prepare a timetable for the development of the local plan which will be approved by the Department for Infrastructure. Each council will publish their timetable on their website.

Stage 2: Preferred Options

The council will publish a Preferred Options paper which should be based on an evaluation and understanding of the area's needs and characteristics.

Stage 3: Plan Strategy

The Plan Strategy will include the vision, objectives, growth strategy and strategic policies for the council area. This should address the economic, social and development issues of the area by indicating where development, including regeneration, should take place and what form it should take.

The Plan Strategy will have a Soundness Based Independent Examination. This will test the 'soundness' of the plan's:

- Content
- Conformity with central government regional plans, policy and guidance
- Process used to produce the plan

Representations in support and against the proposals in the Plan Strategy can be made at this examination. Once approved, the council will publish the Plan Strategy.

Stage 4: Local Policies Plan

The Local Policies Plan will include policy and proposals, such as settlement limits and zones, which are more local and detailed. It will also have a Soundness Based Independent Examination which will be open to representations in support or against the plan. Once approved, the council will publish the Local Policies Plan.

Stage 5: Annual Monitoring

Councils must regularly monitor and review their plans so that these are flexible and responsive to change where possible.

Councils must prepare an annual monitoring report. They must review implementation of the plan at least every five years and make alterations and adjustments to the plan when necessary.

Development Control Regulations / Rules

DCR is a mechanism by which the entire process of urban development is controlled to achieve the target of promoting the overall benefit of the society as well as creating a distinct image of the city. The process consists of guiding the development and land use, reducing the misuse of land and stimulating the rational and orderly development of the built environment. In short, we can say that the rules that are designed to ensure the proper and efficient development of a city are the Development Control Regulations (DCR).

What is the need for Development Control Regulations (DCR)?

It is imperative that development rules affect the overall fabric and personality of a city. So, to amplify the growth of a city, such regulations should fulfil the public interest and general welfare of the community and should be competent enough to satisfy the basic needs of the public such as health, safety, convenience, economy and amenity.

What are the types of DCR Controls?

- **Town and Country Planning:** Forming strategies and implementing them to provide better infrastructure for the people, in line with their requirements.
- **Zoning Regulations:** It deals with the allocation of land for specific purposes and keeping a check on the use of land, and overall construction and height of buildings.

- **Slum Clearance:** Reducing the number of slums and ensuring the rehabilitation of inhabitants.
- **Building Bye-Laws:** They are a set of regulations imposed on developers which must be mandatorily met to construct legally-sound buildings. It involves acquiring all set of clearances and abiding by the Indian Building Code.
- **Periphery Control:** To protect the peripheral land that comes under the jurisdiction of a State from all sorts of encroachments and illegal use.
- **Land Acquisition:** Acquiring land for governmental projects and compensating the landowners.

What are the controllable factors under DCR?

- **Floor Space Index (FSI):** It is the ratio of the covered area of a building (built-up area) to the area of the plot (land) on which the building is meant to be built or stands. FSI is the total amount of area (including all floors) that can be built upon a plot, leaving the remaining as open space.
- As per the new rules, balconies, flower beds, voids and niches are calculated in FSI and to compensate the loss, the government has permitted fungible FSI up to 35 percent for residential and 20 percent for commercial developments.
- **Parking space:** There is a specified space for parking in residential, commercial and educational institutions as per the defined rules in different States. However, as per the norms, parking size should be a minimum of 2.5 m x 5.5 m (Motor Vehicle), 1.2-3 Sq. m (2 Wheeler), 3.75 m x 7.5 m (Transport Vehicle)
- **Size of plots:** As per the DCR, the size of plots appropriate for residential development ranges according to the income level of occupants. The ideal size requirements under DCR are -

  1. Low-Income Group (LIG) - 135-180 Sq m

  2. Mid-Income Group (MIG) - 216 to 360 Sq m

  3. High-Income Group (HIG) - 486 to 972 Sq m

- **Lifts:** A building with a height of more than 13 metres must have a lift from the ground floor. The minimum capacity of the lift should be six persons.
- **Fire Safety:** Buildings exceeding three floors need a certificate of approval from the Fire Department. Moreover, every floor with more than 150 sq m of floor area and a capacity of 20+ people should have at least two doorways, along with a staircase for the fire exit.
- **Structural design and services:** The architectural design should be made as per the prescribed norms of National Building Code of India. The building must possess facilities of plumbing (for toilet and drinking), protection from lightning, electrical installation, air-conditioning, etc.

Transfer of Development Rights

Transfer of Development Rights is a zoning technique that conserves land by redirecting development that would otherwise occur on the land (the sending area) to a receiving area suitable for denser development. The technique operates so that owners in the sending area can be compensated for their redirected development rights.

Advantages of TDR

1. The landowner receives market-determined financial compensation for conserving their land.
2. The developer makes a profit by taking advantage of the regulatory flexibility of a TDR receiving area.
3. The public enjoys the many economic, environmental, and health benefits of conserved land, such as reduced flooding and cleaner drinking water. Citizens also benefit from the potential for more diverse and affordable housing options made possible by higher-density development.
4. Land trusts, municipal open space programs, and county farmland preservation boards can use their limited money to protect other important properties (i.e., conserving a property via TDR leaves limited conservation dollars available to protect a property somewhere else).

Implementation Steps

- Establishing a TDR program involves the following basic steps. If possible, use a professional planning consultant who has TDR program design experience.
- Establish the TDR option and administrative provisions within the municipal zoning ordinance. TDR use must be voluntary.
- Establish the sending area. This should be an area of high conservation value such as farmland or community open space. The sending area is usually a defined geographic area, but can also be based on specific locational criteria.
- Determine the number of TDRs allocated to each landowner within the sending area. This is usually based on a simple mathematical formula such as one TDR for every five acres. Some formulas exclude constrained lands (i.e., those not easily buildable, which arguably have reduced development value). Most municipalities also establish a threshold for minimum parcel size eligible for the TDR program.
- Establish the procedure for severing TDRs. Usually this procedure is written as part of the zoning ordinance provisions and requires a deed of transferable development rights. The ordinance can include a sample deed document approved to form by the municipality's solicitor. The procedures must also require that an executed deed be recorded with the county recorder before the municipality approves development in a receiving area.
- Establish the procedure for permanent protection of the land from which the TDRs were severed. Normally this procedure requires the use of a restrictive covenant, or preferably a conservation easement held by a third party.
- Establish the receiving area. This should be an area (or areas) planned to accommodate growth, preferably where public utilities like water and sewer exist or are planned. Ideally, both sending and receiving areas will have been previously determined during a comprehensive plan update process by the municipality or region

considering the use of TDR. Potential receiving areas can be residential, commercial, industrial, or institutional in character, or any combination thereof. Designated growth areas as defined by the Pennsylvania Municipalities Planning Code (MPC) are very appropriate for consideration as TDR receiving areas.

- Establish the plan-submittal requirements for developments in the TDR receiving area. (Note: A development subject to TDR receipt can be made a conditional use within the zoning ordinance, or participation in a Traditional Neighborhood Development Overlay District can be made subject to purchase of some number of TDRs.)

Special Economic Zones

A **special economic zone** (SEZ) is an area in which the business and trade laws are different from the rest of the country. SEZs are located within a country's national borders, and their aims include increased trade balance, employment, increased investment, job creation and effective administration.

The main objectives of the SEZ Act are:

- generation of additional economic activity
- promotion of exports of goods and services
- promotion of investment from domestic and foreign sources
- creation of employment opportunities
- development of infrastructure facilities

The SEZ Rules provide for:

- " Simplified procedures for development, operation, and maintenance of the Special Economic Zones and for setting up units and conducting business in SEZs;
- Single window clearance for setting up of an SEZ;
- Single window clearance for setting up a unit in a Special Economic Zone;
- Single Window clearance on matters relating to Central as well as State Governments;
- Simplified compliance procedures and documentation with an emphasis on self certification

Approval mechanism and Administrative set up of SEZs

- **Approval mechanism**

  The developer submits the proposal for establishment of SEZ to the concerned State Government. The State Government has to forward the proposal with its recommendation within 45 days from the date of receipt of such proposal to the Board of Approval. The applicant also has the option to submit the proposal directly to the Board of Approval.

- The Board of Approval has been constituted by the Central Government in exercise of the powers conferred under the SEZ Act.

Administrative set up

- The functioning of the SEZs is governed by a three tier administrative set up. The Board of Approval is the apex body and is headed by the Secretary, Department of Commerce. The Approval Committee at the Zone level deals with approval of units in the SEZs and other related issues. Each Zone is headed by a Development Commissioner, who is ex-officio chairperson of the Approval Committee.

  Once an SEZ has been approved by the Board of Approval and Central Government has notified the area of the SEZ, units are allowed to be set up in the SEZ. All the proposals for setting up of units in the SEZ are approved at the Zone level by the Approval Committee consisting of Development Commissioner, Customs Authorities and representatives of State Government. All post approval clearances including grant of importer-exporter code number, change in the name of the company or implementing agency, broad banding diversification, etc. are given at the Zone level by the Development Commissioner. The performance of the SEZ units are periodically monitored by the Approval Committee and units are liable for penal action under the provision of Foreign Trade (Development and Regulation) Act, in case of violation of the conditions of the approval.

The development of SEZs in India

The Indian government had long used export processing zones (EPZs) to promote exports. In fact, Asia's first EPZ was established in 1965 at Kandla, Gujarat state. While these EPZs had a similar structure to SEZs, the government began to establish SEZs in 2000 under the Foreign Trade Policy.

The government sought to use SEZs to redress the infrastructural and bureaucratic challenges that were seen to have limited the success EPZs. The government's SEZs are structured closely on China's successful model. They are designed to encourage domestic and foreign investment, boost India's exports, and create new employment opportunities.

The Special Economic Zone Act, 2005 further amended the country's SEZ policy. Many EPZs were converted to SEZs, with notable zones in Noida (Uttar Pradesh state), Falta (West Bengal state), Visakhapatnam (Andhra Pradesh state), Chennai (Tamil Nadu state), Cochin (Kerala state), Santa Cruz (Maharashtra state), Indore (Madhya Pradesh), as well as Kandla and Surat (Gujarat), Since the Act's promulgation, the Indian government has also accepted proposals for additional, far smaller SEZs, which must be proposed by developers to the Indian Board of Approval. The SEZ Rules, 2006 lay down the complete procedure to develop a proposed SEZ or establish a unit in an SEZ.

At least 221 SEZs are in operation, and by January 2018, a massive 423 have received formal approval for operation. While some observers argue that India's SEZs have not become as successful as those in China, India's SEZs remain an important sourcing and manufacturing destination for foreign investors.

Incentives for setting up in an Indian SEZ

Some incentives for setting up a sourcing or manufacturing platform within an Indian SEZ include:

- Duty free import and domestic procurement of goods for the development, operation, and maintenance of your company;
- 100 percent income tax exemption on export income for first five years, 50 percent for five years thereafter, and 50 percent of the export profit reinvested in the business for the next five years (these incentives will be withdrawn from April 1, 2020 under the Sunset Clause, but many observers expect it to be extended following recent tax cuts);
- Exemption from the Goods and Services Tax (GST) and levies imposed by state government (supplies to SEZs are zero rated under the IGST Act, 2017, meaning they are not taxed);
- Single window clearances for all state and federal government approvals.
- After making a shortlist of SEZs for further examination, investors may find that specific SEZs offer other advantages that complement their business plans in India.
- Ultimately, however, the benefits of India's SEZ policy have been substantial and have already served to exponentially increase the amount of foreign firms operating in India.
- Since 2005, exports from the country have increased substantially, largely due to the rise in sourcing and manufacturing platforms.

Choosing an SEZ location

There are many SEZs for your company to choose from – a list of which can be obtained from the Department of Commerce's website – and so deciding on which is best for you can often be a difficult and stress-inducing process.

For companies directly sourcing from or manufacturing in India, the site should be well placed to acquire the raw materials needed for production, while at the same time being in an area suited for export.

It used to be that this was a difficult balance to strike, but the government's emphasis on infrastructural investment means that procuring materials from other parts of India is becoming a lot easier.

The amount of land that the proposal requires will determine what type of SEZ it will be. The different types are:

- Multi sector SEZ (requiring a minimum of 1000 hectares of land);

- Sector specific SEZ (requiring a minimum of 100 hectares);
- Free Trade and Warehousing Zone (FTWZ) (requiring a minimum of 40 hectares); and,
- IT/ITeS/handicrafts/bio-technology/non-conventional energy/gems and jewelry SEZ (requiring a minimum of 10 hectares).

CASE STUDIES

Case Study 1

Middle East Cities

Masdar City

Founded in 2006, Masdar is a wholly owned subsidiary of the Mubadala development company, formed by the Abu Dhabi government, as one of the means for the realization of the economic vision of the Arab Emirates.

Abu Dhabi has embarked on a ten-years program to move from an economy based on natural resources to one based on knowledge, innovation and export of advanced technologies. The document called "Abu Dhabi Economic Vision 2030" is driving this transformation. It provides for measures to be taken to transform the Emirate's economy over the next two decades. Abu Dhabi has traditionally played a leading role in world energy markets, as a hydrocarbons producer. Through Masdar, Abu Dhabi is seeking to exploit its own resources and experience in this area to maintain its leadership position in a global energy market that is constantly evolving. The idea is to become an international container for renewable energies and sustainable technologies, in order to balance its already strong position in the field of hydrocarbons. This leadership is demonstrated in many ways. While Abu Dhabi has always been known as a global energy actor, through Masdar, it is demonstrating what a "responsible"producer of oil can do to create a balance between hydrocarbons and renewable energy to address both climate change and energy security.

As is known, more than half the world's population now lives in cities, a percentage which should rise to 70 % by 2030 and cities are responsible for over 70 % of global CO 2 emissions. But only if "sustainability" will be economically feasible, the communities will be able to implement technologies and systems to a large enough scale to make significant progress in this area. That's why Masdar City is committed to building one of the most sustainable cities in the world, as well as an attractive place to live in an economically viable way within the world community, trying to create the basis to become leaders of smart cities development.

Masdar Smart City

Masdar City is a very ambitious project for an oil exporting country; it is the first example of a fully sustainable city. When in 2007 the government the UAE (United Arab Emirates)

announced its intention to build, at less than 20 km from Abu Dhabi, the first "zero emission"city many people believed that it was only a vague promise to clean up the Emirates' public image of the whole oil that Abu Dhabi has spreaded over the years. On the contrary, the foundation stone of the first "sustainable satellite city"was laid in 2009. According to the project the city will host many research centers, training centers and also centers of production in the field of alternative energy, as well as specialized financing and marketing companies in the industry. It may host about 50000 inhabitants and it should be self-sufficient, zero emissions and zero waste. For the realization of the project a capital of 22 billion dollars is being invested. Of this amount, 4 billion are allocated for the construction of city infrastructure .
The remaining 18 billion dollars would be financed by direct investments and other financial formulas specifically designed for the construction. The Masdar project was funded by the Abu Dhabi Future Energy Company, a company owned by the Mubadala Development Company.

The project is futuristic and it is no coincidence that it arises precisely in the UAE, the land of petrodollars, where also the World Future Energy Summit takes place, the world's largest event on the issues of renewable energies. The search strategy of the Abu Dhabi Future Energy Company aims to create a major research center for the energy of the future, in order to develop proposals and more efficient systems, driven by the knowledge that soon oil will become a limited and not advantageous source of energy.

Some leading ideas at the base of the project and which account for the different parameters that define the concept of intelligent city are:

•**Smart energy**. Energy supplied through the use of photovoltaic and wind power plants, as well as obtained from the treatment of the city's waste, with a further recycle and reuse path.

•**Smart building**. Buildings designed to allow near zero energy supply through the installation of renewable systems on the roofs of buildings.

•**Smart mobility.** A transport sector with a totally innovative conception. No longer a clear separation between public and private transport, but a dense and widespread network of micro-metropolitan to semi-individual use (1500 stations around), called Rapid Transit System, which provides easy access anywhere in the city. In addition, these transport units can easily reach the city of Abu Dhabi and the airport. A paradise for pedestrians who can walk quietly in the shady streets.

