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PLANNING OF A SECTOR ON SMALL SCALE USING APPROACH OF TOWN PLANNING

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ABSTRACT
In this paper we are discussing our research on the concerned topic of sector planning. A sector is planned generally by using the same methods or say approaches which are to be while designing a town or city. Since we have to know about sector so we are working on a small scale or level of development using the approach of town planning. A sector which would will fully planned and developed as of town planning must consist of some general services which are or can be described as follows that are a sector must have a good and proper road network, parks and greenery, basic health facility, a commercial zone, a school etc. A sector should be proposed or developed in such a way that it should attract the people to reside there. Because earlier proposed sectors or say town or cities were settled in a hurry owing a reason of increment of urbanization and industrialization.
Keywords: road network, parks and greenery, basic health facility, commercial zone, school, urbanization and industrialization.

INTRODUCTION
Nearly 11 percent of the entire urban population of the globe resides in Indian cities, making India the second biggest urban system in the world[1].The poor and the marginalised, as well as the economy and biodiversity, bear the brunt of the stresses and strains caused by unplanned urbanisation. Over the years, cities have grown and been burdened by the stresses and strains of unplanned urbanisation[2], [3]. Sustainability is the need of the current times throughout the world [4]. Civil engineering is the field not only dealing with construction but also gives several measures for everyone[5]. Construction of houses requires various construction materials. Although these materials production leads to several environmental issues but are the basic necessities[6]. The associated issues are solved by the sustainable construction practices. Every sector requires sustainable resources and that applies with town planning[7].
In this segment we are going to learn about the meaning and differences in sector, town, and cities. Also latter on in this segment we will discuss about the need, intentions, fundamentals etc. of a planned sector[8]. Let us start with the meaning and differences. We can say that whether it is a planned sector, town, or city all have the same base and reason and that is one and only to increase the standards and ease of living of people[9]. A planned sector must consist of plot numbers so as people coming from outside can reach their destination easily by seeing indications, a proper road network so as the people can reach every corner or end of sector easily, also by having proper network in the sector we can reduce the chances of accidents as in an unplanned sector the roads given are somewhere very wide and at some places it is very congested leading to accidents. Also a sector must have consisted of a health facility, parks so that people can walk there leading to a healthy life. A sector is based on the principles of town planning, which defines the division of town on the basis of zoning, green belt, housing, public buildings, recreation centers, road systems and transport systems.

1. Where zoning defines about the division based on commercial, residential, industrial buildings etc.
2. Green belt defines about the place which is not in general usages so it can be used as greenery.
3. Housing defines about providing housing accommodation to various categories of people.
4. Public buildings are those which are open to all such as hospitals, schools, parks, etc
5. Recreation means providing of enough spaces for general public.
6. Road system means of providing proper road network.
7. Transport system defines that the people residing do not have to face problem in reaching their destination of work or others.

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The difference that arise between these sector, town, and city is based on population residing in them. A sector is designed for a population of minimum of 2000, whether for town it is 5000, and for city it is 1,00,000.

Need: As populations grew and those superior systems for making decisions, together with governments, then planning - as a difficult and rapid of rules - emerged as a way to manipulate the awesome desires and uses of land. As a professional activity, metropolis planning balances the social, financial and environmental goals of metropolis and rural areas[10].

Scope: When housing is not up to the mark and financial belongings permit its upgrading, the metropolis planning department might also survey housing conditions and coordinate funding to finance its development and rehabilitation. The metropolis's financial development and redevelopment moreover fall with inside the scope of metropolis planning.

Aim of the study: We have done this study to know about the planning of towns, that is to know that why before proposing a new town or sector, a proper planning is done and we have found that a proper planning is needed in any area is because it would enhance the convenience, beauty of that place, health of people is also considered before planning, and the most important environment is taken into consideration. That is why planning is necessary before settlement of any new place.

DEVELOPMENT OF SECTOR

For designing and planning the sector we have to follow some steps in order to plan a sector these steps are defined as follows:

1. Selection of site.
2. Data Collection using surveys.
3. Preparation of Maps.
4. Selection of materials as per IS codes[11].
5. Construction of Sector as per maps and requirements.

