Understanding the need of satellite towns in India

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Abstract: Satellite cities are planned cities, adjacent to a prime city. Such cities manage and contain the increasing urban sprawl. They are designed for a major city to extend in all possible ways. They are to house and utilize a mushrooming population; the individuals might fabricate an interest for development of the current settlement in a metropolitan city. Satellite cities are entirely standalone cities, planned, and developed outside metros. They are self-containing, independent cities. Here this paper aims to study the importance of satellite cities, its connection with parent city and how it is perceived in city planning. The paper also try to evolve a set of strategies that to be incorporated while planning so that a satellite town will become a feasible option for solving the issues of metropolitan cities. Satellite town is one of the main options that can be adopted in our current scenario. The government of India also encourages the development of satellite towns as one of the solutions to solve the issues of congested cities.

1. Introduction
Urbanization and the pace/speed of urbanization have increased tremendously in the last few decades. Urban areas are becoming extremely quick, regarding populace just as size, spreading past metropolitan locale. More and more towns are now getting converted into cities. According to UNFPA (United Nations Population Fund Agency) in 2008 more than half of the world's populace lives in urban areas [1]. The urbanization trend is seen all over the world but is becoming most dominant in Asia. In India, we have numerous metro urban communities just as level two urban areas which are becoming quickly due to relocation from encompassing regions. Urbanization has many effects on the city structure. The expanding populace must be obliged in the city, so the issues of ghettos, unapproved development, and erratic improvement of periphery territories are seen in the vast majority of the Indian urban areas.

2. Concept of satellite town
Satellite is a reference that is derived from astronomy. As a definition, a counterfeit satellite is an entity that is coordinated to space that is inside the circle of the earth however an aspect of the earth isn’t. Planets in space regularly have their common satellites that are inside the trajectories way of the planet yet not part of the planet. The best case of this is the moon which circles the earth and is a characteristic satellite of earth however isn't essential for the earth itself. This idea is utilized in
depicting a satellite city. A satellite town or satellite city is an idea in metropolitan arranging that alludes basically to more modest metropolitan zones that are found to some degree close to however are generally free of, bigger metropolitan territories.

- There are certain characteristics of a satellite town/City, a few of them can be enlisted as:
- A more modest city almost a huge metropolitan city which has its nearby government and economy which is free of the neighbouring enormous city.
- There are a ton of impacts from the huge city close by in the satellite city. Satellite urban areas have their own way of life, own set of experiences, and their free financial framework.
- The satellite urban communities are interconnected with the bigger urban areas yet are totally free of the enormous city close by.
- Satellite urban areas are not an expansion of the huge city close by. Topographically there is an unmistakable qualification between a huge parent city and a satellite city.
- Satellite urban areas are not as evolved as the bigger urban areas close by. The number of inhabitants in satellite urban areas is a lot more modest than that of the bigger urban areas close by.
- These urban communities have their set of experiences, their midtown or authentic old city territories, and have their own social character
- Ordinarily, items and brands are advertised to the satellite urban areas alongside the enormous urban areas close by.
- Frequently there are acceptable vehicle administrations between the satellite city and the huge parent city close by
- Students frequently travel to advanced education establishments in the parent city as regularly quality instructive organizations are situated in the huge city close by and not in the satellite towns or urban areas

2.1. Difference between a Satellite City, Suburbs, and Commuters Town

A satellite city/town is not a suburb of the large city nearby. It is totally a different working free city separate ward, separate jurisdiction. Similarly, satellite towns are not commuter’s town which is defined as small towns near major cities which are like suburbs, whose majority share of the populace work in the enormous parent city close by yet remain in the suburbanite's town, i.e. it only caters to the residential needs of the growing population of the main city [2].

2.2. Difference between a Satellite City and edge Cities

Satellite cities are separate cities with commercial and residential zones of their own and possess their local government and administration. It also maintains a distinct boundary that separates it from the parent city. Edge urban communities are a huge metropolitan zone on the edges of a city with a grouping of business and recreational foundations. These edge urban areas have organizations, shopping foundations and amusement zones and are away from the focal midtown territory of the huge city. A satellite city will function similarly to a larger city & have its cultural autonomy.