•**Smart people.** With the start of the Institute of Science and Technology, the city wants to be the first pole of world excellence in research on technologies for efficiency, alternative energies and environmental sustainability

Smart Energy

When the project will be fully completed, Masdar City will cover an area of 640 ha, 600 ha of which will be built. The following percentage of areas will be addressed to different activities

- Residential use: 30 %;
- Special Economic activities: 24 %;
- Business: 13 %;
- Service and Transport: 9 %;
- Cultural activity: 8 %;
- University: 6

Smart Building

The Masdar City Headquarter, whose design was entrusted to the study Adrian Smith & Gordon Gill is the starting point for the first city in the world with zero CO2 emissions and zero waste. The Masdar City Headquarter is the world's first large-scale positive-energy building; it has been designed to produce more energy than what it consumes (buildings 0+). Masdar city not only represents a kind of sustainable architecture with high values in terms of energy efficiency, but also a building that intends to beat many records: the amount of money for its construction ($300 million); the construction of a building covered by the largest integrated photovoltaic panels surface and the construction of the largest solar cooling and dehumidification system ever built. The latter is designed to consume 70 % less water than another structure of the same size (the 32000 m2 area consists of three interconnected buildings, which work together to save energy and water and create a shared space). Masdar City Headquarter represents the perfect integration between architecture and engineering, whose result is a building that exceeds the performance of any other facility of this type in the world.

Smart People

The Masdar Institute of Science and Technology (MIST) emulates the high standards of the famous American Massachusetts Institute of Technology, MIT. In fact, it will offer high-level master and doctoral degrees as well as graduate programs focused on the science and engineering of advanced energy and sustainable technologies. MIT is working with Masdar to design a sustainable health care system, an academic campus and an advanced scientific research institute. MIST aims to become a high-caliber research center for renewable energy and sustainability, able to attract scientists and researchers from around the world. So it is developing an interdisciplinary collaboration for the realization of infrastructures aimed at promoting the human capital of the region

Smart Mobility

The city of Masdar was conceived as fully sustainable and zero emissions, for this reason also in the context of mobility, Masdar will not employ any means of transport which uses fossil

fuel. The use of the car will be extremely limited, and made available only through car sharing. Residents, to move, can count on a compact network of pedestrian paths, bicycle paths, and an innovative and efficient public transport system on rail called "Personal Rapid Transit"(PRT).In order to achieve the status of "zero emissions city", a local mobility policy which excludes private cars for both residents and visitors was chosen. The city has been built on two levels, a street level for pedestrians and bicycles with shops, schools, housing, and an underground level, where automated and driverless taxis can move. When fully operational the city will host 1500 of these taxis. They can be programmed before departure by entering the destination. It will not be just a door to door transport, but it will work with predetermined stops, within a distance of 150 m from the place to reach. It is an electric robotic mobility system which acts on magnetic rails scattered in the asphalt at speed of 40 km/h. There will not be a driver. Passengers entering the taxi at the stop will type on a screen the destination, will pay the run and will be transported to his destination. There will be a centralized control in constant communication with the taxi that will choose the shortest path to the destination.

Case Study 2

North-European Cities

The northern European cities have been for long engaged in the field of sustainability, economy with low environmental impact, high quality of life and liability of urban spaces. Among these, in the most recent European rankings of smart cities, cities like Amsterdam are in evidence as the forerunners of smart cities, as they entered in the forefront positions in the first rankings done by international research centers. At the top of the ranking, even today, there are the northern Europe cities. This is confirmed by a recent ranking developed by Boyd Cohen, the Smart Cities Wheel. The ranking of Cohen was compiled through a holistic framework that, taking a cue from the first European ranking of Smart City drafted in 2007 by the University of Vienna, considers all the key components of what composes an intelligent city (smart people, economy, mobility, environment, governance, living) and describes these items through three key drivers for each sector. The tool has been defined after conducting extensive research on the existing ranking tools and on systems to measure the smartness of cities in the world. It was also the driver for a lot of smart city initiatives in Argentina, Chile, Iceland and the United States. According to the ranking, the ten most smart cities in Europe belong to the north Europe, Copenhagen, Stockholm, Amsterdam are the first three.

Amsterdam

Amsterdam, the capital and largest city of the Netherlands, is situated in the province of North Holland. The municipality has about 800000 residents of more than 170 nationalities, while the population residing in the metropolitan area is approximately 1450000 people. The city of Amsterdam is surrounded by four main canals forming a half-ring around it. The area at the center of the city, surrounded by thirteenth century canals, is a prestigious site and

since 2010 has been declared a world heritage site. According to the United Nations (UN), the network of canals which develops within the city is one of the "universal value" sites to be preserved. From the orographic point of view, the Netherlands territory has almost no mountains (about 50 % of the surface is less than a meter below the sea level). The struggle to wrest the land to the seas and rivers is one of the recurring themes of the history and geography of the Dutch country. Much of the territory consists of polders, land reclaimed from the sea or from lagoons and coastal marshes. The climate of the Netherlands is temperate oceanic, the winters are not too cold, in fact, the average temperature in January is a few degrees above zero (7 °C), although frosts are frequent, the summer is cool and rainy with average temperatures in July slightly below 29 °C; the particular shape of the territory finally also favors the formation of fogs.

Amsterdam Smart City

The Amsterdam Smart City program, launched in 2009, is a good example of an initiative organized and financed by a mix of public and private funds. In the organizational structure of the program, the Public Administration is a partner in governance and operation. Along with private groups (Alliander, KPN, etc.), the city of Amsterdam has been at the forefront to support the Amsterdam Smart City program, ASC, not only in economic terms, but also encouraging collaborations and results orientation. The starting point of collaboration of the Amsterdam Smart City program is the fact that the funding partners are engaged in long-term objectives, related to the problems the metropolitan area of Amsterdam is currently facing and the opportunities that are and will be made available

The project provided for the following interventions:

- bus stops created with recycled material;
- led based public lighting powered by solar panels on the roof of the stops;
- compactor bins for separate collection of waste powered by solar generators(these devices press the waste and allow a reduction in weekly cycles of wastecollection as well as the volume needed for their storage in special centers)

Smart Energy

The project actions in the context of energy are central in the city strategy. In fact, Amsterdam in this area, is a benchmark for all other European cities since 2009, placing itself as an urban laboratory for energy

As it can be noted, the largest share refers to the energy produced from waste. The electricity power plan from waste in Amsterdam, which is owned by the municipal corporation AEB, produces 560 GWh per year of electricity and 548000 GJ of heat. The Amsterdam tram and underground, the town hall and the public lighting system are all powered by the waste of the city. In addition, the excess heat generated during combustion is used to provide district heating and hot water to dwellings and enterprises. In the near future, the heat network will

connect more families (about 30000–50000), thus reducing the need for fossil fuel for the boilers in the private dwellings.

Smart Mobility

As we know, the transport system is one of the main responsible of air pollution in large cities. In Amsterdam, one third of all CO 2 emissions come from the maritime transport system. The port of Amsterdam, for cruise ships and cargo ships, is located near the city center. The energy supply system of the moored boats, as for most of the touristic European ports until a few years ago, relied on self-production of energy through diesel generators on board. The project "Ship to Grid"includes the installation of 73 electricity distribution units from renewable sources on the banks of the river Ij with a total of 300 connections. The moored boats can switch off their generators allowing the reducing of CO2 emissions of the city.

Smart Building

Within a smart vision of the city, one of the most complex issues is that of designing energy efficiency measures on historical or constrained buildings, largely present in urban centers of European cities. The canals of Amsterdam, which were inserted in 2010 in the UNESCO World Cultural Heritage, are an example of how big is this problem. Most of the seventeenth century buildings in the city is located in the Canals area, and this is the reason why this is the most populated area and also the most visited by tourists. In Amsterdam, like in most large cities, 34 % of CO 2 emissions is linked to the building sector and in the absence of redevelopment of the historic buildings, the competent authorities indicated that this percentage would increase to 36 % by 2025. It then necessitated some sustainable measures targeted in the historic downtown area experimenting new technologies which respect the historical value and fruition of buildings. An example is the "De Groene Bocht", a seventeenth century building along the canal in the center of Amsterdam used for offices, in which a large fuel cell technology plant was installed for the first time in the Netherlands

Sustainable Neighborhoods: Zuidas and GWL

Arriving in the historical center of Amsterdam, any tourist can recognize the main elements that characterize the city: gothic architecture, cycle paths, canals and clean public transport. On the border between the old and the new, to the south, there is Zuidas, a district commissioned in 1998 by the City of Amsterdam to De Architekten CIE (professional studio that designed the master plan). As the name suggests in Dutch the district has an ideal strategic location in close proximity to Schiphol Airport.

Stockholm Smart City

Stockholm has put into practice in a few years a number of actions that will allow to reach the ambitious project to be fossil fuels free in 2050. Stockholm is a "green city"rich in parks and

open spaces to cross and to spend time: 90 % of the population live less than 300 m far from a green area. This choice was further enhanced in the new city plan, which already from the nickname shows that it is a “Walkable”city. This allows an improvement in the quality of life by recreational activities, water purification and noise reduction as well as biodi-versity and ecology support.

Smart Mobility

Stockholm has a strong mobility infrastructure system: subway, suburban trains and trams. Public transport is very efficient and very used, the capillary networks are integrated and, 90 % of the population live less than 300 m from a bus stop, on average 60 % of commuters uses public transport and, during rush hours, the same share reaches 80 %. All city buses are powered by bio-fuels and all subways and trains are powered by electricity produced from renewable sources. There are many cyclists of all ages, no scooters and, in the last 15 years, car use has significantly decreased. The city government is committed to building new infrastructures and to reduce the impact of transport. Among the initiatives, for example, there is the construction of the Citybana, a gallery that will allow sub- urban trains to cross the historical center and no longer travel on the central bridge (Centralbron) which, connecting the north and the south of Stockholm, is one of the main traffic arteries of the city center.

Part A

Define Regional planning

Regional planning is a branch of land use planning and deals with the efficient placement of land use activities, infrastructure and settlement growth across a significantly larger area of land than an individual city or town.

What are the types of Regional Planning

- Interregional Planning
- Inter Local Planning
- Locational Planning.

Dèfine Master Plan

It is an instrument to work out land and infrastructure requirements for various urban and rural uses, and allocate land for various uses to result in harmonious and sustainable distribution of activities so that towns / cities are provided with a form and structure within which they can perform all their economic and social functions efficiently and effectively.

What are the Purpose of master plan?

The purpose of a Master Plan is to promote growth and guide and regulate present and future development of towns and cities with a perspective of 20-25 years.

What is the Concept of Master Plan?

Define the term Development plans

Development plans set out how an area should look in the future by deciding the type and scale of development and where buildings should be allowed.

What are the Key concepts of a successful development plan:

- The employee owns the plan
- The supervisor and employee have jointly created the plan
- The supervisor and employee have realistically balanced benefits with costs
- The supervisor is committed to helping the employee accomplish the plan
- The plan is outcome-focused, not activity-focused (i.e., shows how both supervisor and employee will know when the employee has improved)

Define Development Control Regulations (DCR)

It is imperative that development rules affect the overall fabric and personality of a city. So, to amplify the growth of a city, such regulations should fulfil the public interest and general welfare of the community and should be competent enough to satisfy the basic needs of the public such as health, safety, convenience, economy and amenity.

What are the types of DCR Controls?

- **Town and Country Planning:** Forming strategies and implementing them to provide better infrastructure for the people, in line with their requirements.
- **Zoning Regulations:** It deals with the allocation of land for specific purposes and keeping a check on the use of land, and overall construction and height of buildings.
- **Slum Clearance:** Reducing the number of slums and ensuring the rehabilitation of inhabitants.
- **Building Bye-Laws:** They are a set of regulations imposed on developers which must be mandatorily met to construct legally-sound buildings. It involves acquiring all set of clearances and abiding by the Indian Building Code.
- **Periphery Control:** To protect the peripheral land that comes under the jurisdiction of a State from all sorts of encroachments and illegal use.
- **Land Acquisition:** Acquiring land for governmental projects and compensating the landowners.

Define Transfer of Development Rights

Transfer of Development Rights is a zoning technique that conserves land by redirecting development that would otherwise occur on the land (the sending area) to a receiving area

suitable for denser development. The technique operates so that owners in the sending area can be compensated for their redirected development rights.

What are the Advantages of TDR

5. The landowner receives market-determined financial compensation for conserving their land.
6. The developer makes a profit by taking advantage of the regulatory flexibility of a TDR receiving area.
7. The public enjoys the many economic, environmental, and health benefits of conserved land, such as reduced flooding and cleaner drinking water. Citizens also benefit from the potential for more diverse and affordable housing options made possible by higher-density development.
8. Land trusts, municipal open space programs, and county farmland preservation boards can use their limited money to protect other important properties (i.e., conserving a property via TDR leaves limited conservation dollars available to protect a property somewhere else).

Define Special Economic Zones

A **special economic zone** (SEZ) is an area in which the business and trade laws are different from the rest of the country. SEZs are located within a country's national borders, and their aims include increased trade balance, employment, increased investment, job creation and effective administration.

Part B

1. Explain about the various data to be collected for surveying. (CO 2) (BTL-K2)
2. Explain in detail about the various Principles Of Urban Planning. (CO 2) (BTL-K2)
3. Explain the delineation in urban planning. (CO 2) (BTL-K2)
4. Explain in detail about the various types of urban planning. (CO 2) (BTL-K2
5. Explain the various surveys in urban planning area. (CO 2) (BTL-K2)
6. Explain in detail about the various levels of urban planning. (CO 2) (BTL-K2)
7. What are the characteristics and features of functional and social survey? (CO 2) (BTL-K1)
8. Explain in detail about the various stages of urban planning? (CO 2) (BTL-K2)

UNIT

4- PLANNING AND DESIGN OF URBAN DEVELOPMENT PROJECTS

Site Analysis, Layout Design, Planning Standards, Project Formulation – Evaluation, Plan Implementation, Constraints and Implementation, Financing of Urban Development Projects.

SITE ANALYSIS

Site analysis is a preliminary phase of architectural and urban design processes dedicated to the study of the climatic, geographical, historical, legal, and infrastructural context of a specific site.

The result of this analytic process is a summary, usually a graphical sketch, which sets in relation the relevant environmental information with the morphology of the site in terms of parcel, topography, and built environment. This result is then used as a starting point for the development of environment-related strategies during the design process.

A number of graphical tools for site analysis have been developed to assist designers in this task. Examples of traditional climate-related site analysis tools are the Sundial,[3] the Sun Path Diagram,[4] the Radiation Square,[5] the Wind Rose, and the Wind Square.[5] These conventional methods of site analysis are efficient in simple sites with irrelevant close obstructions, where the analysis can be reduced to the parcel at the ground level or even exclusively to its centre point. More elaborated techniques, like Volumetric Site Analysis,[6][7][8] can instead be used to study more intricate and obstructed sites like those of high and dense urban settings.

SITE DESIGN PROCESS:

Site design process is divided up into three sections;

1. Research Phase,
2. Analysis Phase,
3. Synthesis Phase.

1.**Research phase:** The first step is defining the problem and its definition. This is part of the research phase. The site design and site planning process begins with the initial problem to be solved. This is started by a client contracting a planner to work with a particular site.

2.Analysis phase: The next step involves programming the site as well as site and user analysis, which is focused on in-depth below. There are numerous site elements related to the analysis during this phase. This is part of the analysis phase in site planning.

3.Synthesis phase: From the analysis, a program is developed, which is part of the synthesis phase. The third step deals with schematic design of a site plan as well as a preliminary cost estimate for the site. Step four involves more developed designs and a detailed cost estimate. Step five is the construction documents or the plan. Bidding and contracting for the project follows as step six. Construction then will take place as step seven. The final step, step eight, in the site design process is occupation and management of the site.

Elements

These elements include

1. Location
2. Neighborhood Context
3. Site And Zoning
4. Legal Elements
5. Natural Physical Features

6. Man-Made Features
7. Circulation
8. Utilities
9. Sensory
10. Human And Cultural
11. Climate Components.

1.Location

The site should be related to major streets or landmarks previously existing. Aerial photographs help in this assessment stage. There should be documentation of distances and time from major places. This should be completed by either driving or walking the distance first-hand.

2.Neighborhood context

Zoning of the neighborhood is important and information of this type can typically be found at the municipal planning department of the site. Numerous issues at this stage require direct observation. Features of this sort include architectural patterns, street lighting, and condition of existing buildings. This would also include the immediate surroundings of the site. The reaction of the surrounding buildings towards the site and people moving around should be analysed. Other important components of the neighborhood context include an analysis of existing paths (pedestrian, cyclist, and vehicle), landmarks and nodes. Landmarks are distinctive sites that provide way-finding for people in the area, and which define the character of a neighborhood. Nodes are key public gathering places that encourage people to linger and socialize.

3.Site and zoning

Site boundaries can be located by either verifying the dimensions physically or contacting the county tax assessor's office. Zoning classifications, set-backs, height restrictions, allowable site coverage, uses, and parking requirements are obtained by obtaining zoning classifications from a zoning map, which can be located from the city planning department.