Site selection - first of all we have selected a site for planning of a sector which is located in the following address:

Our proposed site for the project of sector planning is located in Bhagwantpura, on Jhansi Mirzapur highway (Highway no. 76), nearby Bundelkhand University Jhansi, Uttar Pradesh. The site is located on a good location which gives you access to the Kanpur- Jhansi highway, also from the proposed site nearby locations are Bundelkhand University, Maharani Laxmi Bai medical college, Jhansi fort etc. The railway station is just 8 km from the site, which is around 15 minutes of driving. The bus station is just 4.8 km from the site, around 7 to 8 minutes of driving. The site location maps are attached hereby in Figures 1and 2.

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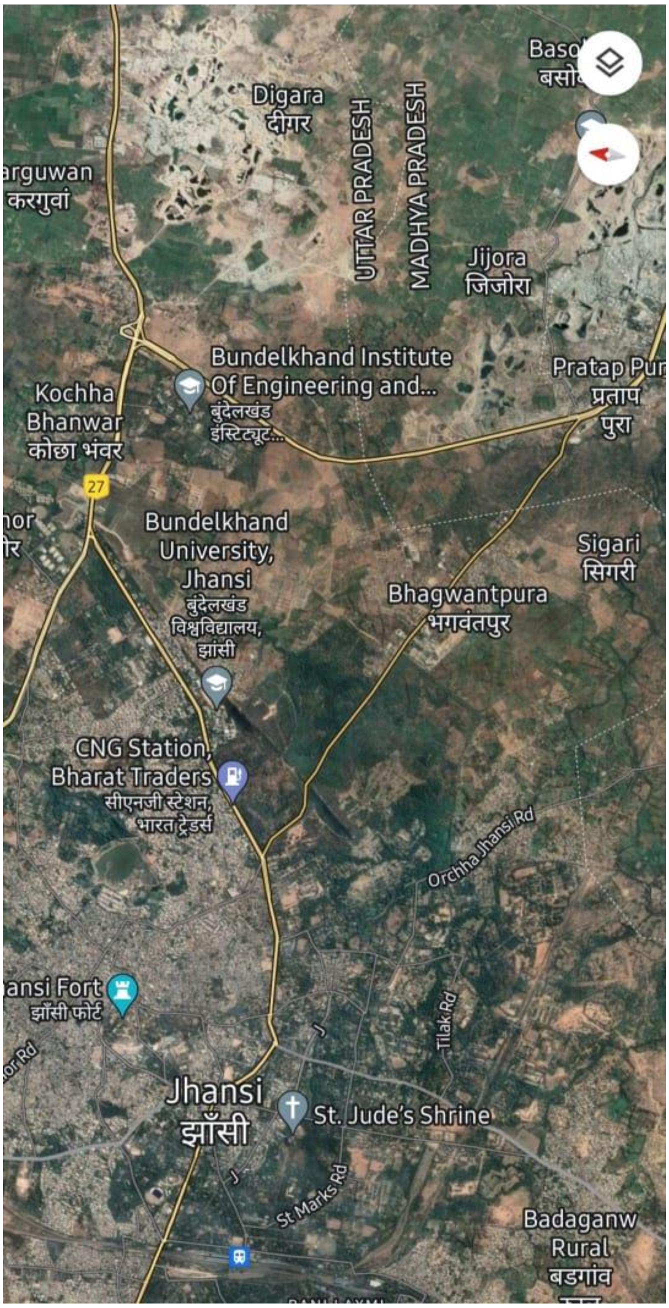

Figure 1: site location map of satellite view.

