



HUMAN SETTLEMENT AND PLANNING

Lectures Notes

Government Polytechnic, Bhubaneswar

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Lect. In AA

1.0 Scopes and objects of urban and rural planning

Definition of Planning:

A plan is a program of action for achieving definite objectives or goals. In this sense, a plan is a policy making.

Urban Planning:

Urban planning is considered to be important arm of urban development. A few definitions of urban planning given by different scholars working on urban planning are as follows:

- ❖ Urban planning is the study of the built environment of city, town or other urban areas and is closely related to environmental studies, conservation and land use planning.
- ❖ Urban planning is a technical and political process concerned with the control of land and design of urban environment, including transport networks, to guide and communities.
- ❖ Urban planning is a complex and dynamic process to synthesize the drive activities, perspectives, aspersions and resources into a composite whole.
- ❖ Urban planning is one of the important public policies that govt. regulates. It involves the spatial resources, instructs the developments of a city and the countryside the constructions.
- ❖ It is considered with the maintaining social justice safe guards, public security and public benefits.

Aim and objectives of town planning:

The planner before taking up any planning work must have definite works and objects with regards to the town planning.

Aim:

Aim of planning is to give proper urbanization to address several problems such as housing sanitation, education, provision of safe drinking water employment etc.

Objectives:

The main objectives of the town planning may be summarized in three words health, convenience and beauty.

1. Health:

- ❖ To create and promote healthy conditions and environments, for all the people rich and poor, to live, to work, to play or to relax.
- ❖ To make right use of the land for the right purpose by proper division of land called zoning such as residential, industrial, institutional, recreational etc; in order to avoid the encroachment one zone upon other for smooth and orderly development of the town or city without causing future complex.

2. Convenience:

- ❖ The objects of the convenience is meant on the from of the community such as social economic, cultural and recreational amenities etc; public amenities requires for the proper up keep of the citizens including water supply sanitation, electricity, post, telegraph, gas etc. Proper sites for industrial commercial, business, enterprises to encourages them in trade with cheap power transport services, drainage etc.
- ❖ Recreational amenities include open spaces parks, gardens and playgrounds for children and town halls, theatres for adults.

3. Beauty:

- ❖ To preserve the individuality of the town by developing it units most shorted natural condition.
- ❖ To preserve the aesthetic in the in the design of all elements of town or city plan which include preservation of trees, natural improved types of domestics building and buildings of civics dignity and beauty architectural control on public as well as semi public buildings with ancient architectural, buildings, temples, churches, mosques and building of cultural and historical importance.
- ❖ Broadly physical characteristic has been divided into a categories: Natural growth and planned growth.

1. Natural Growth:

- ❖ Most of the towns in the past have done in a natural way that is the development of town as such as taken place without any future planning. The main on the spot and the interested parties took decision regarding the growth of the town for immediate comfort and convenience of the residence. The provision is various essential and amenities. Such as road, system parks, play grounds, schools, industrial units, commercial hospital, cinemas etc; are made in an irregular way without any construction for future expansions of the town.
- ❖ The natural growth of a town may be in from of the follows 4 types:
 - i) Concentric spread
 - ii) Ribbon development
 - iii) Satellite growth
 - iv) Scattered growth

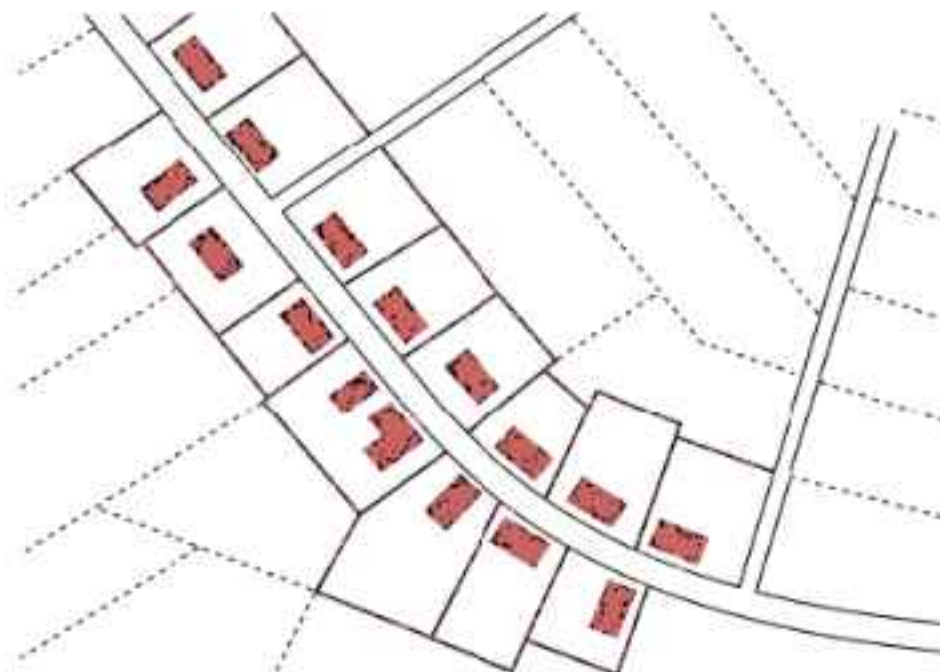
i) Concentric Spread:

It is the natural tendency of the people to be as near as possible to the town or city and as a result of this tendency. The town develops in the form of concentric rings with nucleus of town. Such as growth creates many complicated problems such as traffic congestion narrow street, concentration of population in proper houses etc.

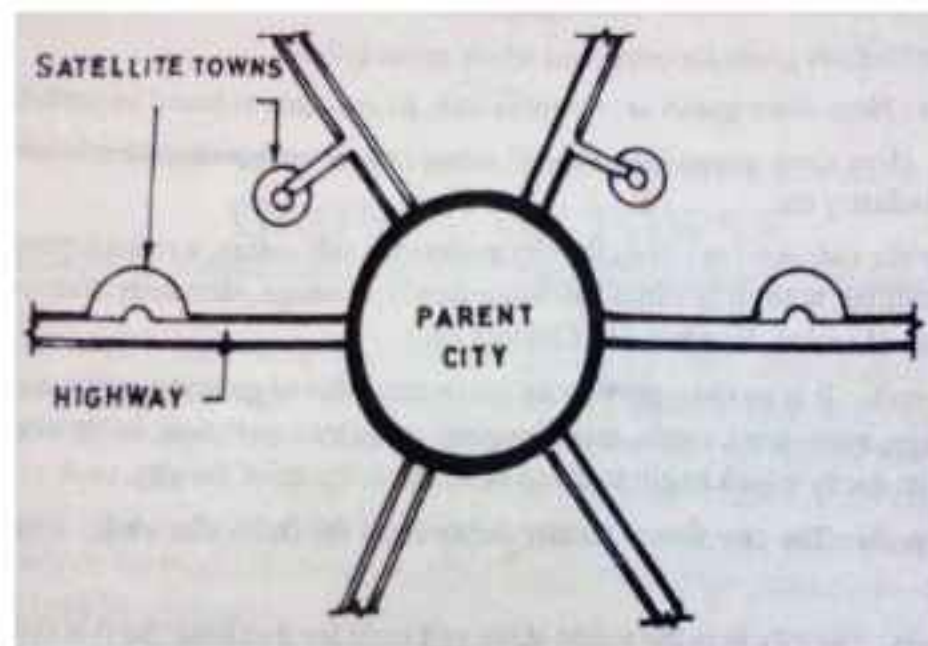
ii) Ribbon Development:

It has been observed that because of improvement road surface and growth of motor traffic. It is the natural tendency of everyone to be built as near as possible to the main road.

Hence, building activities expand in a natural way along the sides of main road and long fingers and ribbons of house, factories shops etc; develop has shown in the figure.



RIBBON DEVELOPMENT



SATELLITE GROWTH

It leads to the following disadvantages:

- ❖ As house extend in a long stripe there is increase in cost of various basic utilities services such as water supply electricity postal deliveries telephones etc.
- ❖ The development of ribbons causes to looses and to scatter the community. So that there is lack of a social lite.
- ❖ The future improvement become costly a difficulty.
- ❖ The houses face heavy traffic associated with noise, dust, undesirable smell.
- ❖ The interior, person is left development which results in the wastage of the valuable lane.
- ❖ There are chances of traffic accidents and traffics, delays because the peasants of the pedestrians on the main road.

iii) Satellite Growth:

When a town reaches a certain size, some short of satellite growth is board to take place the development of a satellite town is mainly due to the metro policy and the term satellite is used to indicate a body under the influence of a more powerful body but

processing it's all identity. The development of the satellite town around the city place. The features of satellite town are as follows:

- ❖ It has the own local govt. and corporate lite. In the town full of sense of the word accept that it depends to certain extend upon a nearby town or city.
- ❖ It is connected to the parent city by local trains, buses etc; in such a way that main can reach to the parent city without any difficult, it is free to decide, its economic, social and cultural activities.
- ❖ It is generally situated beyond the green belt of the parent city.
- ❖ It is mainly residential area having only local shops, school of children etc.
- ❖ It is neither a village non a subway.
- ❖ It need not help zoning regulations.
- ❖ Its sizes and development are control in such a way that is don't become arrived to the parent town or city in a future.
- ❖ The satellite may even be considered to be the part of market some of the goods and services being produced in the parent city.
- ❖ The workers living in a particular satellite may belongs to the labours force and in that case, it will give a wider choice to the employers such industry for finding the main for the jobs.

iv) Scattered Growth:

In the case the growth of the town takes places in a very irregular way. It results in to traffic congestion untorments of the industry and residential areas, slums, lack of parks and various other problems which proved to be, too difficult to be solved in future.

2. Planned Growth:

In case of a planned growth a town develop in a pre-determined line as consists by a town planning. The overall growth of the town is controlled by the enforcement of suitable rules and regulations such an orderly growth avoids the classing of may fold activities to which a town hall under go there is national distribution of various block such as residential, industrial, commercial etc. The provision of various communities such as width of street, drainage lines, water supply line, parks, playground, bus stops etc; is made to meet with the future requirements of modern concepts of town planning can very will be such can appreciated in some of the recent new town is many parts of the world.

Urban and Rural inter relationship:

It is from local points for a number of smaller settlements around them, together the city and the development settlement constitute of functions. All settlement with in the city region interacts with the city in many ways and these forms. The basis of interrelationship, the knowledge about a city in would be incomplete without understanding the nature of complex relationship with the settlements around it. A city is usually looked upon the unity depends on in surrounding and less of one as an independent unit. What is know is understand that the city and the country side are mutually and this relationship wide range of physical interaction. Further the degree of interaction between the city and its neighbourly settlement tends to decrease the distance. This general spatial phenomenon is known as the distance and has wide ranging closely related to the above in the social economy's developments in the region while

the city makes either refined or promote growth in its surrounding region in the post promotional.

It is up an assumed that cities are somehow other depends on the existence and growth in ancient time to result of the production of food and other basic necessity of the life and other area engaged in tertiary activities who were dependent on cities for food therefore the city exists on the country side in the modern world.

For the supply of vegetables and grains in some cities in India, these items are not from immediate neighbour but from 100 miles away from the modern industrial city also depends on the country side and the mineral and origins.

A more realistic and certainly the most common situation if one in which city and regions are mutually interdependent. The city depends on the region for items for food. For industrial raw materials and as a market for this industrial products and tertiary services. The country side depends on the city non-agricultural and agricultural products and goods. It is a pointless to argue about whether of the city is more dependent on the country side or vice versa.

2.0 City Master Plan

For a successful town planning there is a plan which imagines the entire town as a single unit this is necessary to achieve overall development of the town in a coordinate manner. The development on the expansion of a town takes a long time, and therefore, the development is required to be controlled at any time on the basis of a plan. Such a plan is called as master plan. A master plan or a development plan is the blue print of the various proposal that are intended to improve the existing conditions and to control the future growth of the town in a coordinate manner. Such a plan must be realistic, ideal to be aimed at, preserving the individuality of the town since the development of the town in a lengthy process. The plan must be rigid but elastic at the same time so as to amend it from time to time to satisfy the changing need in the new development. The master plans are generally prepared to improve the old conditions of the town but it is also equally necessary for the new cities to be plan and built on virgin.

State and Explain the Master Plan:

A master plan or a development plan or a town plan may be defined as a general plan for the future layout for a city showing both the existing and proposed streets and roads, open spaces, public building etc. A master plan is prepared either for the improvement of an old city or for a new town to be developed on virgin sawyer. Thus, master plan aims at controlling. The future growth of a town along pre consists and pre-determined paths.

The concepts of master plan taken up to provided and instruments for preparing a frame work in corporation for various town improvement scheme and programmes.

The classical master plan aims at comprehensive developed. It is rightly said that effective functional juries of the city or town extends for beyond. Its physical boundary thus well consist master plan also takes cares of the meaning full planning and development of the town at some future date. At some time, it should be sufficiently elasticity it is therefore, not a fixed plan. But it is possible when it from time to time to keep it peace with and to accommodating to new development for any revised estimated for the further growth and requirements of the city.