3. Objectives of Satellite Town

3.1 Decongestion

Metro blockage is one of the significant issues looked because of an excessive number of vehicles and individuals. For example, Gurgaon and Noida-satellite towns are very fruitful against metropolitan clog in Delhi. They absorb a gigantic amount of in-relocation. These towns offer the best chances for migrants to have legitimate lodging, monetary chances and biological awareness, ethnic and social freedom. As such, the decongestion of individuals can be said as ‘Density Optimization’ [3].
3.2 Economic Sub centre
Metro urban areas go about as a magnet of ventures. The development of small and medium ventures around the centre of metropolitan territory flaunts speculation openings. It might come out as a sub-place for significant metropolitans.

3.3 Optimum utilization of Land
Land is the most significant and restricted resource available. The need of time is to give equivalent occasions to the neighbouring territories and furthermore ideal utilization of provincial assets for physical upliftment of the district.

3.4 Ecology and Environment
The debasement of the climate and urbanization are inter-connected. The quicker the city develops more the decay of its air and water quality will be seen. The major reason is the loss of green cover and the instigation of concrete jungles. Utilization is more optimum and beneficial to humans. Satellite towns may go about as an answer against the fixation variables of corruption. Tree estate, water protection, reuses, and reuse in fringe and centre regions will add to spare the corruption of ecology/environment.

3.5 Converting Labour Force to Workforce
Equal opportunities to the labour force are necessary for the comprehensive development of a region as well as the nation. Unemployed, poor migrants, seasonal unemployed agriculture labour can be vital in various manufacturing and construction industries in the surrounding areas. This objective can be successfully achieved with the creation of employment in small and medium enterprises.

3.6 Economy
Satellite towns in the periphery of the major metro will bring new options for financial investment. The potential of satellite town for regional growth with proper resource utilization is more optimum and beneficial to human beings.

4. Case studies

4.1. New Town Project Site
New Town project is 3 Km away from the heart of Phnom Penh, Municipality of Phnom Penh. This site is appointed as a development zone for the “New Satellite City” in February of 2003 by Bureau of Urban Planning in Municipality of Phnom Penh. The site situated in the focal urbanization region of North-West Development zone in Phnom Penh First and Largest metropolitan improvement venture in Cambodia. Progressed metropolitan complex comprises of private, business and public offices. Present day Infrastructures comprise of 4 to 6 paths cleared streets, water gracefully and sewage framework, stable electrical framework. It is busy with fast data and media transmission lines and frameworks and electronic security frameworks. Economical natural frameworks with the new private framework will upgrade the Cambodian way of life. This case study shows that this is the primary presentation of current skyscraper condos in Cambodia with a recently evolved lodging framework.

4.2. Satellite Town Development in Shanghai, China
The historical backdrop of satellite town improvement in Shanghai is an outflow of the amazing quality of focal approach in China. Since 1958, the Shanghai satellite town program has experienced three phases. From 1958 to the mid-1960s, the program was utilized so as to decentralize populace and financial exercises from the focal city to satellite towns. From the mid-1960s until 1976, Shanghai specialists indicated no enthusiasm for using the program. Since 1977, in any case, the program has been used again to thwart further advancement of the central city. The general appraisal of the Shanghai satellite town program has added to a huge increment in the quantity of monetary exercises.
in the city locale and to the decentralization of financial exercises yet has neglected to scatter the focal city's populace to any noteworthy degree. Later on, the adequacy of the Shanghai satellite town program can be additionally reinforced if satellites offer changed work openings and predominant expectations for everyday comforts all alone. A suburban area of a city is an outlying district of a major city that is often part of the large city.

5. **Need of Satellite Cities**
   The need behind satellite urban cities is to give an ideal harmony between the populace and assets, regarding climate agreeable turn of events. The point is to make moderate lodging for a huge segment of the general public. There is a fundamental need to form satellite urban areas into brilliant urban cities.
   - To Decongest the Main City
   - To Develop an Economic Sub-Centre
   - To Utilization of Land in the best possible manner
   - To Save the degradation of ecology
   - To Converting Labour Force to Workforce
   - To Strengthen the Economy Overall Growth & Resource Optimization

6. **Government Initiatives in India**
   Government projects, for example, 'Metropolitan Planning Initiatives' are focused on the development of Urban Satellite towns in India. ‘Smart Cities Mission’2015 has announced 27 new cities around the country. In addition to it, almost all metropolitan cities are having towns serving as satellite towns; still, proper planning and resource allocation is required to have desired outcomes from the peripheries. For instance, around Delhi, urban centres are performing the services of satellite towns, e.g. Ghaziabad, Bahadurgarh, Faridabad, Sonipat, Gurgaon, Noida. Similarly, around Kolkata, Kalyani, Barakhpur, Jadavpur, etc. a few fringe towns are firmly connected with the city [4].