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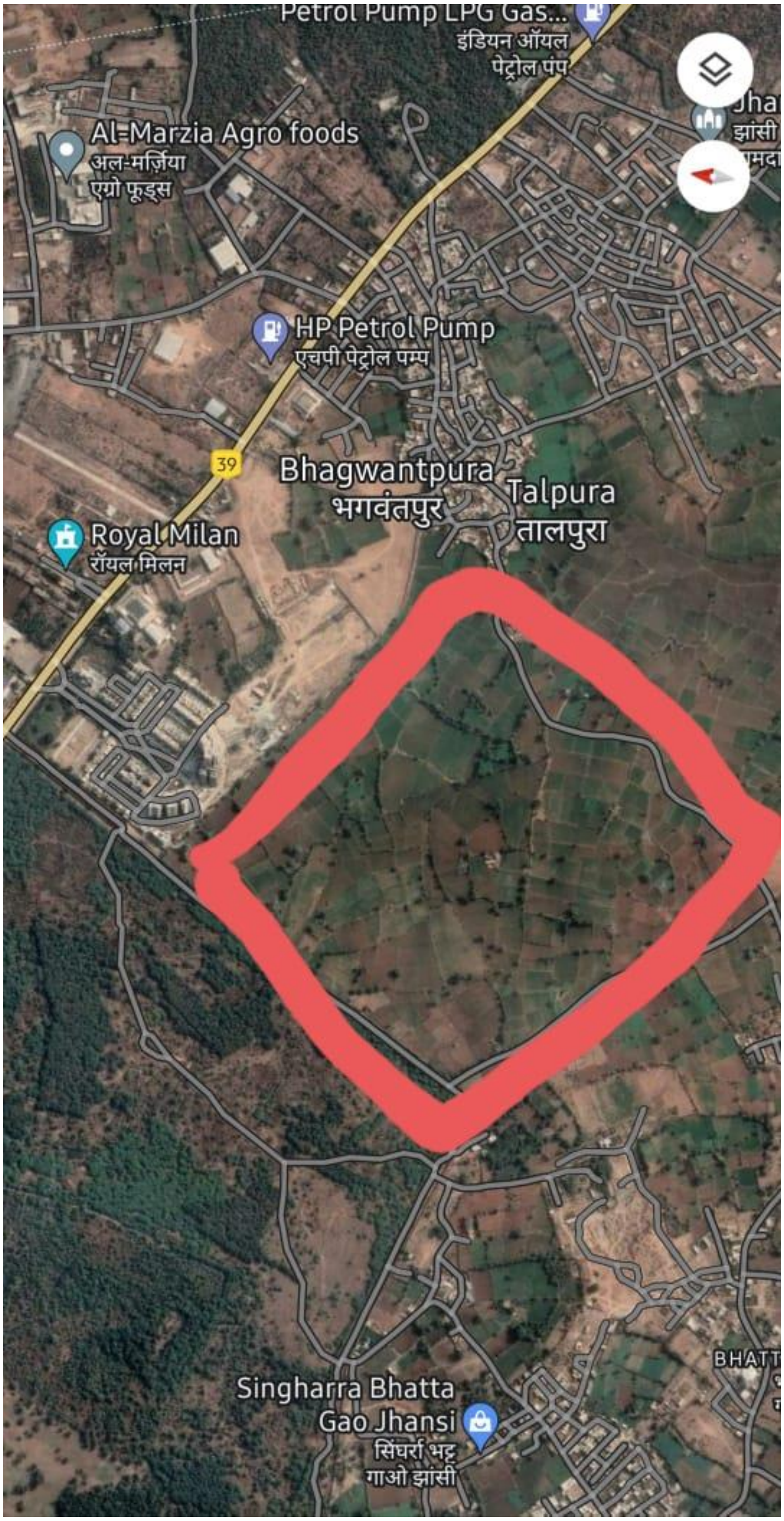

Figure 2: Actual site map in satellite view (the highlighted part is our site).

The proposed area of our site is 50 hectare or say 5,00,000 sq.m. or 0.5 sq. km.

Data Collection: -After selection of site it's time for surveys and data collection. The surveys which are to be done in town planning are defined as functional, social, territorial and vital survey. These surveys can be defined as follows:

1. Functional Survey deals with the functional aspects of town such as commercial, condition of industries, communication, financial aspect etc. The data which is collected by this survey is information about road networks, railways, airport, seaport, waterways, mines, local industries etc.
2. Social survey deals with social aspects which are community structure, housing, health conditions, public areas etc. It collects information about ancient ruins, architecture, birth rate, death rate, etc.
3. Territorial survey is connected with physical feature, agricultural, soil, forest, climate condition, types of soil. The information that is gathered by this survey is about geology, contours, rivers, lake, stream, ocean, forest, natural vegetation and also about areas which is low lying or about to sink.

While by Vital survey we can know about population aspects along with history of population and future population growth which can lead to forming a new town[1].

Preparation of Maps: -For preparation of maps it is required to have a proper plan on which you can prepare maps, so for preparation of maps our proposed plan is to plan a sector by considering people on economic group that is we are going to plan sector for peoples who have incomes of Rs. 1,00,000 per and month and Rs. 2,00,000 per month. In the proposed sector we have planned plots of 60 sq. m., 80 sq. m., 100 sq. m. and 120 sq. m. In which the peoples whose income is limited to Rs. 100000 per month they can buy 60 sq. m.plots, and 80 sq. m. plots are for peoples of income Rs. 200000 per month, in both cases people will have to spend their 16 months of unexplainable income to purchase these plot with full construction including development cost. While plots of size 100 and 120 sq. m. can be used as commercial purpose, public building purpose or also people who can afford the pricing can buy it[3].