Need of Comprehensive Development Plan:

The period of industrial regulation i.e. (1760-1820) marks an important epoch in the history of the growth and all the cities. Between the 1st world war and 2nd world war (1939-1945) many towns and cities have been grown up haphazardly without proper planning and the over grown cities becomes a mess and a muddle with all the exist.

The industries have been setup in the heart of the cities without any consideration at transport and other cities services the migration of rural population has caused housing shortage and increased congestion. The rapid development of transport has been found to be in adicute for throwing needs of the automobiles. It has caused over crowding and congestion on the roads resulting and road accidents in industries head encroached up on the residential area causing shortage of increase and areas.

In order to eradicate the evils of the ill planned cities there is a need up a comprehensive master plan for the general welfare of the citizens in respect of health, convenience and comforts.

Following are the reasons which have led to the thing at having a masters plan for the town:

- ❖ To control the development of various industrial in a systematic way.
- ❖ To discourage the growth of town in a unplanning and unscientific way.
- ❖ To give a perspective picture, for a fully developed planned.
- ❖ To reamend the unprecedented from of rural papulation to urban areas.
- ❖ To offsets the evils which have come up due to overcrowding of population such as acute shortage of houses, traffic, congestion inadequate of open spaces and in sufficient of public immunities.

Objectives Process and Method of Developing City Master Plan:

Following are the objects of preparing a master plan for the town:

- ❖ It aims at intelligent and economic spending of the public founds for achieving well fair of the habitancies in respect of immunity convenience and health.
- ❖ It arranged the pattern of the town in such a way so as to satisfy the parents requirements without introduction of future improvements by the coming generations.
- ❖ It helps in the resisting haphazard and unplanned growth.
- ❖ It places various functions which a town has to perform the physical relationship with each other so as to avoid chances of mutual conflict.
- ❖ It removes the defects of uncoordinated physical growth of the various compounds of town due to the fact that it considers the entire city area or town as planning and developments entity.
- ❖ It serves as a guide to the planning body for making any recommendation for public improvement.

Process and Method of City Master Plan:

Followings are the process and method of city master plan:

- ❖ It should provide for all measure's objectives for the development of the city and still be economical.
- ❖ Provisions for changes during the implementation of the master plan should be kept.
- ❖ It should be sound, practical, inspire civic interest, diversion and loyalty.
- ❖ No overcrowding should be there with assurance of the health care, recreational facilities and communities.
- ❖ Proper traffic management in the systems should be in corporate it.

3.0 Survey:

The surveys are carried out by looking for facts already recorded by all the investigator and authorities and by original field works on the spot. The authorities and by original field work on the spot. The later may be necessary because an item has never been studied before or because facts a figure need to be brought up to date. The surveys establish ultimately the present states of the town and indicate the measures for its improvements.

It may be mentioned that the surveys don't necessarily mean the worked carried out by a land surveyor, namely measurements of distances, levels and topography. The chief subjects of surveys for town planning are:

- ❖ The people and their interest and occupation and how they follow them and
- ❖ The land and buildings and how they service their interest.

The collected in surveys are proper analysed in relation to the area under consideration and they are recorded on the map's charts and schedules and some time on models.

It is said that statistics is an invaluable tool in the hands of town planner. It is defined as the collection, tabulation and presentation of quantitative.

Thus, the essential ingredient of purposed full planning survey is to arrange that facts of investigation in the best possible in the science manner.

Purpose of Surveys:

By survey is mean to collect the data and information based on spot observation. To draw a mental picture of the region the town and its various elements like residential and working areas. The survey serves a board canvas picturing the presents states of the town and to provide proper means for its development in future.

Survey before plan the principal advocated by Sir Petrik Geddes, is emphasized by many town planners. It is the diagonals before treatment or diagnostic approach. Without which no adequate planning scheme, can be analysed and will be represented in the form of maps, charts, table and models. Such a fully illustrated and clearly documents survey is helpful and advantages in the following ways.

It helps to know exactly what is lacking and what is needed for the development of the of the town.

It through lite on the inter relationship of activities of the town life, that is whether a particular development has produced a favourite or adverse effect on its surroundings.

It helps to know the evils from which the towns suffer and provides a proper treatment to be a given an i.e. its helps to diagnosis before treatment, as pioneered by Sir Petrik Geddes.

It haves to built up the public opinion and appreciation in the favour of town planning schemes.