- Infrastructure, social, and political boundaries.

4.Legal

Typical legal information can be obtained from the deed to the property. The deed is held by the owner of the title insurance company. In the deed is information such as the property description, present ownership, and the governmental jurisdiction the site is located in, and the city or county.

5.Natural physical features

Most of this information will be derived from the topographic features on the site. A contour map of this magnitude can be located from the survey engineer. Drainage problems as well as existing natural features of trees, ground cover, ground texture, and soil conditions on the site should be directly observed.

6.Human-made features

Features located on the site such as buildings, walls, fences, patios, plazas, bus stop shelters should be noted. The site and location of such features should be directly measured. Documentation of existing historical districts should be made, some of which may already have reports completed. Locating this information can be done through the municipal planning department for the site.

7.Circulation

The uses of streets, roads, alleys, sidewalks, and plazas are important in this inventory step. It is not necessarily an analysis of these elements but more an analysis of what occurs on these circulation gateways.

8.Utilities

Information for utilities concerning the site can be found through the utility departments and companies in the local area. Generally, the company has a print of the drawing of this information needed. Information in this print includes the location of all utilities and their locations around or on the site itself.

9.Sensory

Much of the sensory information collected will be done through first hand experience. The information is obtained from sketching and photographs (sometimes aerial photographs). Direct observation of other sensory elements of noise, odors, smoke, and pollutant areas must also be completed.

10.Human and cultural

This information can be obtained through census statistics on the neighborhood. Information regarding these statistics is available from the local municipal planning agency. This information includes activities among people on the site and their relationships to these activities.

11.Climate

This information can be obtained through the local weather service or any third party services such as Data Pot (httpd://datapot.io). Conditions such as rainfall, snowfall, humidity, and temperature over months must be considered and analyzed. The sun-path and vertical sun angles throughout an entire year are important to note.

INTRODUCTION TO URBAN

DESIGN URBAN DESIGN

Urban design is the collaborative and multi-disciplinary process of shaping the physical setting for life in cities, towns and villages; the art of making places; design in an urban context. Urban design involves the design of buildings, groups of buildings, spaces and landscapes, and the establishment of frameworks and processes that facilitate successful development.

- Peter Webber defines urban design as 'the process of molding the form of the city through time'.
- Jerry Spencer has described it as 'creating the theatre of public life'.

In the words of the writer and critic Peter Buchanan: 'Urban design is about how to recapture certain of the qualities (qualities which we experience as well as those we see) that we associate with the traditional city: a sense of order, place, continuity, richness of experience, completeness and belonging.

Urban design is essentially about place making, where place is not just a specific space, but all the activities and events that it makes possible. As a consequence the whole city is enriched.

"Urban Design is generally accepted name for the process of giving physical design direction to urban growth, conservation and change. It is understood to include landscape as well as buildings, both preservation and new construction and rural areas as well as cities." Modern Cities – Chandigarh, Bhuvneshwar, Gandhinagar Medieval Cities – Shahjahanabad, Madrai, Jaipur Baroque Cities – Delhi

Urban Design forms the intersection of urban planning, landscape architecture and architecture and it requires a good understanding of a range of others as well such as urban economics, political economy and social theory.

"Urban Design" is the composition of architectural form and open space in a community context. The elements of a city's architecture are its buildings, urban landscape and service infrastructure just as form, structure and internal space are elements of a building. Whether public or private in actual ownership, urban design comprises the architecture of an entire community that all citizens can enjoy and identify their own. Like architecture, urban design reflects considerations of function, economics and efficiency as well as aesthetics and cultural qualities.

COMPONENTS OF URBAN

SPACE BUILDINGS

Buildings are the most pronounced elements of urban design - they shape and articulate space by forming the streetwalls of the city. Well designed buildings and groups of buildings work together to create a sense of place.

PUBLIC SPACES

Great public spaces are the living room of the city - the place where people come together to enjoy the city and each other. Public spaces make high quality life in the city possible - they form the stage and backdrop to the drama of life. Public spaces range from grand central plazas and squares, to small, local neighbourhood parks.

LANDSCAPE

The landscape is the green part of the city that weaves throughout - in the form of urban parks, street trees, plants, flowers, and water in many forms. The landscape helps define the character and beauty of a city and creates soft, contrasting spaces and elements. Green spaces in cities range from grand parks such as Central Park in New York City and the Washington DC Mall, to small intimate pocket parks.

STREETS

Streets are the connections between spaces and places, as well as being spaces themselves. They are defined by their physical dimension and character as well as the size, scale, and character of the buildings that line them. Streets range from grand avenues such as the Champs-Elysees in Paris to small, intimate pedestrian streets. The pattern of the street network is part of what defines a city and what makes each city unique.

TRANSPORT

Transport systems connect the parts of cities and help shape them, and enable movement throughout the city. They include road, rail, bicycle, and pedestrian networks, and together form the total movement system of a city. The balance of these various transport systems is what helps define the quality and character of cities, and makes them either friendly or hostile to pedestrians. The best cities are the ones that elevate the experience of the pedestrian while minimizing the dominance of the private automobile.

Need for Urban Design

Design can help to enhance a city's assets:

- physical needs of citizens;
- safety, security and protection;
- an environment free of pollution, noise, accidents, and crime;
- a conducive social environment ..a sense of community;
- an appropriate image and prestige;
- creativity and self-expression in neighbourhoods;
- aesthetically pleasantness as a place of culture and a work of art.

URBAN ISSUES

Some of the major problems of urbanisation in India are

1. Urban Sprawl
2. Overcrowding
3. Housing
4. Unemployment
5. Slums and Squatter Settlements
6. Transport
7. Water
8. Sewerage Problems
9. Trash Disposal

10. Urban Crimes
11. Problem of Urban Pollution

1. **Urban Sprawl:** Urban sprawl or real expansion of the cities, both in population and geographical area, of rapidly growing cities is the root cause of urban problems. In most cities the economic base is incapable of dealing with the problems created by their excessive size. Massive immigration from rural areas as well as from small towns into big cities has taken place almost consistently; thereby adding to the size of cities. The greatest pressure of the immigrating population has been felt in the central districts of the city (the old city) where the immigrants flock to their relatives and friends before they search for housing. Population densities beyond the "old city" decline sharply. This is due to the fact that such large cities act as magnets and attract large number of immigrants by dint of their employment opportunities and modern way of life. Such hyper urbanisation leads to projected cities sizes of which defy imagination. Delhi, Mumbai, Kolkata, Chennai, Bangalore, etc. are examples of urban sprawl due to large scale migration of people from the surrounding areas.

2. **Overcrowding:** Overcrowding is a situation in which too many people live in too little space. Overcrowding is a logical consequence of over-population in urban areas. It is naturally expected that cities having a large size of population squeezed in a small space must suffer from overcrowding. This is well exhibited by almost all the big cities of India. For example, Mumbai has one-sixth of an acre open space per thousand populations though four acre is suggested standard by the Master Plan of Greater Mumbai. Metropolitan cities of India are overcrowded both in 'absolute' and 'relative' terms. Absolute in the sense that these cities have a real high density of population; relative in the sense that even if the densities are not very high the problem of providing services and other facilities to the city dwellers makes it so. Delhi has a population density of 9,340 persons per sq km (Census 2001) which is the highest in India. This is the overall population density for the Union territory of Delhi. Population density in central part of Delhi could be much higher. This leads to tremendous pressure on infrastructural facilities like housing, electricity, water, transport, employment, etc. Efforts to decongest Delhi by developing ring towns have not met with the required success.

3. **Housing:** Overcrowding leads to a chronic problem of shortage of houses in urban areas. This problem is specifically more acute in those urban areas where there is large influx of unemployed or underemployed immigrants who have no place to live in when they enter cities/towns from the surrounding areas. The major factors are shortage of building materials and financial resources, inadequate expansion of public utilities into sub-urban areas, poverty and unemployment of urban immigrants, strong caste and family ties and lack of adequate transportation to sub-urban areas where most of the vacant land for new construction is located.

4. **Unemployment -** One of the major causes of urban unemployment is the large scale migration of people from rural to urban areas. Rural-urban migration has been continuing for a pretty long time but it has not always been as great a problem as it is today. The general poverty among the rural people pushes them out to urban areas to migrate in search of livelihood and in the hope of a better living. But the growth of economic opportunities fails to keep pace with the quantum of immigration. The limited capacity of urban areas could not create enough employment opportunities and absorb the rapid growth of the urban labour force.

5. **Slums and Squatter Settlements**: The natural sequel of unchecked, unplanned and haphazard growth of urban areas is the growth and spread of slums and squatter settlements

which present a striking feature in the ecological structure of Indian cities, especially of metropolitan centres.

The following criteria characterises an area as Slum:

(i) All areas notified "Slum" by state govt. under any Act.

(ii) All areas recognised as slum by state govt. which have not been formally notified as slum under any Act.

(iii) A compact area of at least 300 populations or about 60-70 households of poorly built congested tenements in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities. Normally, squatter settlements contain makeshift dwellings constructed without official permission (i.e., on unauthorised land). Such settlements are constructed by using any available material such as cardboards, tin, straw mats or sacks. Squatter settlements are constructed in an uncontrolled manner and badly lack essential public services such as water, light, sewage.

6. **Transport:** With traffic bottleneck and traffic congestion, almost all cities and towns of India are suffering from acute form of transport problem. Transport problems increase and become more complex as the town grows in size. With its growth, the town performs varied and complex functions and more people travel to work or shop. As the town becomes larger, even people living within the built-up area have to travel by car or bus to cross the town and outsiders naturally bring their cars or travel by public transport. Wherever, trade is important, commercial vehicles such as vans and trucks will make problem of traffic more complicated.

7. **Water:** What is one of the most essential elements of nature to sustain life and right from the beginning of urban civilisation, sites for settlements have always been chosen keeping in view the availability of water to the inhabitants of the settlement. However, supply of water started falling short of demand as the cities grew in size and number. The individual towns require water in larger quantities. Many small towns have no main water supply at all and depend on such sources as individual tubewells, household open wells or even rivers. Accelerated Urban Water Supply Programme (AUWSP) was launched to provide water to towns with population of less than 20,000.
Mumbai draws water from neighbouring areas and from sources located as far as 125 km in the Western Ghats. Chennai uses water express trains to meets its growing demand for water. Bangalore is located on the plateau and draws water from Cauvery river at a distance of 100 km. Water for Bangalore has to be lifted about 700 metres with help of lifting pumps.Hyderabad depends on Nagarjuna Sagar located 137 km away. Delhi meets large part of its water requirements from Tajiwala in Haryana. Water is also drawn from Ramganga as far as 180 km.

8. **Sewerage Problems:** Urban areas in India are almost invariably plagued with insufficient and inefficient sewage facilities. Not a single city in India is fully sewered. According to latest estimates, only 35-40 per cent of the urban population has the privilege of sewage system. Most of the cities have old sewerage lines which are not looked after properly. Often sewerage lines break down or they are overflowing.Most cities do not have proper arrangements for treating the sewerage waste and it is drained into a nearly river (as in Delhi) or in sea (as in Mumbai, Kolkata and Chennai), thereby polluting the water bodies.In most Indian cities, water pipes run in close proximity to sewer lines. Any leakage leads to contamination of water which results in the spread of several water borne diseases.

9. **Trash Disposal:** As Indian cities grow in number and size the problem of trash disposal is assuming alarming proportions. Huge quantities of garbage produced by our cities pose a serious health problem. Most cites do not have proper arrangements for garbage disposal and the existing landfills are full to the brim

10. **Problem of Urban Pollution:** With rapid pace of urbanisation, industries and transport systems grow rather out of proportion. These developments are primarily responsible for pollution of environment, particularly the urban environment. National Commission on Urbanization (NCU) has, in its policy proposal of 1988, stressed the need for (a) the evolution of a spatial pattern of economic development and hierarchies of human settlements, (b) an optimum distribution of population between rural and urban settlements, and among towns and cities of various sizes, (c) distribution of economic activities in small and medium-sized growth centres,
(d) dispersal of economic activities through the establishment of counter-magnets in the region, and (e) provision of minimum levels of services in urban and rural areas.
The other major development programmes that had concern for averting pollution directly or through indirect strategic means include (i) Urban Basic Services for the Poor (UBSP) programme, (ii) the Environmental Improvement of Urban Slums (EIUS) programme, (iii) the Integrated Development of Small and Medium Towns (IDSMT), (iv) various housing and infrastructure financing schemes of Housing and Urban Development Corporation (HUDCO), (v) the Mega Cities Project, and (vi) the Integrated Urban Poverty Eradication Programme (IUPEP).

OBJECTIVES OF URBAN DESIGN

- *Aesthetics*: Strong Visual Impact
- *Development*: New Investment. Employment opportunities
- Functional Efficiency
- Improved Environmental conditions
- Safety (ref. Safer Cities Program; CEPTED)
- Guardianship and Space standards
- Technical Solutions to unique problems
- Cultural Identity and symbolism
- Community Integration
- *Character***:** A place with its own identity
- *Continuity and Enclosure***:** A place where public and private spaces are clearly distinguished
- *Quality of the Public Realm***:** A place with attractive and successful outdoor areas
- *Ease of Movement***:** A place that is easy to get to and move through
- *Adaptability***:** A place that can change easily
- *Legibility***:** A place that has a clear image and is easy to understand
- *Diversity***:** A place with variety and choice

There are four Objectives:

1. To minimise the opportunity for crime and help to reduce the fear of crime for residents in their homes and public spaces.
2. To consider the needs of the most vulnerable groups in society (the elderly, children, women, disabled people and ethnic minority groups) above others. This is because fear of crime disproportionately affects these groups and greatly hampers their chances of enjoying

the environment and taking a full part in community life.

3. To achieve reductions in crime across the community, not simply the displacement of crime from one area to others.
4. To create a more sustainable environment by ensuring ease of maintenance, long life and adaptability.

SCOPE OF UD

The need for UD as a discipline has arisen as a result of the fundamental cultural, political, social and economic changes. Other issues include the impact of environmental issues and quality of life on the nature of the city and how urban form can best be adapted to our current and future needs. It has proved difficult to provide a simple, commonly accepted definition of the scope of UD.

1. Ecological Significance: Urban Design involves modifying the natural environment. It largely deals with the quality of built environment that are vital for preserving nature. It can be effected positively or negatively; more emphasis on pedestrian circulation; relevance of site (like contour site). Neighborhood concept – everything in 10 minutes reach by walking.
2. Economic Significance*:* Due to competition, quality of built environment is the key factor that significantly affects local, regional and international image of countries and sets the stage for all economic activity. As Harvey points out that there is string relationship between technological changes in the economic production and structural changes in the quality and production of urban spaces. Here we can consider the concept of smart cities (fully hi-tech designs).

3. Social and Cultural Significance: An important factor determining why people choose to visit, invest in or relocate to a particular place is the "atmosphere" or the "cultural" identity (eg- Chandigarh or Goa)

Embrace robustness:	To give a set of robust guidelines on urban design enduring over time.
Encourage dynamism:	To encourage Hong Kong's spirit on pluralism and dynamism.
Accommodate flexibility:	To give flexibility for innovative ideas and possibilities.

The Process of Site Selection

Site Selection Process - indicates the practice of new facility location, both for business and government. Site selection involves measuring the needs of a new project against the merits of potential locations.

Step 1: Confirm Readiness
The purpose of the readiness review is to assess when to begin the formal and informal site selection activities, to determine whether there are any significant changes in the assumptions of the Feasibility Study and Site and Design Prospectus, and to identify any emerging issues and information that can impact site selection.

Duration: 2 Weeks

Recommended Activities:

- Review Feasibility Study and other documents such as Project requirements; Site cost assumptions; Relocation cost assumptions; Project approvals and funding; and Project schedule.
- Confirm status of project approvals and funding

Step 2: Develop Work Plan

Composing a Site Selection Work Plan;

- to provide guidance to ensure that site selection is performed accurately and completely;
- to ensure that the appropriate experts and professionals participate at the right time;
- to complete the site selection tasks in an efficient manner
- to keep stakeholders informed and aid in reaching consensus for the recommended sites(s).