After selection of plot size, next turn is of providing road system because road system plays a major role in planning. It should be planned as reducing the chances of accidents and with proper connectivity all over the sector so that people who is going to reside in the sector can have easy access to the service road of the network. Here we are providing roads of width 6 m to connect sector internally, of 9m which will connect the blocks and 12 m road as service road of sector. A 15m road is also provided for future planning of railway line and to connect the sector with the highway passing near it.Also it is must to take care of drainage system[2].

After planning, it is required to concern with local authority for numbering of plots so as give proper address to the buyer. The maps are attached along with numbering of plots, superimposition and zoning in sector in Figures 3-5.

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Figure 3: Final Plot boundary with road network.

Figure 4: Superimposition of original plot boundary and final plot boundary.

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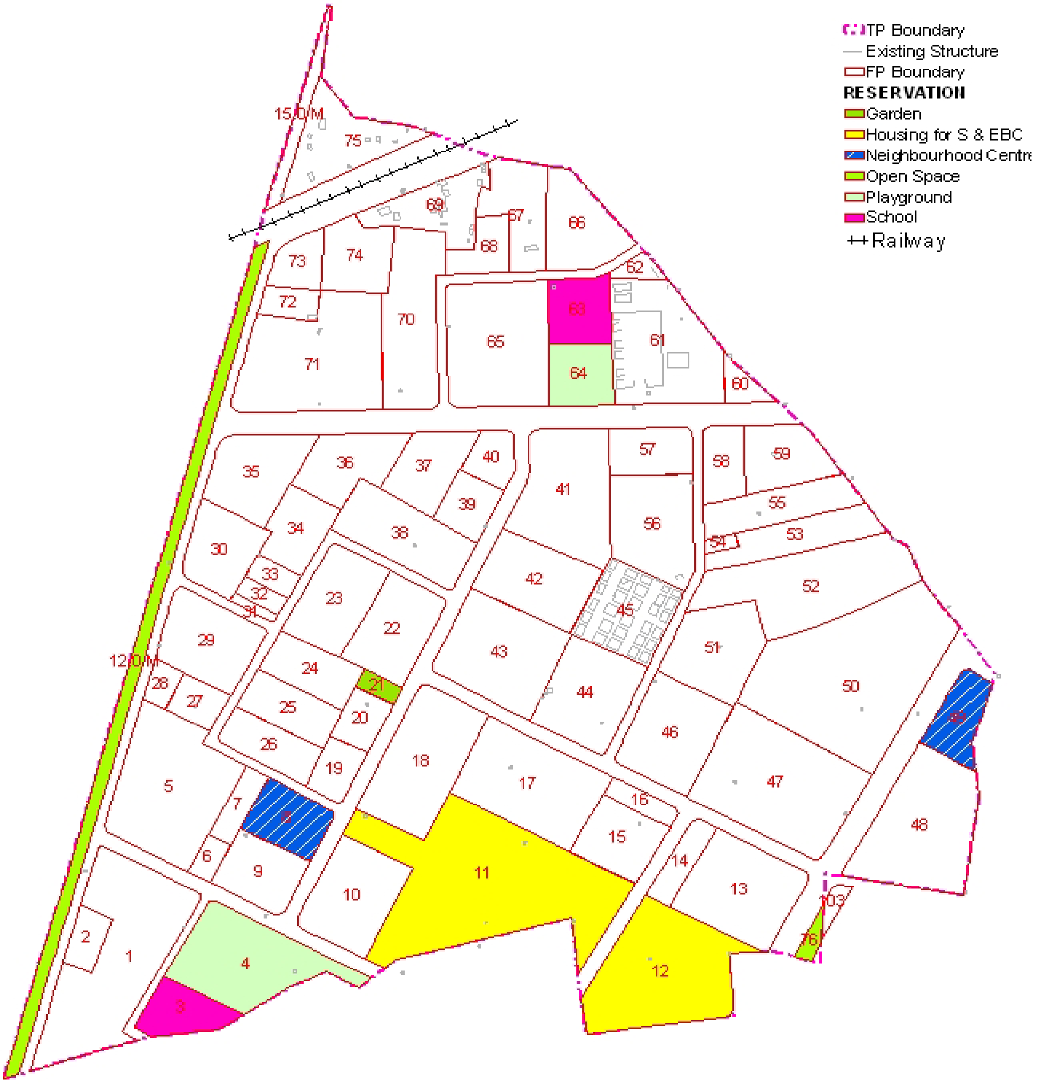

Figure 5: Land use in final plots.