Thus, the role played by survey in the science of town planning is as follows:

- ❖ To evaluate the effects of developments.
- ❖ To prepare detailed regional reports.
- ❖ To provide the necessary understanding before decisions for development are made.
- ❖ To study the situation objectively and factually.

Surveying Methods:

The role of a town planner is to act as a co-ordinator of the other specialist. It must be aware of the various works that the specialist does and also the scope of their works. The specialist provides the data to be collected by them and he must keep an idea of how to analyse them to get the relevant information. To collect the relevant data each specialist is required to undergo survey work and must know the various types of surveys and the process involved there in. Survey work can broadly be divided into 2 categories depending on the area over which they are to be conducted, they are: i) Regional Survey, ii) Town Survey.

i) Regional Survey: They are those surveys which are done over the region dealing with.

- ❖ **Physical Factors:** Physical factors like topography, physically difficult land, geology, landscape.
- ❖ **Physical economic factor:** Physical economic factor is like agricultural value of the land, mineral resources and water gathering lands, areas with public services, transportation, linkage etc.
- ❖ **Social economic factor:** Social economic factor is like areas of influence of town and village, employment, population changes etc.

ii) Town Survey: They are done at much smaller scales and apart from the above data collected from the regional survey it also includes: Land use surveys, density surveys, surveys for the age and the conditions of the buildings, traffic surveys, other social surveys.

Techniques of Survey:

Techniques of survey of the various techniques of surveys that are followed. The 4 listed below are most prominent: self-surveys, interviews, direct inspection, observation of participants.

4.0 Zoning:

The term as understood in town plan science is use to include to aspects of planning namely.

All location of land for specific purposes.

Control of the use, hight and construction of the buildings.

The later aspect automatically leads to the regulation of density of population. Thus zoning is defined as the regulation by law of the uses of the land and building and of the height and density of the building in specific areas for the purpose of securing convenience health, safety and general welfare of the community.

Zoning Regulations:

Generally zoning is classified as under:

i) Use Zoning:

The main principle of use zoning is to divide the city into different sections or zones and utilising of each of the zone to the right purpose and incorrect location with respect to other so as to avoid the encroachment of a zone open another adjoining it.

Under use zoning the town is divided into various section or zone for specific purpose as give on below.

- ❖ **Residential zone:** This is the important section for zone where the people on the town live together in large number.
The building coming under this zone are detached single family houses, semi-detached family houses, group housing, flats sky scrapper etc and accordingly this zone further sub divided into suitable sections. This zone is covers in are of 40%-50% of the total length. That is why planning of residential areas should be done with atmosphere. It should be located in peaceful surrounding and as per as possible away from business for industrial zone.
- ❖ **Commercial Zone:** The covers in area of 2%-5%. This zone consists of markets, ware-house, go downs, business offices, banks and residential building for employees there. This should be located near the centre of the traffic and as per as along the road sides.
- ❖ **Industrial Zone:** This zone covers in area of 5%-20%. This is next to the residential zone in importance, hence great care should exercise in located to the industries. As a result, this should be away from other zones and planned layout of the town so that no dangerous gasses pass over it. This zone is further divided into sections containing miner, light, medium and heavy industries.
- ❖ **Civic Zone:** This covers in area of 2%-3%. This contains all public building, like town hall, court, public libraries, post office, stores and houses for those employed there.
- ❖ **Institutional Zone:** This zone covers in area of 1%-2%. This zone contains school, collages, institutions etc.

- ❖ **Recreational Zone:** This is planned in the remaining area of the town, usually 15%-20%. This is also an important zone, since it provides healthy environment for the purpose it includes mainly park, playground how ever it includes halls, stadium, cinemas, theatre and communities' centres.

ii) Height Zone:

Besides the use of land there are other factor such as height, volume of the buildings, which need to be controlled it is done by means of height zoning.

Tall buildings pair of value of small neighbouring housing by cutting of sunshine, air, breeze etc and thus make the small houses un-suitable for in habitation. The make the street narrow and increase the congestion of traffic. The should therefore be arranged judiciously in the layout of proper grouping so as to the blamed harmoniously with the smaller buildings.

iii) Density zoning:

The population per unit's area or acers is defined as density of population. This density may be either gross or net density.

The gross density is the average density per unit area of the housing are including local road only. As density populations indicate whether there are normal or over crowding areas. Condition it has been important place it almost every planning or preplanning scheme.

The town planner has to fix certain standards for and net densities for various area to should be the conditions to control the population following points.

The minimum size is the plot for each house the field.

The no. of houses per unit area is specified.

The ratio of total area to the total area of built is fixed.