Duration: 2 Weeks

Recommended Activities:

- Selection of Site Investigation Team
- Develop Work Plan
- Review and/or revise general, technical, and financial site criteria
- Develop communication

plan **Step 3: Conduct Search for**

Site Duration: 9 Weeks

Recommended Activities:

- Commence discussion with customer agency and community
- Finalize Evaluation Factors
- Advertise for sites
- Conduct site tours and site searches
- Compile site offers and searches

Step 4: Long List Evaluation

In this step, the Site Investigation Team—using their knowledge of the project and its requirements, technical factors, and financial factors—reviews and evaluates the long list. Typically, the three (3) most suitable sites that satisfy the evaluation criteria compose the short list for further analysis.

Duration: 3 Weeks

Recommended Activities:

- Evaluate Long List Requirements - the team reviews both offered and unoffered sites for their suitability to support the project requirements, technical factors, and financial factors described in the advertisement and determined by the Site Investigation Team

Criteria Categories for Long List Evaluation:

Project Requirements : Required Site Area, Location Preferences, Site Coverage, Security Requirements, Sustainability, Neighborhood Characters/Immediate Surroundings, Traffic and

Transportation, Image and Visibility, Local Planning Requirements/Initiatives, Budget, and Schedule

Technical Factors : Site Context/Location Information, Physical Elements of Site, Zoning and Local Codes, Public Streets and Alleys, Subsurface/Geotechnical Conditions, Seismic Conditions, Energy Conservation/Utilities, Sewer, Historic Preservation/Cultural Resources, Existing Use/Ownership and Control , Community Services,

Financial Factors : Site Acquisition and Relocation Costs, Demolition/Remediation Costs, Site Construction and Preparation Cost, Infrastructure Improvements, Local Economic Dev't Impact, Funding Sources, Owner's Financial Performance

- Select Short List of Sites
- Communicate Short List to Stakeholders
- Notify Offerors

Step 5: Short List

Evaluation Duration: 25

Weeks

Recommended Activities:

- Conduct Detailed Site Evaluation
- Communicate/Review Recommendations
- Prepare Final Site Investigation Report
- Recommend Preferred Sites
- List of supporting exhibits/documents: Site Directives, Selection Criteria,

Public Notice, Photos of Recommended Sites, Site Plans, Boundary Survey, Zoning Report, Soil Testing Information, Seismic Map, Water/Storm/Sanitary Sewer Maps, Flood Zone Map, real Estate Value

Site Analysis depends on:
- Owner's Situation
- Project Size
- Program Complexity
- Site Itself

The Factors in Evaluating a Site

1. Physical Factors

Climate

- Prevailing Winds: direction, velocity, Special Forces like tornados and hurricanes
- Solar Orientation: sun angles, days of sunlight, cloud cover, shading of/from adjacent structures, natural features and vegetation
- Temperature: ranges of variation, maximum and minimum temperature
- Humidity: ranges of variation, maximum and minimum temperature
- Precipitation: peak period totals, annual and seasonal amount of rainfall

Topography

- Legal Property Description

- Topographic Maps and Aerial Photos: contour and spot elevations, slopes, escarpments, erosion channels, rocks, ledges, ridges, drainage lines and other unique features, visual characteristics, and potential obstacles in the topography during construction
- Analysis of Physical Features

- Existing Access and Circulation: vehicular, pedestrian
- Vegetation
- Existing Water Bodies: location, size , depth, direction of flow, quality, expected water levels, ecological features like swamp, lake, pond, rivers
- Drainage Canals: river, stream, marshes, lakes, ponds
- Existing Waterway Easements: surface and sub-surface
- Surface Drainage
- Unique Site Features

Geotechnical/Soils

- Basic Surface Soil Type
- Rock and Soil Type: characteristics, formation and origin
- Bedrock: Depth, Classification
- Seismic Conditions
- Environmental Hazards

Utilities

- Potable Water
- Electricity
- Gas
- Telephone
- Cable television
- Sanitary Sewer Service
- Storm Drainage
- Fire Protection

Immediate Surroundings

- Neighborhood Structures
- Shading and Solar Access
- Noise
- Odors
- Views and Vistas

General Services

- Fire and Police Protection
- Trash/Refuse Removal System/Services
- Snow Removal including on-site storage

2. Cultural Factors

Site History

- Former Site Uses: hazardous dumping, landfill, old foundations, archeological grounds

History of Existing Structures: historic worth, affiliations, outline, location, floor elevations, type, condition, use or service

Land Use, Ownership and Control

- Present Zoning of Site and Adjacent Property
- Adjacent Surrounding Land Uses: present, projected, probable effects of development

- Type of Land Ownership

- Function and Pattern of Land Use: urbanized, farm type, grazing, public domain
- Location, Size and Type of Pertinent Community Services: school, market,parks, municipal services, recreational facilities, banks, food services, healthservices, access to highways and public transportation

Economic Value

- Political Jurisdiction
- Accepted Territories
- Future Potential
- Size of Surrounding lots and approximate price ranges

3. Regulatory Factors

Zoning Codes

- Permitted Uses: by variance, by special use permit, accessory structures
- Minimum Site Area Requirements
- Building Height Limits
- Yard/Setback Requirements

Lot Coverage: Floor-Area Ratio (FAR), Percentage of Coverage, Open Space

Requirements

- Off-street parking Requirement
- Landscaping Requirements
- Sign Requirements

Subdivision, Site Plan Review, and Other Local Requirements

- Lot Requirements: size, configuration, setbacks and percent coverage
- Street Requirements: width, geometry, curb and curb cuts, road construction
- standards, placement of utilities, dead end streets, intersection geometry,
- sidewalks, and street names

Drainage Requirements

- Removal of Spring and surface water
- Stream courses
- Lands/areas subject to flooding
- Detention/Retention Ponds

Parks

- Open Space Requirements
- Park and Playground Requirements
- Screening from adjacent users

Environmental Regulations

- Water, Sewer, recyclables and solid waste disposal
- Clean Air Requirements
- Soil Conservation
- Protected Areas, wetlands, floodplains, coastal zones, wild and scenic areas
- Fish and Wildlife Protection

- Protection of Archeological Resources

Other Codes and Requirements

- Historic Preservation and Landmarks
- Architectural/Design Controls
- Special districts
- Miscellaneous: mobile homes, billboard, noise
- Site Related Items specified in Building Codes: building separation, parking and access for persons with disabilities, service and emergency vehicle access and parking

General considerations for the Infrastructure

Planning A.Introduction

- General considerations for the preparation of the Infrastructure Development Plan, including transport, communication, energy and water conservancy reconstruction are set out below. This note complements the more specific recommendations provided in the Urban Development Plan Good Practice Note.

B. Urban and Rural Infrastructure Reconstruction Planning Policies

- Planning for and implementation of the reconstruction of infrastructure should be based on recognizing the rapidly changing socio-economic conditions in Sichuan:
- Increasing urbanization and densification
- Increasing income levels and higher social aspirations
- Unpredictable extremes in climatic and geotechnical conditions.
- These changes are partially offset by improved technical knowledge and understanding of possible responses and outcomes. Natural disasters are occurring more frequently; hence reconstruction planning and programs should be firmly based on policies which have disaster response and mitigation at their core.
- The following factors are of prime importance for infrastructure reconstruction planning and decision making:
- Socio cultural values of communities on their current location. It is important to considering the strong sense of place, sense of history and the community's emotional ties to their location. These are best measured intensely in the immediate aftermath and continuously thereafter through social assessment surveys.
- Geophysical considerations including geo-hazard, geological and topographical features
- Logistics and finance considering geographical aspects and cost implications of decisions
- Timing and sequencing of decisions
- Social and economic sustainability, considering livelihoods and the abilities of and needs for economic regeneration.

C. Lessons Learned from International Experience

A review of ten post-earthquake reconstruction cases and other scholarly papers and reports identified the following key issues for planning infrastructure reconstruction:

- Differentiate between urban and rural reconstruction policy.
- Consider aspects of
  1) types of communities affected,
  2) degree of self reliance within the affected communities, and
  3) public's expectation of living standard.
- Speed is important.
- Carrying our damage assessment and planning requires many months or years – often the authorities underestimate how long it is likely to take – and a delay of this type has severe penalties in creating uncertainty, reducing the psychological momentum for the reconstruction and slowing down the all-important economic recovery.
- Early and highly publicized launch of reconstruction plan and visible signs are important to raise public awareness and avoid further uncertainty among the people.
- Repair and restitution of urban services should be the first priority. (i.e. roads, bridges, power supply lines, transformer station, pipes, cables, water supply, sewerage systems).
- The reconstruction phase gives an opportunity to implement a new urban design. However, complexity of land ownership and emotional ties need to be considered when implementing a new city design. Therefore, it is also as important to "recreate" familiar localities in the community.
- Relocation is very difficult and requires careful consideration of the public's willingness to move or stay. It is easier for an urban planner to create a completely new city, however, this may not be the most socially acceptable solution.
- Use existing master plans as far as possible as reconstruction provides a good opportunity to implement elements in existing master plans.
- Engage local stakeholders in the planning process in order to make the plan acceptable, implementable and sustainable.
- Disaster mitigation measures should be taken into account in reconstruction plan.
- Inflation can greatly influence the implementation of the reconstruction plan.
- A rent surge may occur in the areas around damaged cities; government needs to be aware of the social and economic impact of increasing rent prices.

Bhuj Earthquake, India In Bhuj, India, the Reconstruction Plan adopted the theme "Build Back Better."

The basic principals were as follows:

- To build the city back better, applying a policy of encouraging partial relocation and partial in situ reconstruction.
- To continue with the city's existing infrastructure, repairing and revamping it after the earthquake so that it is better managed and responds better to future natural

disasters. This approach would save the government the considerable expenditure of building new infrastructure in the aftermath of a future disaster.

- To improve building construction quality so that it incorporates earthquake-resistant technologies and adheres to regulatory norms.
- To assist people in the reconstruction process; help them to understand statutory requirements in planning, build consensus, and frame projects that respond to people's concerns and needs.
- To make the planning process as participatory as possible, by encouraging public-private partnerships. Establish a process in which citizens can participate in decision making and voice their concerns. This will build public trust in the process to ensure implementation.

D. Recommendations

Based on international experience, it is recommended that the following challenges should be reconciled in post-disaster reconstruction:

- **Speed:** The importance of moving people into permanent settlements as soon as possible, thereby reducing emotional and interim financial costs of support for homeless people and for temporary housing, has to be balanced with a concern about the speed of decisions for reconstruction. Reconciling the need to act quickly in reconstruction with allowing sufficient time for planning and consultation with those affected is a difficult task. An iterative process of assessment, which allows continuing discussion with affected populations, could provide a solution.
- **Opportunity to introduce improvements in infrastructure and civic amenities etc:** If proposed new housing developments lie outside existing city boundaries, additional costs would be incurred, in particular associated with infrastructure development. However the major opportunity to improve quality of life should be seized.
- **Generating private investment and economic activity**: Reconstruction plans can include provision for construction of facilities for small businesses, which are vital for livelihood regeneration •Human resource capacity and training needs. There was a need for the availability of trained human and financial resources to implement urban planning standards and building codes. A major issue is the adequate availability of trained professional technical and managerial staff.
- **Retrofitting and Mitigation of Existing Facilities.** A key issue in relation to mitigation is the strengthening of existing buildings to withstand future earthquakes, cost being a major consideration. Willingness to pay was not necessarily linked to perceived risk and people need to be convinced of the merits of a disaster preparedness approach. Incentives for mitigation measures should be included in the reconstruction plan.

An Overview of Project Planning Project planning involves a series of steps that determine how to achieve a particular community or organizational goal or set of related goals. This goal can be identified in a community plan or a strategic plan. Project plans can also be based on community goals or action strategies developed through community meetings and gatherings, tribal council or board meetings, or other planning processes. The

planning process should occur before you write your application and submit it for funding.

Project planning:

- identifies specific community problems that stand in the way of meeting community goals.
- creates a work plan for addressing problems and attaining the goals.

- describes measurable beneficial impacts to the community that result from the project's implementation.
- determines the level of resources or funding necessary to implement the project.

Examples of documentation can include the following:

- summary of a community comprehensive plan
- summary of a community strategic plan
- summary of results from a community needs assessment
- Tribal Council or Board meeting minutes and/or sign-in sheets
- community meeting minutes and/or sign-in sheets
- community surveys

There are **different methods for involving your community in the project planning process**

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1. **Comprehensive Planning:** This process involves completing a community-wide needs assessment to engage the community in identifying and prioritizing all long-range goals and the community problems preventing the achievement of those goals. Next, the community is involved in the process of developing a method to accomplish long-range goals, also discussing initial ways to overcome the problems. This method should include a process to measure the progress towards achieving those goals. Comprehensive plans usually require at least a year to complete, and cover a five-to ten-year time span.

2. **Strategic Planning** This is a process used when a community or organization already has a comprehensive plan and wants to move forward to achieve its long-range goals. Strategic planning involves the participation of the community in identifying problems that stand between the community and its goals and moves the community toward realizing its long-range vision. The product of strategic planning, often simply called the "strategic plan," builds on pre- established long-range goals by designing projects related to one or more of these goals. A strategic plan generally takes at least a year to complete.

PROJECT DEVELOPMENT STEPS

1. Identify the Long Range Goals

Begin by describing the conditions that would exist in a "perfect community;" that set of statements is the community's long range goals in such areas as "employment", "education", cultural preservation", "housing" and "family income". Sometimes "the community" engaged in project planning is a subset of the overall community. The community subset might be the community elders, local school student population, or any of the definable sub-populations found in your community. A school's parent association, for example, may develop a long range goal that describes a community where all children graduate from high school, where a large percentage of graduates go on to some form of higher education, and where funding is

sufficient to provide assistance so that students can attend their postsecondary school of choice. There may be many other characteristics that could define the desired situation for this "student community."

2A.

Conduct a Community Assessment to Identify the Problem

A successful project is one that was designed based on a good understanding of the community conditions and identifies the problems preventing the community from achieving its long-range goal(s). Community conditions include aspects of the community such as its geographic location, demographics, ecosystem, and history. A community assessment can be conducted to identify the problem(s) and determine which adverse current community condition a project will address. A community assessment can also be used to gather information once a specific problem has been identified, in order to design a project that will effectively address the problem.

2B. Assess Available Resources

Assessing your available resources will help determine the best strategy for implementing your project and should be part of your community assessment process. Begin this analysis with the resources that currently exist within the community. Every project and every strategy is different and requires a different set of resources, but a few hard-and-fast rules exist in the assessment of available resources. The answers to these five questions work well for project development

3.Refine Assessment of Assets

Use the list of assets/resources that you identified in the community assessment to build an inventory of internal (from within the community) and external (from outside the community) resources that could be available for a project that would address the problem(s) identified in the assessment

4. Determine the Project Goal

The project goal is a basic description of the purpose of the project, in other words, a reduction or resolution of the problem or problems you identified earlier. The project goal should reflect positive changes in the set of conditions desired by the community after the problem is addressed. The goal statement represents the result of the successful completion of the project. It is important to show the relationship between the project goal and the long-range community goals.

5. Select a Project Approach/Strategy

Once you have determined your project goal, you are ready to develop your project approach or strategy. Based on the information gathered in the previous steps, develop a list of possible strategies for addressing your problem and achieving your goal and then select a strategy that represents the best method for implementing your project. This strategy will be the basis for developing your objectives and activities.

6. Develop Project Objectives and Activities

Once you have determined how you are going to implement your project, you can begin

developing your objectives. Objectives are specific, measurable accomplishments designed to address the stated problems and attain your project goal. An objective is an endpoint, not a process, to be achieved within the proposed project period. Completion of objectives must result

in specific, measurable outcomes that benefit the community and directly contribute to the achievement of the stated project goal.

S.M.A.R.T. objectives have the following characteristics:

Specific —Start with an action verb (strengthen, train, develop, teach, implement) and specify the outcome; state what you will do to achieve your goal and meet your identified need.

Measurable —The objective must include measurable outcomes and describe measurable changes in community conditions (including social, cultural, environmental, economic, and governance conditions).

Achievable —The objective must be realistic and attainable, something you can expect to achieve given your available resources and project strategy.

Relevant and Results-oriented—Your objective should address your project goal and therefore the long-term goals of your organization

Time-bound —The objective should reflect a time period in which it will be accomplished.

7. Identify Potential Challenges and Develop a Contingency Plan

Every project has the potential to run into challenges that can impede progress and prevent or delay successful completion. Development of a contingency plan requires that you identify and prepare for potential challenges that may cause your project to be late in starting up or to fall behind schedule and/or over budget. Developing a contingency plan as a fall back position, or "just in case", will leave you better prepared to handle challenges. By identifying potential challenges and planning ahead, you will be more likely to overcome challenges with minimal disruption and cost to your project. Identification of potential challenges and development of a contingency plan should be done by a team that includes project stakeholders

8. Develop a Project Evaluation Plan

A project evaluation measures the effectiveness and efficiency of a project, and determines the level of achievement of the project objectives. Findings from an evaluation will also help a tribe or organization plan for the future, as it can identify additional or persistent problems that need to be solved. This is why the project cycle is a continuous process

9. Develop an Objective Work Plan

An Objective Work Plan (OWP) is to describing how (through what activities), when (within what time frames) and by whom (assignment of responsibility) the project will be implemented— as well as the expected outcomes or benefits.