Selection of materials: -The materials which are required for construction of building and road are described as follows along with IS codes for building materials and IRC codes for roads[12], [13].

The materials required for buildings described as follows:

1.Soil
2. Bricks
3. Cement
4. Concrete
5. Reinforcement bars
6. Wires
7. Boards
8. Paint
9. Tiles or marble
10. Steel etc.

These materials will have to some codes of Indian Standards required for construction[13], [14]. These codes are described as follows:

IS: 456 – code of practice for plain and reinforced concrete[15].

- IS: 383 – specifications for fine and coarse aggregate from natural sources for concrete.

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- IS: 2386 – methods of tests for aggregate for concrete. (nine parts)
- IS: 2430 – methods of sampling.
- IS: 4082 – specifications for storage of materials.
- IS: 2116 – permissible clay, silt and fine dust contents in sand.
- IS: 2250 – compressive strength test for cement mortar cubes.
- IS: 269-2015 – specifications for 33, 43 and 53 grade OPC.
- IS: 455 – specifications for PSC (Portland slag cement).
- IS: 1489 – specifications for PPC (Portland pozzolana cement).
- IS: 6909 – specifications for SSC (super-sulphated cement).
- IS: 8041 – specifications for RHPC (Rapid Hardening Portland cement)

Materials required for road construction are described as follows[16]:
1. Asphalt
2. Concrete
3. Soil
4. Aggregate
5. Sand
6. Cement
7. Bitumen
8. Gravel
9. Bricks (in some cases)
10. Crushed stones.

For road construction in our sector we have used bitumen the IRC code for bituminous road construction is IRC SP 053 of year 2010.

RESULTS AND DISCUSSIONS

The results of this specific study can be described as learning of sector planning,as need of planning, which is defined as the planning is needed because in today's era of modernization people are settling down in hit and miss order without any facility[17].

By a proper planning of sector, town we can prevent our future generation from setting in a haphazard manner[18].

Also by planning we learns about architecture, engineering, surveying, transportation planning etc.[19]

In planning you learn to develop township on the basis of following divisions

1. Zoning
2. Green belt
3. Housing
4. Public homes
5. Recreation centers
6. Road systems
7. Transport centers.

In zoning we see that how a cityis split in industrial, residential, and industrialsector etc.[3]

In green belt we see that asegmentthat's non evolvedsegment of citythat'srestricted in lengthmain to outer edge of natural world to return[20], [21].

In housing it's fardefinedapproximately how cautiouslyyou need tolayout a housing such which can be no slums[22].

In public homes we see that such homeswhereinthe collection of public is excessive so avenue width may beconsideredright herein order that parking troublemustnow no longer occur[23].

Recreation centers are the onesthat are designed for widespreadinteresttogether with parks.

Road service is described as how rightanavenuecommunitymust be in order thateverystop of designed placemust have rightget admission toand simplicity to attain[8], [24].

Transport centers are one through which human beings can attain their vacation spot in much less time[6]. These all sections suggest you that whether or not you stay in rural regions or in cityregions a right decision of making plans is very necessary. So which you have ease of residing in eachaspect[25].

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CONCLUSION

At ultimate we come to anend that citymaking plans had advanced and enhancing the manner of residing of human beings,who'reresiding in an unplanned way or say hit and leave outway as they do now no longer have rightattain to their personalregion properly. And if human beings are residing in an unplanned way then the seams for region and townaren'tas much as the mark. For these types oftroublescitymaking plans or say a deliberateresiding have triumph over many defects. As throughcitymaking plans or rightmaking plans of a region have approached following matters that residing had advancedthroughthe following the approachthis isfitness, convenience, beauty, surroundings. That is in shape of fitness such that making plans in such shape of zoning in order thatgrowing a wholesome surrounding for wealthy and terrible to stay, play etc. Same is in shape of convenience, beauty, and surroundingsthis is to offer all fundamentalassets to the peoples in uniquezonings, make a terrificsearchingregionthrough greenery, parks, cleanliness and growingsome surroundings in one of thesemanner that human beings can stay their existence with least difficulties. By these types of we can say that aright panning is a should for residing in each place whether or notit's far rural or city.

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