5.0 Housing:

The place of housing is next only to food & clothing among the primary necessity of human life. That is (roti, kapda or makan)

A Shelter is necessary for protection against wind rain etc. but man does not need a near shelter or roof over his head with haphazard collection of building materials state. he needs a cheap but cosy house affording the maximum utility safety comfort & convenience with a back ground of serenity man is primary a social creature he loves to lives in society or community hence housing does not mean a covered roof for every family it is a social unit plan or neighbourhood or community principle housing in general sense is the layout & development of residential unit in which social, cultural & recreation facilities.

The provision of good housing in any plan town schemes is desirable and it is to be accomplished by various means measurement. It has been well established that the industrial regulation of the last centuries is not only factor in developing slumps. As a matter of fact, the poor class of people allowed the benefit of good housing from time of immemorial. Such unhealthy & ugly science of houses for the unfortunate led to the awakening of public opinion in the 19th century and in the 20th century and because of the pressure of public opinion, the authorities concerned have started to accept the responsibility of providing good housing to those who are economically unable to provide for themselves housing must be so located and designed that they afford convenience, am health & social life to the community good housing reflect the general welfare of the community, bad housing on other hand leads to serious, consequences such as diseases.

Housing building may be broadly be classify in 5 categories as follows.

- i) Detached house
- ii) Semi – detached house
- iii) Row house
- iv) Apartments or flats
- v) Sky scrapers

NEIGHBOURHOOD UNITS PLANNING

All the residential units are now planned on neighbourhood principle. It is small unit which serves the local community & encourage them to foster a neighbourhood spirit or relationship which seems to have been lost in the modern city life, it should possess the best qualities of small town to facilitate, the acquaintance and neighbourly relation and also be bread enough to accommodate. Sufficient people to enable each individual to come in contact with people of difference data of society & compatible tests.

PRINCIPLE OF NEIGHBOURHOOD PLANING

The principle of neighbourhood planning is there points:

- i) **Size:** The town is divided into self-content units or sector of 10,000 population and this is further divided into smaller unit's neighbourhood units with 2000-5000 population best requirements of primary school the size is unit therefore limited to about 121.5 sq. km. That is within workable 10-15 min.
- ii) **Boundary:** The unit should be bounded on its sites by main road wide enough or through traffic.
- iii) **Protective Strips:** These are necessary to protect the neighbourhood from announce of through traffic and to provide suitable facilities for developing parks, playground and roads, road widening scheme in the future these are also called miner green beds.
- iv) **Internal Strips:** The internal strip design to ensure safety to the people and the school going children in particular since the mothers are ensure everyday till the safe return of the child. The internal strip should circulate throughout the unit with easy access to the shop and communication centres no through traffic allowed is here.
- v) **Layout of Buildings:** To encourage neighbours' relation and secure social stability and balance, house to soil the difference income group should be provided such as single-family house, double family house cottage flats etc.
- vi) **Shopping Centres:** Each shop should be located on the circular of the unit preferably at traffic junctions & adjutancy as neighbourhood units.
- vii) **Community Centres:** Each community centres will have its centres with social cultural & recreation.
- viii) **Facilities:** All public facilities required for the family for their comfort & convenience should be within is a rich these comfort & convenience should be within is a rich these include the primary school, temple, club, retail, shop, sport, centre etc. they should be located within 1km in the central place so as to from a nucleus to develop social life of the units.

COMMERCIAL CENTERS:

The market place has always been the point of city a centre for the exchange for a goods . in the most ancient time .it was the open space to which farmers & crafts men brought their product for barter (exchange).

The development of transport & money system implemented the transfer good & the barter system shifted to a form of retail enterprise explain of commerce crested a merchant class dealing in the exchange a good product by other than themselves. The important of cities increased as centres of hole sell & retain trade as it did with so many human activities the industrial system of brought some changes in the market place not only did the transportation good weaken but also growing system of communication accelerated the trading centre I which work common concentrates with the function of urban population the city continued if function as the centre of trade let emphasis is a great system of the cities shifted business centre from the commodities being we exchanged to the method process for trading in them.

The smallest commercial unit is the neighbourhood centre the modern counter part of the park corner grocery shop the neighbourhood shopping centre provides the day by day communities for the direct convenience upon limited population.

Here the housewife may perform her regular shopping for the staple roads. it may had been independent grocery store & meat market T.V & Appliance shop shoe repair shop, hardware shop, a bakery store, drop & stationary store barber& beauty shop.