Items included in an OWP are:

- Project Title and Goal
- The problem addressed
- The Results expected and criteria for evaluating success in achieving them
- The Benefits expected and criteria for evaluating success in achieving them

10. Develop a Sustainability Strategy

A sustainable project is one that can and will continue without additional Federal funds, and will therefore contribute to long-term success and impacts within your tribe or organization. However, sustainability is not simply about generating new grant dollars, it also involves outlining a specific strategy and action plan for continuing your project. Significant attention is placed on this section of your application because the funding source does not want the project to fail once support is complete. Some projects lend themselves more to sustainability strategies, however all projects include benefits to the community that can be continued after implementation is complete

11. Develop a Project Cost Estimate

The project budget is a program and fiscal document. The budget reflects the costs necessary to perform the activities of the project. The budget is the dollar expression of the project being proposed and must be reasonable and tied to the project objectives and work plan.

12. Write the Project Summary

The project summary is the last component written but will be the first read by an application reviewer. The project summary should not exceed one single-spaced page, and should reflect the essence of the entire project.

Financing of Urban Development Projects.

Urbanisation: current pace & future needs

- Urbanization in India is an important determinant of national economic growth and poverty reduction
- Urbanisation is central to India's strategy of faster and inclusive growth
- agglomeration and densification of economic activities and habitations in urban conglomerations stimulates economic efficiencies
- facilitates greater entrepreneurship and employment opportunities
- strong rural urban linkages catalytic for realization of the potential of urbanisation
- Urbanization in India is characterized by increase in the number of cities

Urban Infrastructure:

An Overview

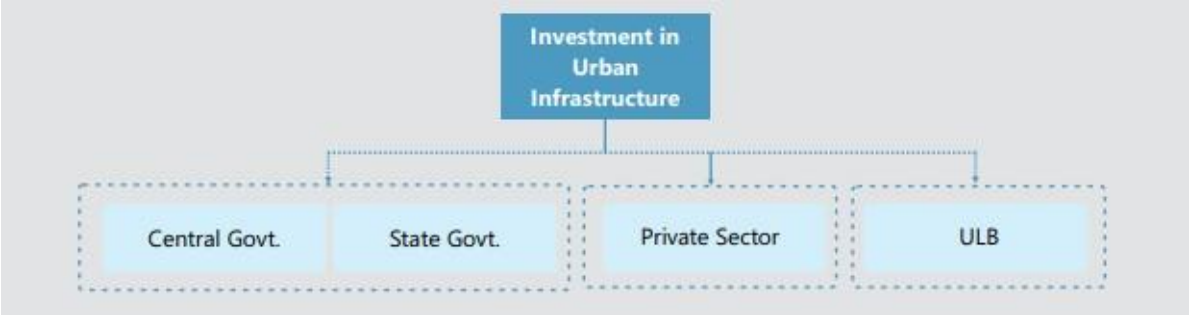
It is estimated that nearly 31% of India's current population lives in urban areas contributing to 63% of India's GDP. With increasing migration, urban areas are expected to house 40% of India's population and contribute to 75% of India's GDP by 2030 .

India's urban growth is mostly concentrated in large cities with a population of 100,000 or more. The number of cities with a population exceeding 1 million has increased

from 35 in 2001 to 53 in 2011, accounting for 43% of India's urban population, and the number is expected to be 87 by 20302 . Further, within Class- I category of cities (population > 0.1 million), those in the 1–5 million population range cities are growing faster.

Financing Development

An investment of INR 5.5 Lakh Cr has been estimated by 2022 for Urban Infrastructure Sector in India. Considering the magnitude of investments, it is essential to create a



comprehensive investment eco-system to foster implementation of projects in the sector.

AMRUT- Core Infrastructure and Urban Reforms Coverage:

500 cities

Objectives

:

- Ensure that every household has access to a tap with assured supply of water and a sewerage connection;
- increase the amenity value of cities by developing greenery and well maintained open spaces (e.g. parks); reduce pollution by switching to public transport or constructing facilities for nonmotorized transport (e.g. walking and cycling)

The Mission funds will consist of the following four parts:

- Project fund - 80% of the annual budgetary allocation.
- Incentive for Reforms - 10% of the annual budgetary allocation.
- State funds for Administrative & Office Expenses (A&OE) - 8% of the annual budgetary allocation
- MoUD funds for Administrative & Office Expenses (A&OE) - 2% of the annual budgetary allocation

Types of Infrastructure Financing Options

Municipal Bonds

- Municipal Bonds issued by the ULBs, are **redeemable after a specific period** and have a definite rate of interest.
- **Municipal bonds are appropriate instruments** - raising resources, channeling funds from the capital market into infrastructure development.
- **Long term in nature**, unlike bank loans that are of shorter tenure.
- Provides opportunities for long gestation infrastructure development projects.

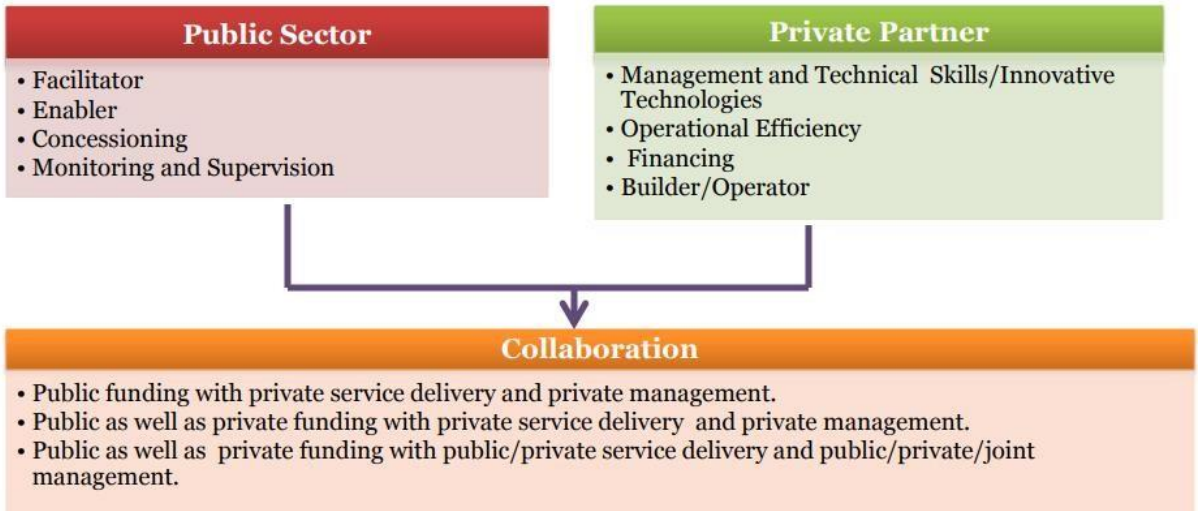
Municipal Bond Issues in India

Type of Bonds	No. of Bonds	Amount (in Rs. Crore)
Taxable bonds	11	437.84
Tax-free bonds	12	905.30
Pooled finance (one tax-free)	2	206.00
Total	**25**	**1,549.14**

- About **11 ULBs** out of 65 **continue their reliance on institutional and bank borrowings** to finance urban infrastructure projects from commercial banks.
- Agra , Allahabad, Lucknow , Varanas Kanpur, Meerut are using JnNURM revolving fund to fund the capex for their projects.

Public Private Partnership (PPP)

Experience



The Public-Private Partnership (PPP) Project means a project based on contract or concession agreement between a Government or statutory entity on the one side and a private sector company on the other side, for delivering an infrastructure service on payment of user charges.

Infrastructure Financing Options

Public Private Partnership

Experience

- Nearly **48 projects** have reportedly been supported through PPP with almost **19%** of the project-cost been leveraged through private sector participation under JnNURM ;
- SWM, Water Supply and Transportation sectors have been found to be most amenable sectors related to PPP.

Constraints

Regulatory Framework	• No tariff regulatory mechanism for determining the principles of tariff fixation, regulate service delivery standards and implementation of reforms under PPP. • No framework for evaluating the revenue and return of the project.
Funding Requirements	• Need for long-term funding at concessional rates/or provide credit enhancements for the urban PPP projects.
Capacity Constraints	• Lack of capacity at the State and city levels to engage with Department of Economic Affairs (DEA), shortlist transaction advisors and manage them.
Financial Constraints	• Need for rules and standardized procedures to regulate and guide PPP projects and an enabling provision for PPP in the General Financial Rules.

Public Financing Institution/Bank Financing

- These Institutions provide short term, medium term and long term credit.
- Banks are permitted to finance SPVs, registered under the Companies Act, set up for financing infrastructure projects .

Multilateral Financing Institution (MFIs)

- MFIs refers to World Bank and regional development bank such as ADB.

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/zttewtatiortaf Barry/or Zteeo zzsten c tton aztd **Development (IBRD)**	Nun-concessional loans and loan guarantees	Primarily middle-income governments, *'HIlS*Ci som€• creditworthy low-income countries
***International* Development** Association (IDA)	Confessional loans and grants	Low-income governments
International Finance Corporation (IFC)	Non concessional loans, equity investments, and loan guarantees	Private sectors firms in developing countries
Asian Development **Bank** Non-	Concessional and concessional loans, equity investment, grants and loan guarantees	Middle-income governments, some creditworthy low income governments, and private sector firms in the Region.

UNIT V LEGISLATION, DEVELOPMENTAND MANAGEMENT OF URBAN SYSTEM

Town and Country Planning Act, Land Acquisition and Resettlement Act etc., Urban Planning Standards and Regulations, Involvement of Public, Private, NGO, CBO and Beneficiaries

Town and Country Planning Act 1971

Definitions. – In this Act, unless the context otherwise requires,-

(1) "agriculture" includes horticulture, fruit-growing, seed growing, dairyfarming, livestock-breeding, the use of land as grazing land, or any other use of land where such other use is ancillary to any agricultural purposes; but does not include the use of any land attached to a building for the purpose of a garden to be used along with such building; and "agricultural" shall be construed accordingly;

(2) "amenities" include streets, open spaces, parks, recreational grounds, play-grounds, water and electric supply, street lighting, sewerage, drainage, public works and other utilities, services and conveniences;

(3) "appropriate planning authority" or "planning authority" means a "regional planning authority", a local planning authority" or a "new town development authority",

(4) "area of bad lay-out or obsolete development" means an area consisting of land which is badly laid out or of obsolete development, together with other lands contiguous or adjacent thereto, and which is defined by a development plan as an area of bad lay-out or obsolete development;

(5) "arterial road" means any highway which connects towns with one another and facilitates movement of goods and people from one town to another;

(6) "Board" means the Tamil Nadu Town and Country Planning Board constituted under section 5;

(7) "building" includes- (a) a house, out-house, stable, latrine, godown, shed, hut, wall (other than a boundary wall) and any other structure whether of masonry, bricks, mud, wood, metal or any other material whatsoever;

(b) a structure on wheels or simply resting on the ground without foundations;

(c) a ship, vessel, boat, tent, van and any other structure used for human habitation or used for keeping or storing any article or goods; and

(d) the garden, grounds, carriages and stables, if any, appurtenant to any building;

(8) "building-line" means a line which is in rear of the street-alignment and to which the main wall of a building abutting on a street may lawfully extend and beyond which no portion of the building may extend;

(9) "building operations" includes-

(a) erection or re-erection of a building or any part of it;

(b) roofing or re-roofing of a building or any part of a building or an open space;

(c) any material alteration or enlargement of any building which involves alteration or enlargement, as the case may be, of more than one-tenth of the extent of the cubical contents of such building;

(d) any material change in the use of a building including the conversion of the use of any part used for human habitation into a greater number of such parts;

(e) any such alteration of a building as is likely to affect its drainage or sanitary arrangements or affect in material respects its structural stability; and

(f) construction of a door opening on any street or land not belonging to the owner;

(10) "commerce" means the carrying on of any trade, business or profession, sale or exchange of goods of any type whatsoever and includes the running of, with a view to making profit, hospitals, nursing homes, infirmaries, educational institutions, and "commercial", shall be construed accordingly;

"**reconstitution of plots"** means the alteration of plots by the making of a development plan otherwise than by the severance of land used, allotted or reserved for any public purpose

"**reconstruction of a building**" includes,-

(a) the re-erection, wholly or partially of a building after more than onehalf of its cubical contents has been taken down or burnt down or has fallen down whether at one time or not;

(b) the re-erection, wholly or partially, of any building of which an outer wall has been taken down or burnt down or has fallen down to or within three metres of the ground adjoining the lowest storey of the building, and of any frame building which has so far been taken down or burnt down or has fallen down as to leave only the framework of the lowest storey;

(c) the conversion into a dwelling house, or a place of public worship of any building not originally constructed for human habitation or for public worship, as the case may be, or the conversion into more than one dwelling-house of a building originally constructed as one dwelling-house only or the conversion of dwelling-house into factory;

(d) the re-conversion into a dwelling-house or a place of public worship or a factory of any building-

(i) the use whereof as a dwelling-house or a place of public worship or a factory has been discontinued; or

(ii) which has been appropriated for any purpose other than for use as a dwelling-house or a

place of public worship or a factory;

CONSTITUTION AND INCORPORATION OF THE TAMIL NADU TOWN AND COUNTRY PLANNING AUTHORITIES.

Appointment of Director of Town and Country Planning and other officers.- The Government shall appoint a Director of Town and Country planning and such number of officers as they think fit.

The Town and Country Planning Authorities.- There shall be the following classes

of Town and Country Planning Authorities for the purposes of this Act, namely:-

(a) The regional planning authority;

(b) The local planning authority; and

(c) the new town development authority.

Constitution of the Board.-

(1) The Government may constitute for the State, a Board called the Tamil Nadu Town and Country Planning Board.

(2) The Board shall consist of a Chairman who shall be the Minister-in-charge of Town and Country Planning and of the following members, namely:-

(a) the Minister-in-charge of Local Administration;

(b) such Secretaries to the Government in the department dealing with the following subjects, namely:-

(i) Town and Country Planning;

(ii) Local Administration;

(iii) Health;

(iv) Industries;

(v) Housing;

(vi) Revenue;

(vii) Agriculture;

(vii-a) Public Works;

(viii) Finance; and

(ix) Education;

as the Government may appoint in this behalf or such other officers as may be deputed in this behalf, from time to time, by such Secretaries;

(c) the Chairman of the Tamil Nadu State Housing Board constituted under section 3 of the Tamil Nadu State Housing Board Act, 1961 (Tamil Nadu Act 17 of 1961) or such other officer as the Chairman may nominate in this behalf, from time to time;

(d) the Chairman of the Tamil Nadu Slum Clearance Board established under section 34 of the Tamil Nadu Slum Areas (Improvement and Clearance) Act, 1971 (Tamil Nadu Act 11 of 1971) or such other officer as the Chairman may nominate in this behalf, from time to time;

(e) three Chief Engineers respectively in-charge of-

(i) Public Health and Municipal Works;

(ii) Highways and Rural Works; and

(iii) Buildings;

(f) three members nominated by the Central Government to represent respectively

the Ministries of that Government dealing with-

(i) Railways;

(ii) Civil Aviation; and

(iii) Transport and Communications;

(g) one member to be nominated by the Tamil Nadu Electricity Board constituted

under section 5 of the Electricity (Supply) Act, 1948 (Central Act LIV of 1948);

(h) the Director of Town and Country Planning;

(i) the Joint Director of Town and Country Planning;

(j) four other members nominated by the Government of whom two shall be from the Members of the Tamil Nadu Legislative Assembly, one from the Members of the Tamil Nadu Legislative Council and one from the Members of Parliament representing the State of Tamil Nadu;

(k) the President of the Chamber of Municipal Chairman;

(l) the President of the Tamil Nadu Panchayat Unions Association.

(3) The Director of Town and Country Planning or such officer as the

Government may appoint in this behalf shall be the Member-Secretary of the Board.

(4) The term of office of, and the manner of filing casual vacancies among the members of

the Board referred to in clauses (f), (g) and (j) of sub-section (2) shall be such as may be prescribed.