   In the end, the government of India has a vision of modernizing the existing mid-sized cities into satellite towns of larger cities. Major cities across India are facing a mammoth challenge on many fronts due to the rapid rate of urbanization. Massive population growth is one of the pressing issues faced by these cities. Populace development in metro urban communities like Delhi, Mumbai, and Bangalore have arrived at disturbing extents that they can be supposed to be overflowing to the edge. The availability of job opportunities and better living conditions has led to an influx of migrants from different parts of the country. This has resulted in cities reaching a saturation point in terms of available developable space. This paucity of space has led to developable land selling at exorbitant prices leading to buyers rethinking their property buying plans. City planners, on the other hand, have to come up with solutions where they have to strike a balance between infrastructure development as well as approval of residential areas, within the available developable area in the city.

7. **Satellite Towns in India that emerged out of parent cities**
   Satellite urban cities in India are separated urban cities with furthermore, desires of every one of its resident’s business and private zones of their own and has their nearby government and organization. It too keeps up a particular limit that isolates it from the parent city. Edge urban communities are an enormous metropolitan zone on the edges of a city with grouping of business and recreational foundations. These edge urban cities have organizations, shopping foundation and diversion zones and are away from the focal midtown region of the enormous city. In the current scenario, India have new cities emerging in a fast rate, and the existing cities growing up to reach in its maximum capacity, so to accommodate all the peoples and to have a liveable life in these cities are not at all a reality. So, at a great extent satellite town could release the issues of its parent cities. The main objectives of satellite cities are decongestion, providing affordable housing, acting as economic sub-centre, regulating the sprawl, improving ecological and environment, labour force, economy, density optimization etc. Satellite towns helps in integration of land use and infrastructure amenities, transformation of
economy from interdependency to independency, optimum resource utilization, deviation from centralization to decentralization, extracting private investment. At the same time there are some limitations. The success will be based on accessibility to parent city. The development of satellite cities may lead to a decline in agriculture area.

Table 1. Satellite Towns and its Parent cities

| Satellite town         | Parent city      |
|------------------------|------------------|
| Vikarabad (0.42)       | Hyderabad (68.09)|
| Ylahanka (3.0), Kengeri (0.42) | Bangalore (84.99) |
| Arakkonam (1.01), Chengalpattu (0.62), Gummidipoondu (0.32), Kanchipuram (1.64), Mamallapuram (0.15), Poonner (0.31), Sriperambudur (0.24), Tiruvallaur (0.56) | Chennai (86.96) |
| Panchkula (2.11), Mohali (1.66) | Chandigarh (10.54) |
| Gurgaon (8.76), Sonepat (2.77), Noida (6.42), Ghaziabad (16.36), Faridabad (14.04) | Delhi (163.14) |
| Sanand (0.41)          | Ahmedabad (63.52) |
| Navi-Mumbai (11.19), Dombivli (12.46), Thane (18.18) | Mumbai (184.14) |
| Pimpri – Chinchwad (17.29) | Pune (50.49) |

8. Inference
Satellite towns can be developed by its own unique features as it has the potential to hold the future and is capable to accommodate the increased population. In India, it also has the potential to generate employment, have a good connection with its parent city and rural areas. While planning the satellite town residential and industrial development should be taken care with appropriate time and distance of travel to the parent city. Introduction of new satellite towns in India will be able to reduce the congestion in the parent cities. This result to be a relief for the parent cities connected with the corresponding satellite cities. Slowly, satellite towns will begin to grow as a key factor in Indian urbanization scenario.

9. Conclusion
The developed nations with immense open spaces and thickly populated regions have the extent of exploring different avenues regarding new municipality advancement. Under the present situation, the on-going projects are critical for the government. Ruining the opportunity will be an utter and irreversible mistake. Satellite cities, if implemented well are a good solution to control urbanization in metro cities. Hence precedence must be given to integrating the land use, transportation, urban design, and local plans to make these projects are model for future development. The open spaces and water bodies must be preserved. A sustainable solution to wastewater treatment and solid waste management must be incorporated in the satellite towns.

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