Functions and powers of the Board.-

(1) Subject to the provisions of this Act and the rules made there under, the functions of the Board shall be to guide, direct and assist the planning authorities, advise the Government in matters relating to planning and the development and use of rural and urban land in the State and to perform such other functions as the Government may, from time to time, assign to it.

(2) In particular and without prejudice to the generality of the foregoing provision, the Board may and shall, if so required by the Government-

(a) direct the preparation of development plans by planning authorities, undertake, assist and encourage the collection, maintenance and publication of statistics, bulletins and monographs on planning and its methodology;

(b) prepare and furnish reports relating to the working of this Act;

(c) perform any other function which is supplemental, incidental or consequential to any of the functions aforesaid or which may be prescribed.

(3) The Board may exercise all such powers as may be necessary or expedient for the purposes of carrying out its functions under this Act.

Appointment of committees by the Board.-

(1) For the purpose of the assisting the Board in exercising such of its powers, discharging such of its duties or performing such of its functions as may be specified by it, the Board may constitute one or more committees.

(2) Any committee constituted under sub-section (1) shall consist of such members as may be specified by the Board and shall also include the Chairman.

(3) The Board shall have the power to co-opt as a member of any committee constituted under sub-section (1) any person who is not a member of the Board.

Incorporation of Town and Country Planning Authorities.-

Every regional planning authority, local planning authority or the new town development authority shall be a body corporate and shall have perpetual succession and a common seal and, subject to such restriction or qualification imposed by or under this Act or any other law may sue or be sued in its corporate name, or acquire, hold or dispose of property, movable or immovable, or enter into contracts and do all things necessary, proper or expedient for the purpose of its constitution.

Appointment of officers and servants of the planning authorities.-

(1) Every planning authority may appoint such officers and servants as it considers necessary for the efficient performance of its functions.

(2) The remuneration and other conditions of service of the officers and servants appointed under sub-section (1) shall be such as may be prescribed by regulations.

Declaration of regional planning areas, local planning areas and their amalgamation and sub-division and inclusion from other regions and local areas.-

(1) The Government may, by notification in the Tamil Nadu Government Gazette,-

(a) from time to time declare their intention to specify any area in the State (other than the Chennai Metropolitan Planning Area) to be a regional planning area after taking into consideration –

(i) the population of such area which shall not less than the minimum and more than the maximum as may be prescribed;

(ii) the development of such area for industrial or commercial purposes; or

(iii) such other matters as may be prescribed;

(b) from time to time declare their intention to specify any area in the State (other than Chennai Metropolitan Planning area) to be a local planning area after taking into consideration-

(i) the population of such area which shall not be less than the minimum and more than the maximum as may be prescribed.

(ii) the development of such area for industrial or commercial purposes;

(iii) the fact whether such area has been reserved or designated in a regional plan as the site for a new town; or

(iv) such other matters as may be prescribed;

(c) from time to time declare their intention to specify any area as the site for a new town, after taking into consideration-

(i) the population of such area which shall not be less than the minimum and more than the maximum as may be prescribed;

(ii) the development of such area for industrial or commercial purposes;

(iii) the fact whether such area has been reserved or designated in a regional plan as the site for a new town; or

(iv) such other matters as may be prescribed; and copies for such notification shall be sent to the local authorities which are situated in the area so specified.

(2) Every notification published under sub-section (1) shall define the limits of the area to

which it relates or the area designated, as the case may be.

(3) Any inhabitant or any local authority or institution in the areas in respect of which any notification has been published under sub-section (1) may, within two months from the date of the publication of the notification in the Tamil Nadu Government Gazette, submit any objection or suggestion in writing to anything contained in that notification to the Government and the Government shall consider all such objections or suggestions.

(4) After the expiry of two months from the date of publication of the notification in the Tamil Nadu Government Gazette and after considering the objections or suggestions, if any, the Government may, by notification in the Tamil Nadu Government Gazette-

(a) declare the area with or without any modification to be a regional planning area, or a local planning area or the site for a new town, as the case may be; and

(b) specify the name of the regional planning area or the local planning area or the new town , as the case may be.

(5) The Government may, after consulting the Director and regional planning authorities or local planning authorities concerned, amalgamate two or more regional planning areas or local planning areas into one such area, or sub-divide a regional planning area or a local planning area into different such areas and constitute them as separate regional planning areas or local planning areas, as the case may be, or include any such sub-divided areas in any other regional planning area or local planning area, as the case may be, and notify the same in the Tamil Nadu Government Gazette.

(6) The Government may, by notification in the Tamil Nadu Government Gazette, direct that any of the rules and orders made, regulations and directions issued and powers conferred under this Act and in force in any regional planning area or local planning area with which or in which any other area is amalgamated or included shall apply to the area so amalgamated or included under this section to such extent and subject to such modifications, additions and restrictions, as may be specified in such notification.

(7) (a) When two or more regional planning areas or local planning areas are amalgamated or a regional planning area or local planning are is sub-divided into different areas and constituted as separate regional planning areas or local planning areas, as the case may be, or any such sub-divided area is included in any other regional planning area or local planning area, the Government shall after consulting the Director, regional planning authority or the local planning authority or other authorities concerned, frame a scheme-

(i) declaring that the assets and liabilities of the concerned regional planning authorities or the local planning authorities shall vest in the amalgamated regional planning authorities or the local planning authorities, as the case may be;

(ii) determining what portion of the assets and liabilities of the regional planning authorities or the local planning authorities whose areas are sub-divided shall vest in the regional planning authorities or the local planning authorities constituted for each subdivision or in the regional planning authorities or the local planning authorities in whose area the sub-divided

areas are included.

(b) The scheme framed under clause (a) shall be published in the Tamil Nadu Government Gazette, and upon such publication the assets and liabilities to which such scheme relates, shall vest in accordance with such scheme.

Constitution of town and country planning authorities.- (1) As soon as may be, after declaration of a regional planning area, a local planning area or the designation of a site for a new town under section 10, the Government may, in consultation with the Director, constitute for the purpose of the performance of the functions assigned to them, an authority called the "regional planning authority", the "local planning authority", or the "new town development authority", as the case may be, for that area having jurisdiction over it:

Provided that, in case where the local planning area consists of the area under jurisdiction of a single local authority, the Government may declare such local authority as the local planning authority for that area

(2) The regional planning authority constituted under sub-section (1) shall consist of-

(a) the Chairman to be appointed by the Government;

(b) the Deputy Director of Town and Country Planning of the region;

(c) such persons not exceeding four in number who are members of the local authorities functioning in the whole or any part of the region appointed by the Government.

(d) three other persons to be appointed by the Government of whom two shall be members of the State Legislature representing a constituency which consists of, or comprises in, or relates to, the regional area; and

(e) a Member-Secretary to be appointed by the Government.

(3) The local planning authority constituted under sub-section (1) other than the local authority which has been declared as the local planning authority under the said sub-section shall consist of-

(a) the Chairman to be appointed by the Government;

(b) the representatives of local authorities as specified below:-

(i) in cases where there is only one local authority functioning in a local planning area and such local authority has not been declared as the local planning authority, two representatives nominated by that local authority and the Chief Executive Officer of that local authority;

(ii) in other cases where there are two or more local authorities functioning in a local planning area, such persons not exceeding four in number who are members of the local authorities functioning in the whole or part of the area, appointed by the Government;

(c) three other persons to be appointed by the Government of whom one shall be a member of the State Legislature representing a constituency which consist of, or comprises in, or relates to, the local area; and

(d) a Member-Secretary to be appointed by the Government.

(4) The new town development authority constituted under sub-section (1) shall

consist of-

(a) the Chairman to be appointed by the Government;
(b)the Chairman of the regional planning authority concerned or a member of the regional planning authority nominated by him;
(c)the Deputy Director of Town and Country planning of the region concerned;
(d) such persons not exceeding four in number nominated by the Government of whom one shall be a member of the State Legislature representing a constituency which consists of, or comprises in, or relates to, the new town; and
(e) a Member-Secretary to be appointed by the Government.

12. Functions and powers of the appropriate planning authorities – (1) Subject to the provisions of this Act and the rules made thereunder, the functions of-

(a) every local planning authority shall be –

(i) to carry out a survey of the region and prepare reports on the surveys so carried out;

(ii) to prepare an existing land use map and such other maps as may be necessary for the purpose of preparing a regional plan;

(iii) to prepare a regional plan;

(iv) to carry out or cause to be carried out such works as are contemplated in the Master Plan and Detailed Development Plan.

(b) every local planning authority shall be-

(i) to carry out a survey of the local planning area and prepare reports on the surveys so carried out;

(ii) to prepare a present land use map and such other maps as may be necessary for the purpose of preparing a master plan or a detailed development plan;

(iii) to prepare a master plan and a detailed development plan;

(iv) to carry out or cause to be carried out such works as are contemplated in the master plan and detailed development plan;

(c) every new town development authority shall be-

(i) to prepare a new town development plan for its area;

(ii) to secure the laying out and development of the new town in accordance with the new town development plan;

(iii) to carry out building and other operations;

(iv) to provide water, electricity, gas, sewerage and other services, amenities and facilities.

(2) The appropriate planning authority shall also perform any other function which is supplemental, incidental or consequential to any of the functions specified in sub-section (1) or which may be prescribed. It may further exercise all such powers as may be necessary or expedient for the purposes of carrying out it functions under this Act.

Cessation of powers of local authorities in the designated area.- On the

constitution of a new town development authority for any new town, the local authority

or authorities functioning, within the area designated under this Act as a site for the new town, immediately before such constitution shall cease to exercise the powers and discharge the duties and perform the functions which the said new town development authority is competent under this Act.

Temporary association of persons with the appropriate planning authority for particular purposes.- (1) The appropriate planning authority may associate with itself, in such manner and for such purposes as may be prescribed, any person whose assistance or advice it may consider necessary in performing any of its functions under this Act.

(2) Any person associated with the appropriate planning authority under subsection (1) for any purpose shall have the right to take part in the discussions of the said authority relevant to that purpose but shall not have the right to vote and shall not be a member for any other purpose.

Regional plans.- (1) As soon as may be, after the declaration of a regional planning area under section 10 and after the constitution of the appropriate planning authority under section 11, the regional planning authority shall, within such item as may be prescribed and after consulting the Director, prepare and submit to the Government, a plan hereinafter in this Act called the "regional plan" for the regional planning area or any part of it.

(2) The regional plan may propose or provide for all or any of the following matters, namely:-

(a) the manner in which the land in the region shall be used and in particular, the general locations of land and the extent to which the land may be used for residential, industrial, commercial, agricultural and recreational purposes or as forest or for mineral exploitation;

(b) the identification of urban and rural growth centre and new town sites;

(c) transport and communication, such as roads, highways, railways, waterways, canals and air-ports including their development.

(d) water-supply, drainage, sewerage, sewage disposal and other public utilities, amenities and services including electricity and gas;

(e) demarcation, conservation and development of areas of natural scenic beauty, forest, wild life, natural resources and landscaping;

(f) demarcation of objects and buildings of archaeological or historical interest or of natural beauty, or actually used for religious purposes or regarded by the public with veneration;

(g) areas required for military and defence purposes;

(h) prevention of erosion, provision for afforestation, or reforestation, improvement and redevelopment of water front areas, rivers and lakes;

(i) irrigation, water-supply and hydro-electric works, flood control and prevention of river pollution; and

(j) such other matters as may be prescribed.

Preparation of present land and building use map.- Every local planning authority shall, within such time as may be prescribed prepare a present land and building

use map hereinafter called “the map indicating the present use of lands and buildings in

the planning area:

Provided that if any local authority has been declared as the local planning authority of any area under sub-section (1) of section 11 and such local authority has prepared a map of the area before the date of commencement of this Act in that area, then, the map already prepared by such local authority shall be deemed to be a map prepared under this section.

Explanation.- For the purpose of this section, the present land and building use shall be the predominant use to which the land or the building, as the case may be, is put to in the date of preparation of the map by the local planning authority.

Master plans. – (1) As soon as may be, after the declaration of a local planning area under section 10 and after the constitution of the appropriate planning authority under section 11, the local planning authority shall, within such time as may be prescribed and after consulting the regional planning authority and the local authorities concerned, prepare and submit to the Government, a plan hereinafter called the "master plan", for the local planning area or any part of it and such other area or areas contiguous or adjacent to the local planning area, as the Government may direct to be included in the master plan.

(2) The master plan may purpose or provide for all or any of the following matters, namely:-

(a) the manner in which the land in the planning area shall be used;

(b) the allotment or reservation of land for residential, commercial, industrial and agricultural purposes and for parks, play-fields and open spaces;

(c) the allotment and reservation of land for public buildings, institutions and for civic amenities;

(d) the making of provision for national highways, arterial roads, ring roads, major streets, lines of communication including railways, airports and canals;

(e) the traffic and transportation pattern and traffic circulation pattern;

(f) the major road and street improvements;

(g) the areas reserved for future development, expansion and for new housing;

(h) the provision for the improvement of areas of bad layout or obsolete development and slum areas and for relocation of population;

(i) the amenities, services and utilities;

(j) the provision for detailed development of specific areas for housing, shopping, industries and civic amenities and educational and cultural facilities;

(k) the control of architectural features, elevation and frontage of buildings and structures;

(l) the provision for regulating the zone, the location, height, number of storeyes and size of buildings and other structures, the size of the yards and other open spaces and the use of buildings, structures and land;

(m) the stages by which the master plan shall be carried out; and

(n) such other matters as may be prescribed.

The new town development plan.- (1) As soon as may be, after the designation of the site for a new town under section 10 and after the constitution of the

appropriate planning authority under section 11, the new town development authority

shall, within such time, as may be prescribed and after consulting the Director, prepare and submit to the Government, a plan hereinafter called the "new town development plan" for the site designated for the new town or any part of it.

(2) The new town development plan may propose or provide for all or any of the matters contained in sub-section (2) of section 17 and such other matters as may be prescribed.

Declaration of intention to make or adopt a detailed development plan.-

(1) A local planning authority may, by resolution, decide.-

(a) to prepare a development plan to be called the "detailed development plan" in respect of any land within its planning area; or

(b) to adopt with or without modifications a detailed development plan proposed by all or any of the owners of any such land.

(2) The resolution under sub-section (1) shall be published by the local planning authority in the prescribed manner by notification in the District Gazette concerned and such notification shall contain such particulars as may be prescribed and specify the time and place where a plan of the area may be inspected.

Contents of detailed development plan.- (1) detailed development plan may propose or provide for all or any of the following matters, namely:-

(a) the laying out or relaying out of land, either vacant or already built upon, as building sites;

(b) the construction, diversion, extension, alteration, improvement or closure of lanes, streets, roads and communications;

(c) the construction, alteration, removal or demolition of buildings, bridges and other structures;

(d) the acquisition by purchase, exchange or otherwise of any land or other immovable property within the area included in the detailed development plan whether required immediately or not;

(e) the redistribution of boundaries and the reconstitution of plots belonging to owners of property;

(f) the disposal by sale, exchange, lease or otherwise of land acquired or owned by the local planning authority;

(g) transport facilities;

(h) water-supply;

(i) lighting;

(j) drainage, inclusive of sewage and of surface draining and sewage disposal.

(k) the allotment or reservation of land for streets, roads, squares, houses, buildings for religious and charitable purposes, open spaces, gardens, recreation grounds, schools, markets, shops, factories, hospitals, dispensaries, public buildings and public purposes of all kinds and defining and demarcating of, the reconstituted plots or the areas allotted to or reserved for, the above mentioned purposes;

(l) the construction of buildings generally and housing or rehousing of persons displaced by the detailed development plan;

(m) the demarcation of places or objects and buildings of archaeological or

historical interest or natural scenic beauty or actually used for religious purposes or

regarded by the public with veneration, or the protection of canal, tank or river sides, coastal areas and other places of natural or landscape beauty;

(n) the imposition of conditions and restrictions in regard to the character, density, architectural features and height of buildings, the building or control lines for roads, railway lines and power supply lines and the purposes to which buildings or specified areas may or may not be appropriated and the provision and maintenance of sufficient open spaces about buildings;

(o) the advance to the owners of land or buildings comprised within the detailed development plan upon such terms and conditions as may be provided by the said plan, of the whole or part of the amount required for the erection of buildings or for carrying out the works, alterations or improvements in accordance with the detailed development plan; and

(p) such other matters as may be prescribed.

(2) Without prejudice to the generality of the foregoing provisions, every detailed development plan shall contain the following particulars, namely:-

(a) the plan showing the lines of existing and proposed streets;

(b) the ownership of all lands and buildings in the area covered by the plan;

(c) the area of all such lands, whether public or private;

(d) the full description of all details of the plan;

(e) the description of all lands either acquired or to be acquired for matters mentioned in sub-section (1);

(f) the particulars regarding the number and nature of houses to be provided by the local planning authority in cases where the detailed development plan provides for any housing or rehousing, the approximate extent of land to be acquired, the details of the land to be acquired and all matters supplemental, incidental or consequential to such housing or rehousing; and

(g) the zoning regulations and regulations for enforcing or carrying out the provisions of the plan.

Preparation and submission of the detailed development plan.- The local planning authority shall, within such time as may be prescribed and after consulting in the prescribed manner, the owners of lands and buildings in the area, prepare and submit a detailed development plan to the Director.

Powers of Government to require a regional planning authority or a local planning authority or a new town development authority to prepare a regional plan or a master plan or a new town development plan in respect of any area.- Notwithstanding anything contained in sections 15, 17 and 18, the Government may, by notification, require a regional planning authority or a local planning authority or a new town development authority to prepare and submit to the Government before a fixed date a regional plan or a master plan or a new town development plan, as the case may be, in respect of any area.

Powers of Director to require local planning authority to prepare detailed development plan in respect of any area.-

Notwithstanding anything contained in sections 19 and 21, the Director in respect of any

area, after making such inquiry as he may deem necessary, by notification, require a local

planning authority, to prepare and submit to him before a fixed date, a detailed development plan.

Consent of Government to the publication of notice of preparation of plans.- (1) As soon as may be, after the regional plan, the master plan or the new town development plan has been submitted to the Government, but not later than such time as may be prescribed, the Government may direct the appropriate planning authority to make such modifications in the regional plan, the master plan or the new town development plan, as they think fit and thereupon the appropriate planning authority shall make such modifications and resubmit it to the Government.

(2) The Government shall, after the modifications, if any directed by them, have been made, give their consent to the appropriate planning authority to the publication of a notice under section 26 of the preparation of the regional plan, the master plan or the new town development plan.

Consent of the Director to the publication of notice of preparation of the detailed development plan.- (1) As soon as may be, after the detailed development plan has been submitted tot he Director but not later than such time as may be prescribed, the Director but not later than such time as may be prescribed, the Director may direct the local planning authority to make such modifications in the detailed development plan as he thinks fit in the public interest and thereupon the local planning authority shall make such modifications and resubmit it to him,

(2) The Director shall, after the modifications, if any, directed by him, have been made, give his consent to the local planning authority to the publication of a notice under sub-section (1) of section 27, of the preparation of the detailed development plan.

Notice of the preparation of the regional plan, the master plan or the new town development plan.- (1) As soon as may be, after the appropriate planning authority has received the consent of the Government under sub-section (2) of section 24 to the publication of the notice, the appropriate planning authority shall publish the notice in the Tamil Nadu Government Gazette, and in leading daily newspapers of the region of the preparation of the regional plan, the master plan or the new town development plan, as the case may be, and the place or places where copies of the same may be inspected, inviting objections and suggestions, in writing, from any person in respect of the said plan within such period as may be specified in the notice:

Provided that such period shall not be less than two months from the date of publication of the notice in the Tamil Nadu Government Gazette.

(2) After the expiry of the period mentioned in sub-section (1), the appropriate planning authority shall allow a reasonable opportunity of being heard to any person including representatives of Government departments and authorities, who have made a request for being so heard and make such amendments to the regional plan, the master plan or the new town development plan, as the case may be, as it considers proper and shall submit the said plan with or without modifications to the Government.

Notice of the preparation of the detailed development plan.- (1) As soon as may be, after the local planning authority has received the consent of the Director under sub-section (2) of section 25 to the publication of the notice, the local planning authority

shall publish the notice in the Tamil Nadu Government Gazette, and in leading daily

newspapers of the region of the preparation of the detailed development plan and the place or places where copies of the same may be inspected, inviting objections and suggestions, in writing, from any person in respect of the said plan within such period as may be specified in the notice:

Provided that such period shall not be less than two months from the date of publication of the notice in the Tamil Nadu Government Gazette.

(2) After the expiry of the period mentioned in sub-section (1), the appropriate planning authority shall allow a reasonable opportunity of being heard to any person including representatives of Government departments and authorities, who have made a request for being so heard and make such amendments to the detailed development plan, as it considers proper and shall submit the said plan with or without modifications to the Government.

Approval by Government.- As soon as may be, after the submission of the regional plan, the master plan or the new town development plan but, not later than such time as may be prescribed, the Government may, after consulting the Director, either approve the said plan or may approve it with such modifications, as they may consider necessary, or may return the said plan to the appropriate planning authority to modify the plan or to prepared a fresh plan in accordance with such directions as the Government may issue in this behalf and resubmit it to the Government for approval.

Approval by the Director.- As soon as may be, after the submission of the detailed development plan, but not later than such time as may be prescribed, the Director may, either approve the said plan or may approve it with such modifications, as he may consider necessary, or may return the said plan to the local planning authority to modify the plan or to prepare a fresh plan in accordance with such directions as the Director may issue in this behalf and resubmit it to him for approval.

Coming into operation of regional plan, master plan and new town development plan.- (1) The approval of the Government to a regional plan, a master plan or a new town development plan under section 28 shall be published by the Government by a notification in the Tamil Nadu Government Gazette and in leading daily newspapers of the region and such notification shall state the place and time at which the said plan shall be open to the inspection of the public.

(2) A notification published under sub-section (1) shall be conclusive evidence that the regional plan, the master plan or the new town development plan, as the case may be, has been duly made and approved. The said plan shall come into operation from the date of the publication of such notification in the Tamil Nadu Government Gazette.

Coming into operation of the detailed development plan.- (1) Immediately after the detailed development plan has been approved by the Director, the local planning authority shall publish a notice in the Tamil Nadu Government Gazette and in the leading daily newspapers of the region of the approval of the detailed development plan and such notice shall state the place or places and time at which the said plan shall be open to the inspection of the public.

(2) A notice published under sub-section (1) shall be conclusive evidence that the detailed development plan has been duly made and approved. The said plan shall come

into operation from the date of publication of such notice in the Tamil Nadu Government

Gazette.

Variation, revocation and modification of regional plans, master plans and new town development plan.- (1) A regional plan, master plan or new town development plan approved under section 28 may, at any time, be varied or revoked by a subsequent regional plan, master plan or new town development plan, as the case may be, prepared and approved under this Act.

(2)(a) Once in every ten years after the date on which the regional plan for an area comes into operation, the regional planning authority may, and if so directed by the Government shall, after carrying out such fresh surveys as may be considered necessary and in consultation with the Director, review the regional plan and make such modifications in such plan wherever necessary and submit the modified regional plan for the approval of the Government.

(b) Once in every five years after the date on which the master plan for an area comes into operation, the local planning authority may, and if so directed by the Government shall, after carrying out such fresh surveys as may be considered necessary and in consultation with the regional planning authority and the local authorities concerned, review the master plan and make such modifications in such plan wherever necessary and submit the modified master plan for the approval of the Government.

(3) The provisions of section 36, 28 and 30 with such modifications as may be necessary shall apply to such modified regional plan or the master plan, as the case may be.

(4) The Government may, at any time by notification in the Tamil Nadu Government Gazette, vary or revoke the regional plan, a master plan or a new town development plan, as the case may be, prepared and approved under this Act.

Variation and revocation of detailed development plan.- (1) A detailed development plan approved under section 29 may, at any time, be varied or revoked by a subsequent plan prepared and approved under this Act.

(2) The provisions of sections 27, 29 and 31 with such modifications as may be necessary shall apply to such subsequent plan referred to under sub-section (1).

(3) The Government may, at any time, by notification in the Tamil Nadu Government Gazette, vary or revoke the detailed development plan prepared and approved under this Act.

Detailed town planning schemes prepared under the Tamil Nadu Town Planning Act, 1920, deemed to be detailed development plans under this Act.- Every detailed town planning scheme notified, submitted or sanctioned under the Tamil Nadu Town Planning Act, 1920 (Tamil Nadu Act VII of 1920) together with any variation made thereto shall, for purposes of this Act, be deemed to be a detailed development plan made under the Act and all actions taken under the said Act in respect thereof shall be seemed to have been taken under this Act.

34-A. Special provision for sanction of building plan in certain cases.- Notwithstanding anything contained in this Act or in any other law relating to local authorities for the time being in force, or in any detailed development plan, made or deemed to be made under this Act, the Municipal Corporation of Chennai may sanction

any buildings plan,-

(i) providing for the construction of more than one dwelling-house on any one site; or

(ii) providing for the construction of any building with variation in regard to requirement of plot extent or plot coverage or open space.

35. Special provision in respect of development plan.- Notwithstanding anything contained in this Act or in any other law relating to local authorities for the time being in force or in the Tamil Nadu Estates Land Act, 1908 (Tamil Nadu Act I of 1908), any development plan prepared under this Act may, among other matters as provided for in the foregoing provisions, also propose or provide for all or any of the following matters, namely:-

(i) the suspension, restriction or modification, so far as may be necessary for the proper carrying out of such development plan, of any provision in the Chennai City Municipal Corporation Act, 1919 (Tamil Nadu Act IV of 1919), the Tamil Nadu District Municipalities Act, 1920 (Tamil Nadu Act V of 1920), or the Tamil Nadu Panchayats Act, 1958 (Tamil Nadu Act XXXV of 1958), or any other law relating to local authorities for the time being in force, or in any rule, by-law or regulation made under the said Acts or laws and in force in the area included in such development plan;

(ii) the suspension, restriction or modification, so far as may be necessary for the proper carrying out of such development plan, of any provision in the Tamil Nadu Estates Land Act, 1908 (Tamil Nadu Act I of 1908), affecting the conversion of holdings or portions thereof into building-land in the area included in such development plan.

Land Acquisition and Resettlement Act

Preparation of Social Impact Assessment study.–(1) Whenever the appropriate Government intends to acquire land for a public purpose, it shall consult the concerned Panchayat, Municipality or Municipal Corporation, as the case may be, at village level or ward level, in the affected area and carryout a Social Impact Assessment study in consultation with them, in such manner and from such date as may be specified by such Government by notification.

(2) The notification issued by the appropriate Government for commencement of consultation andof the Social Impact Assessment study under sub-section (1) shall be made available in the local language to the Panchayat, Municipality or Municipal Corporation, as the case may be, and in the offices of the District Collector, the Sub-Divisional Magistrate and the Tehsil, and shall be published in the affected areas, in such manner as may be prescribed, and uploaded on the website of the appropriate Government:

Provided that the appropriate Government shall ensure that adequate representation has been given to the representatives of Panchayat, Gram Sabha, Municipality or Municipal Corporation, as the case may be, at the stage of carrying out the Social Impact Assessment study:

Provided further that the appropriate Government shall ensure the completion of the Social Impact
Assessment study within a period of six months from the date of its commencement.
(3) The Social Impact Assessment study report referred to in sub-section (1) shall be made available to the public in the manner prescribed under section 6.
(4) The Social Impact Assessment study referred to in sub-section (1) shall, amongst other matters,
include all the following, namely:—
(a) assessment as to whether the proposed acquisition serves public purpose;
(b) estimation of affected families and the number of families among them likely to be displaced;
(c) extent of lands, public and private,

Public hearing for Social Impact Assessment.–Whenever a Social Impact Assessment is required to be prepared under section 4, the appropriate Government shall ensure that a public hearing is held at the affected area, after giving adequate publicity about the date, time and venue for the public hearing, to ascertain the views of the affected families to be recorded and included in the Social Impact

Assessment Report.

Publication of Social Impact Assessment study.–(1) The appropriate Government shall ensure that the Social Impact Assessment study report and the Social Impact Management Plan referred to in sub-section (6) of section 4 are prepared and made available in the local language to the Panchayat, Municipality or Municipal Corporation, as the case may be, and the offices of the District Collector, the Sub-Divisional Magistrate and the Tehsil, and shall be published in the affected areas, in such manner as may be prescribed, and uploaded on the website of the appropriate Government.
(2) Wherever Environment Impact Assessment is carried out, a copy of the Social Impact Assessment report shall be made available to the Impact Assessment Agency authorised by the Central Government to carry out environmental impact assessment:
Provided that, in respect of irrigation projects where the process of Environment Impact Assessment is required under the provisions of any other law for the time being in force, the provisions of this Act relating to Social Impact Assessment shall not apply.
Appraisal of Social Impact Assessment report by an Expert Group.–(1) The appropriate Government shall ensure that the Social Impact Assessment report is evaluated by an independent multi-disciplinary Expert Group, as may be constituted by it.
(2) The Expert Group constituted under sub-section (1) shall include the following, namely:—
(a) two non-official social scientists;
(b) two representatives of Panchayat, Gram Sabha, Municipality or Municipal Corporation, as the case may be;
(c) two experts on rehabilitation; and
(d) a technical expert in the subject relating to the project.

(3) The appropriate Government may nominate a person from amongst the members of the Expert Group as the Chairperson of the Group.

Examination of proposals for land acquisition and Social Impact Assessment report by appropriate Government.–(1) The appropriate Government shall ensure that—

(a) there is a legitimate and bona fide public purpose for the proposed acquisition which necessitates the acquisition of the land identified;

(b) the potential benefits and the public purpose referred to in clause (a) shall outweigh the social costs and adverse social impact as determined by the Social Impact Assessment that has been carried out;

(c) only the minimum area of land required for the project is proposed to be acquired;

(d) there is no unutilised land which has been previously acquired in the area;

(e) the land, if any, acquired earlier and remained unutilised, is used for such public purpose and make recommendations in respect thereof.

Special provision to safeguard food security.–(1) Save as otherwise provided in sub-section (2), no irrigated multi-cropped land shall be acquired under this Act.

(2) Such land may be acquired subject to the condition that it is being done under exceptional circumstances, as a demonstrable last resort, where the acquisition of the land referred to in subsection (1) shall, in aggregate for all projects in a district or State, in no case exceed such limits as may be notified by the appropriate Government considering the relevant State specific factors and circumstances.

(3) Whenever multi-crop irrigated land is acquired under sub-section (2), an equivalent area of culturable wasteland shall be developed for agricultural purposes or an amount equivalent to the value of the land acquired shall be deposited with the appropriate Government for investment in agriculture for enhancing food-security.

(4) In a case not falling under sub-section (1), the acquisition of the agricultural land in aggregate for all projects in a district or State, shall in no case exceed such limits of the total net sown area of that district or State, as may be notified by the appropriate Government: Provided that the provisions of this section shall not apply in the case of projects that are linear in nature such as those relating to railways, highways, major district roads, irrigation canals, power lines and the like.

Publication of preliminary notification and power of officers.–(1) Whenever, it appears to the appropriate Government that land in any area is required or likely to be required for any public purpose, a notification (hereinafter referred to as preliminary notification) to that effect along with details of the land to be acquired in rural and urban areas shall be published in the following manner, namely:—

(a) in the Official Gazette;

(b) in two daily newspapers circulating in the locality of such area of which one shall be in the regional language;

(c) in the local language in the Panchayat, Municipality or Municipal Corporation, as the case may be and in the offices of the District Collector, the Sub-divisional Magistrate and the Tehsil;

(d) uploaded on the website of the appropriate Government;

(e) in the affected areas, in such manner as may be prescribed.

Preliminary survey of land and power of officers to carry out survey.–For the purposes of enabling the appropriate Government to determine the extent of land to be acquired, it shall be lawful for any officer, either generally or specially authorised by such Government in this behalf, and for his servants and workmen,—

(a) to enter upon and survey and take levels of any land in such locality;

(b) to dig or bore into the sub-soil;

(c) to do all other acts necessary to ascertain whether the land is adapted for such purpose;

Payment for damage.–The officer so authorised under section 12 shall at the time of entry under section 12 pay or tender payment for any damage caused, and, in case of dispute as to the sufficiency of the amount so paid or tendered, he shall at once refer the dispute to the decision of the Collector or other chief revenue officer of the district, and such decision shall be final.

Lapse of Social Impact Assessment report.–Where a preliminary notification under section 11 is not issued within twelve months from the date of appraisal of the Social Impact Assessment report submitted by the Expert Group under section 7, then, such report shall be deemed to have lapsed and a fresh Social Impact Assessment shall be required to be undertaken prior to acquisition proceedings under section 11:

Provided that the appropriate Government, shall have the power to extend the period of twelve months, if in its opinion circumstances exist justifying the same:

Provided further that any such decision to extend the period shall be recorded in writing and the same shall be notified and be uploaded on the website of the authority concerned.

Hearing of objections.–(1) Any person interested in any land which has been notified under sub-section (1) of section 11, as being required or likely to be required for a public purpose, may within sixty days from the date of the publication of the preliminary notification, object to—

(a) the area and suitability of land proposed to be acquired;

(b) justification offered for public purpose;

(c) the findings of the Social Impact Assessment report.

(2) Every objection under sub-section (1) shall be made to the Collector in writing, and the Collector shall give the objector an opportunity of being heard in person or by any person authorised by him in this behalf or by an Advocate and shall, after hearing all such objections and after making such further inquiry, if any, as he thinks necessary, either make a report in respect of the land which has been notified under sub-section (1) of section 11, or make different reports in respect of different parcels of such land, to the appropriate Government, containing his recommendations on the objections, together with the record of the proceedings held by him along with a separate report giving therein the approximate cost of land acquisition, particulars as to the number of affected families likely to be resettled, for the decision of that Government.

(3) The decision of the appropriate Government on the objections made under sub-section (2) shall be final.

Preparation of Rehabilitation and Resettlement Scheme by the Administrator.–(1) Upon the publication of the preliminary notification under sub-section (1) of section 11 by the Collector, the Administrator for Rehabilitation and Resettlement shall conduct a survey and undertake a census of the affected families, in such manner and within such time as may be prescribed, which shall include—

(a) particulars of lands and immovable properties being acquired of each affected family;

(b) livelihoods lost in respect of land losers and landless whose livelihoods are primarily dependent on the lands being acquired;

(c) a list of public utilities and Government buildings which are affected or likely to be affected, where resettlement of affected families is involved;

(d) details of the amenities and infrastructural facilities which are affected or likely to be affected, where resettlement of affected families is involved; and

(e) details of any common property resources being acquired.

Review of the Rehabilitation and Resettlement Scheme.–(1) The Collector shall review the draft Scheme submitted under sub-section (6) of section 16 by the Administrator with the Rehabilitation and Resettlement Committee at the project level constituted under section 45.

(2) The Collector shall submit the draft Rehabilitation and Resettlement Scheme with his suggestions to the Commissioner Rehabilitation and Resettlement for approval of the Scheme.

Approved Rehabilitation and Resettlement Scheme to be made public.–The Commissioner shall cause the approved Rehabilitation and Resettlement Scheme to be made available in the local language to the Panchayat, Municipality or Municipal Corporation, as the case may be, and the offices of the District Collector, the Sub-Divisional Magistrate and the Tehsil, and shall be published in the affected areas, in such manner as may be prescribed, and uploaded on the website of the appropriate Government.

Publication of declaration and summary of Rehabilitation and Resettlement.–(1) When the appropriate Government is satisfied, after considering the report, if any, made under sub-section

(2) of section 15, that any particular land is needed for a public purpose, a declaration shall be made to that effect, along with a declaration of an area identified as the ―resettlement area‖ for the purposes of rehabilitation and resettlement of the affected families, under the hand and seal of a Secretary to such Government or of any other officer duly authorised to certify its orders and different declarations may be made from time to time in respect of different parcels of any land covered by the same preliminary notification irrespective of whether one report or different reports has or have been made (wherever required).

Involvement of Public, Private, NGO, CBO and Beneficiaries

General Administrative Arrangements for Community Participation in RAY

2.1. For facilitating community involvement, the following administrative arrangements are suggested:

a. Role of SLNA: At the State level, the State level Nodal Agency (SLNA) supported by the State level RAY technical cell should be responsible for guiding and monitoring the exercise of preparation of SFCPoA, microplanning during preparation of DPR and implementation of the projects while ensuring the involvement of the community. The suggested responsibilities of the SLNA with specific reference to community participation are:

I. To ensure that slum dwellers associations (community based organizations) at the slum level and the slum dwellers' federations at the city level are established;
II. To identify existing community based organizations and to utilize them under RAY;
III. To establish systems and processes (open and transparent) for selection of NGOs by the ULB and mechanisms for timely payment for the work done by them;
IV. To facilitate linkages with the institutions for imparting capacity building on community participation to state level personnel, ULB officials, RAY technical cells and lead NGOs.

Role of ULBs: At the city level, the ULB would drive the entire process of community participation through its RAY Technical cells. The ULBs can choose to facilitate community engagement in the process of the preparation of Slum free City Plan of Action (SFCPoA) including conducting the survey, micro-planning during DPR preparation and implementation of the projects by choosing any of the following options :

Option 1: ULBs have social development expertise in RAY Technical Cell

In the above situation, the ULBs may choose to facilitate community participation in survey, micro planning during preparation of DPR through their existing community volunteers or select community volunteers as per the existing rules of the ULB, while the role of the social development expert in RAY city technical cell would be to undertake the responsibility of day to day monitoring of the data collection, compilation, ratification and analysis.

Option 2: ULBs lack social development expertise in RAY Technical Cell

a. ULBs may choose to engage Lead NGO(s) identified through open and transparent procedures for conducting surveys and micro planning during preparation of DPRs by facilitating community participation.The lead NGO(s) can undertake the survey directly through their own community facilitators/ staff or they may get the survey conducted through slum based CBOs (Self Help Groups, Neighbourhood Committees, Neighbourhood groups and community development societies, slum dwellers associations etc.). These slums based CBOs may be identified by ULBs themselves with the assistance of Lead NGOs or they may be identified by the lead NGO with approval of the ULBs.

b. An alternative to the above is that the ULBs may decide to conduct the socio economic survey and micro planning during preparation of DPR through a professional agency with the requisite expertise hired through an open transparent procedure. If professional agencies do not have capacities to involve the community, the ULB would need to engage a lead NGO slum level CBOs to ensure that the community is meaningfully involved in the entire process of RAY.

Community Participation in Survey leading to preparation of Slum Free City Plans of Action (SFCPoAs)

Community engagement in survey comprises of the following steps involving the community.

a) Environment building before undertaking slum survey;
b) Identification, demarcation of slum areas, vacant lands & its ownership on the geo-referenced City Base Map;
c) Data ratification in the slums.

a) Environment building before undertaking slum survey:

i. At the city level: The environment for the survey should be created by organizing an orientation workshop with all concerned stakeholders like council members, municipal officials, community organizers, representatives of existing community based organizations ward committee/area sabhas etc. to explain the objective of the slum survey.

ii. At the slum level: Survey has to be done at the community level involving slum/community based organizations (CBOs) like, Self Help groups, Youth groups, other structures formed under NULM working in the area with ward level ULB officials. The following key steps should be taken by the ULBs to build a conducive environment in the slum before initiating the survey by ensuring:

- Identification of marginalized groups (such as SCs/STs, differently abled, women headed households, minorities etc) for ensuring their active participation through CBO.
- A meeting of the community to explain to the slum dwellers the objective of slum survey to reduce any insecurity among the community members.
- Meeting with elected representatives to explain the objective of the survey and to get their support in the entire process.
- Identification of volunteers/community leaders/facilitators for the surveys. Care should be taken to ensure that the volunteers/facilitators/community leaders from the community are acceptable to the community and that there are adequate representatives from marginalized groups including women. Training and adequate guidance to the slum based CBOs/community volunteers by the concerned cells/ agencies/Lead NGOs, as the case may be, so that they understand the objectives of the exercise, the reasons for community involvement, their own roles, as also the various tools for collecting data, including explanation on the formats and guidelines to be used for the survey

b) Identification, demarcation of all slum areas and vacant lands and its ownership on the City Base Map, as applicable:

i. **Preparing list of slums**: The preparation of the updated list of slums should be done in consultation with concerned stakeholders including the elected members of the ULB, MPs, MLAs, academic institutes working on the urban issues, NGOs/CBOs so that the list is comprehensive and includes all the pockets of slums that meet the

criteria specified under RAY. The final list prepared should be publicized and vetted by the community. To facilitate this, ULB should develop a mechanism for inviting objections/suggestions by displaying or publishing the list of updated slums.

ii. **Demarcating slum boundaries on the GIS City Base Map, as applicable**: After finalization of the updated list, each slum will be marked on the city base map as specified in the "Guidelines for GIS, MIS and GISMIS Integration" circulated by the Ministry. The slum boundaries would then need to be cross checked in the field along with the involvement of local community and ULB.

iii. **Identification of vacant land: In identification of vacant land sites, ULBs need to involve elected representatives, NGOs and CBOs.** An inventory of all possible vacant lands that could be used for slum relocation or for new housing under the preventive strategy should be prepared and shared with the stakeholders mentioned above.

iv. **Slum Level Rough Mapping**: Rough mapping at slum level enables to freeze the slum boundary after cross checking the demarcation of the slum boundary if done through GIS, slum area and no. of households. It helps to demarcate the number and locations of tenements and households and other community facilities existing in the slum. In undertaking this rough mapping at the slum level, ULBs should ensure that the community is engaged as this process will help the community understand better what surveys represent, familiarizing them with survey completion and developing slum profiles. This first rough survey will need to be validated through the community.

v. Household counting and numbering at the slum neighbourhood level: The ULB should ensure that the identified community volunteers representing a CBO at the slum mark the doors of the existing houses with house numbers. Once rough mapping is done, numbers given are matched with maps and the data that ULB may have, and final house numbers are marked on the doors, it would confirm that every family living in the slum is included in the survey. This process further ensures accuracy and establishes good faith and credibility among the community. At this time, the houses which are unoccupied and locked for a long period of time should also be identified with the help of community. This data will help the ULBs to draw future course of action regarding the vacant houses.

c) Data Ratification at the slum level:

After data entry of the survey and compilation of the information, it should be presented before the communities for ratification to ensure that no households are left out and the data collected is accurate. In case, some houses are left unnumbered, the community representatives should ensure that the left out houses are numbered before data is submitted to ULBs.

Role of ULBs for ensuring community participation in RAY

1. To help in formation as well as in strengthening of RAY Cells at the city level;
2. To adopt the community survey model with the RAY cells or hire professional agencies assisted by Lead NGOs or select Lead NGOs for undertaking the survey assisted by the RAY city technical cell;
3. To ensure formation of slum level associations at the slum level and the slum dwellers federations at the city level;
4. To ensure the data collected through surveys is entered in the MIS format; if the survey is done in house, ULB has the responsibility of collecting and feeding the data into the slum MIS tool. If the professional agency is hired for the survey, the same becomes the responsibility of professional agency and likewise if NGOs undertake the survey, the responsibility of feeding the data into MIS becomes the responsibility of NGOs;
5. To organize workshops at the city level for all stakeholders, City level NGOs and CBOs;
6. To ensure coordination between RAY Technical Cell and NGOs and CBOs at the city and slum level respectively;
7. To set up a grievance redressal committee at the city level to address grievances in the process of planning, preparation of slum free city plan of action, preparation of projects and implementation;
8. To evolve mechanisms for joint review and plan meetings of Cells, technical agencies, NGOs (city level, slum based CBOs) on a regular basis;
9. To ensure developing a framework for slum redevelopment/up gradation, including phasing of slums through consultative process involving elected representatives, NGOs, Academic institutes, experts;
10. To form CBOs and formalize them by registration as may be required;
11. To ensure technical support to the CBO during implementation phase in record keeping, maintaining accounts and technical aspects of the proposed construction activities, including training on technical specifications and quality control of construction, if the CBOs are engaged in contracting and construction process;
12. To link CBOs with the financial institutions;

Role of NGOs

1.1.Preparatory Phase activities leading to formulation of SFCPoA:
a. To act as a bridge between the ULBs and slum based CBOs and the community; and for this purpose to assist the RAY technical cell or the professional agency (as the case may be) in conducting and managing the survey, including the task of capacity building on community participation; Conduct the survey, if so assigned by the ULB, through involvement of the community by engaging slum level CBOs;
b. To support ULBs in identifying slums and slum pockets and in

identification of probable vacant land sites;
c. To assist in undertaking ground truthing of slum pockets identified on the satellite image with the help of CBOs;
d. To advise ULBs on various methods of community participation with regard to preparation of slum free city plans of action;
e. To support ULBs to identify and engage active CBOs, working in the identified slum areas; or to do the identification and engagement of the CBOs, if assigned to do so by the ULB;
f. To disseminate information on RAY through pamphlets and posters highlighting the provisions of RAY;
g. To create or strengthen community structures formed under SJSRY and NULM ;
h. To build capacities of ULB functionaries, and other stakeholders for supporting and facilitating the process of community engagement;
i. To provide inputs for identification of the methodologies for community participation like- questionnaires, interviews, observations, Focused Groups Discussions (FGDs) and Participatory Learning Action tools;
j. To build a wider network with Civil Society Organizations (CSOs) to effectively engage in the process of planning and implementation of 'Slum Free City Plans;
k. To suggest mechanisms of promoting transparency and accountability to various stakeholders, like slum based CBOs, urban poor/slum dwellers, and other marginalized community groups, in programme implementation of RAY;

Role of Slum Based CBOs:

Identification and listing of beneficiaries through participatory tools, such as FGDs, group meetings etc.;
To create and/or strengthen the community based structures created under SJSRY/NULM etc.;
To identify community volunteers to facilitate the accurate data gathering and community involvement in the slum-surveys and preparation of SFCPoA;
To encourage and enable community groups including marginalized sections (such as SCs/STs, physically challenged, women headed households, minorities, etc) to participate in SFCP activities at various stages;
To create an enabling environment by information dissemination and facilitate a pre-survey process by engaging communities to undertake the following points:
a. Rough mapping of slum settlement;
b. Household counting and numbering;
c. Mapping the occupation or existing footprints of tenements, etc.
To undertake/assist household, livelihoods and socio-economic surveys in

the slums to (as identified by the ULBs) after the capacity building inputs have been received, at each stage, i.e. rough mapping, livelihood & detailed socio-economic survey;

To verify that all slum households of the identified pockets are included in the list;

To undertake the process of ratification of the data (after the preliminary compilation at the ULB level) with the slum dwellers to ensure that data is correct and that no households have been left out in the survey process;

To support the city level NGOs or Cells to verify the probable vacant land sites;

UNIT III – DEVELOPMENT PLANS, PLAN FORMULATION AND EVALUATION

Scope and Content of Regional Plan, Master Plan, Detailed Development Plan, Development Control
Rules, Transfer of Development Rights , Special Economic Zones- Development of small town and smart cities-case studies.

PART B

1. Discuss the characteristics and contents of regional plan and master plan.
2. Generalize the features of detailed development plan.
3. Discuss in detail about the various types of development plans.
5. Describe the features of development control rules.
6. What are the significance of the development control rules? Discuss its impact on urban planning.
7. Discuss the key considerations for framing the development control rules.
8. Describe of basics of transfer of development rights.
9. Explain the purpose and types of transferable development rights.
10. Generalize the steps involved in transfer of development rights.
11. What are the characteristics of special economic zones and the need to categorize SEZ.
12. Mention the provisions under special economic zones.

UNIT IV - PLANNING AND DESIGN OF URBAN DEVELOPMENT PROJECTS

Site Analysis, Layout Design, Planning Standards, Project Formulation – Evaluation, Plan Implementation, Constraints and Implementation, Financing of Urban Development Projects.

PART B

1. Explain the factors considered for a site analysis stage.
2. Discuss in detail about the layout, design and planning standards of urban Development.
3. Elaborate on the planning standards of infrastructure developments.
4. What are the characteristics of layout design of urban development?
5. Discuss in detail about the planning standards of urban development.
6. What are the steps involved in project formulation in a development project?
7. Give a detail study on the development project formulation and its implementation.
8. Describe about any urban development projects of India.

UNIT V – LEGISLATION, DEVELOPMENTAND MANAGEMENT OF URBAN SYSTEM

Town and Country Planning Act, Land Acquisition and Resettlement Act etc., Urban Planning Standards and Regulations, Involvement of Public, Private, NGO, CBO and Beneficiaries.

1. Write in detail about Town planning and country planning Act 1971.
2. Write in detail about Land Acquisition and Resettlement Act.
3. Explain in detail about various Urban planning Standards.
4. Explain in detail Smart city.
5. Explain in detail about zoning regulations.
6. Explain in detail about rehabilitation and resettlement.
7. Conservation of heritage sites and buildings are part of development regulations. State the provisions.
8. Conservation of natural resources help sustainable development – elaborate.
9. What do you understand by urban sprawl and urban renewal
10. Explain in detail about urban renewal program.
11. Explain in detail about the role of public sector in urban development.
12. Explain in detail about the role of private sector and NGO in urban development.
13. Explain in detail about the merits and demerits of Land Acquisition and Resettlement Act.
14. Explain in detail about the merits and demerits of Town and Country Planning Act.