

Urbanization and Smart City Survey of Patna Bihar

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INTRODUCTION

Patna, the capital of Bihar state, is a city with an ancient past. It got opportunity to originate and grow in an area which has remained theatre of historical events and cultural change. Virtually this region gave rise to several religions thinkers, philosophers and others right from pre-historic days and focal points of all events concern this urban centre. As such this urban centre contains history and tradition right from pre-historic period. Certainly more accounts are available from 600 B.C. and nomenclature has changed time to time like Kusumpur, Pushapur, Pataliputra, Azeemabad, Out of these Pataliputra was he most enduring of all as it saw the emergence as well as the departure of the major Indian empires. The city had been ruled by some of the most famous rulers for thousand years, like Ajatshatru, Chandragupta Maurya, Ashok, Gupta, Pala, Shershah Suri and Azimush-Shan grandson of Mughal emperor Aurangzeb. During this long period several portions of this urban centre gave rise to different functional areas and some old sites of functional are still prevalent in certain areas of Patna. As such in the present land use scenario we find some robe of past historical events, attitude of their rules in developing areas of Patna and environmental conditions.

It the present investigation attempt has been made to describe briefly earlier land use pattern and in details present land use pattern. It further emphasizes the role of different geographical conditions influencing changing urban land use as well as existing and future land use pattern. It may be noted that the urban centre of Patna has already engulfed several villages, good farming land and included smaller urban centres which have developed as satellite towns. Virtually open spaces existing between the main urban centres and surrounding satellite towns have been occupied by residential areas or other functional areas. All satellite town like Phulwari, Khagaul, Danapur, Fatuha, Pataliputra, Digha etc. Have become part and parcel of the people of Patna. There is attempt to people concern with vertical dimension. As such older and middle areas have much more pressure of man on limited land leading to mixed land use. More over the heaviest concentration of population is along the river bank, because this narrow but long strip of land has get both geographical and historical advantages.

The natural growth of Patna has been towards the west till (366 Sq. Km) and some areas of Sonapur Nagar Panchayat area and 19 villages around Sonapur Nagar Panchayat areas and Hajipur Panchayat area and 99 villages around Hajipur Nagar Panchayat area.

The surrounding areas of Patna urban agglomeration are facing various problems in the recent years due to rapid urbanisation, development of habitation of a large number of in migrants who have come here from different rural areas of the province and have very poor living and social background. As such different areas of this urban centre like the old city area, middle areas having development in pre-independence and post independence years, planned areas of southern and western Patna and the uneven concentration of population and urban land use :

Urban agglomeration of Patna has recorded land uses of diverse nature in different areas due to very uneven concentration of people. At present this urban agglomeration covers an area of 135.79 Sq.kms. and this area has provided space for 20.46 lakh people certainly there is very uneven concentration of population. There are areas having very high pressure of man on limited land having over 20,000 persons per sq. km. Even today most people have concern with length & breadth of the land surface and limited along the Bye Pass. The table No. 01 present, existing land use in Patna urban agglomeration. Along the Bye pass. The table No. 01 Present , existing land use in the Patna urban agglomeration.

TABLE NO. 01

Existing Land use within Patna

SI. No.	Land use	Area (in Ha)	Total Area (in Ha)	Percentage
1.	Residential		8230	60.88%
	Residential (Planned)	438		
	Apartments	202		
	Residential (Unplanned)	7548		
	Slums	42		
2.	Commercial		298	2.20%
	Commercial	134		
	Commercial (Predominant Ribbon Development)	155		
	Agriculture Marketing yard	9		
3.	Public-Semi Public		651	4.82%
	Administrative	211		

	Educational	236		
	Medical	154		
	Religious	32		
	Gave Yards & Cremation grounds	18		
4.	Recreational		212	1.56%
	Clubs, Cinemas			
	Parks & Playground			
5.	Industrial	238		1.76%
6.	Transportation	1050		7.77%
7.	Water Bodies	164		1.14%
8.	Agriculture	2591		18.88%
9.	Vacant land	145		0.99%
	Total Land	13579		100.00%

Source: Interim Report of Master Plan 2021.

Density of population exist in the southern and western side and in these areas density varies from 301 to 900 persons per ha. Areas or wards having lower density of population exist in the southern and western side and in these areas density varies from 100 to 300 persons per ha. The predominant land use in Patna urban agglomeration area is residential which constitutes 60.88% of the total area. Out of all the residential areas nearly 90 percent has unplanned growth. Nearly 52% of the commercial land use is predominant ribbon development along the major roads like other urban centre of India having unplanned development. Within the Patna Municipal corporation area commercial areas also have mixture of other uses. Moreover commercial areas have recorded shifting character from the older parts of the city to westward. Certainly in newer areas packets of commercial area have also developed in exhibition Road, station road, Boring canal area etc. Even today whole sale market lies in eastern portion and central regions. City Chowk, Maroofganj, Masurgain, Mirchiyaganj, Maharajganj, Gurki Mandi, Muradpur, Daldali etc. are important places of wholesale. Besides these commercial areas all associated urban centres like Danapur, Khagaul, Phulwarisharif, Digha Mainpura etc. have separate commercial areas. Certainly these

Order and newer areas agglomeration have distinctive urban problems. The old city and middle areas have management problems like more congestion, narrow lanes, crucial traffic congestion problems, vast

slum areas, mixed land uses etc. Only limited areas of Rajendra Nagar, Pataliputra, Kankarbagh, Secretariat etc. have planned growth and planned land use. The table No. 1 reveals assessment of land use in Patna agglomeration area which include Patna Municipal Corporation, Patliputra Housing Colony, Digha-Mainpura, Sabazpura, Khalilpura, Badalpura, Phulwarisharif Nagar Palika Parishad, Danapur Nagar Palika Parishad, Danapur cantonment area, Khagaul Nagar Palika Parishad, Saidpur (outgrowth of Khagaul). Apart from these it also consists of Fatwah Nagar Panchayat area, Maner Nagar Panchayat area and 104 villages.

The most densely populated wards are mainly along the bank of river Ganga where old settled areas exist. In these areas violating urban planning rules and regulations. Excepting the planned residential areas of Kankarbagh, Rajendranagar, Patliputra, Patel Nagar, Police line, A.G. Colony etc. almost all residential areas have unplanned development. The area is marked by houses of very uneven horizontal and vertical dimension. For the convenience of analysis urban housing has been categorised into four broad types :

- i. unplanned residential
- ii. planned residential
- iii. Apartments and
- iv. Identified slums.

It is important to mention that most of the residential land use is unplanned. Most old settled areas have pre-master plan development. Changes in boundary of municipality included a good number of villages located around the urban centre of Patna and these villages provided unplanned residential areas. It is estimated that around 5390 Ha (53% of M.C. area) comprises of this form of mixed use. Barely 390 Ha. is in plotted residential land use and 180 Ha. in the form of apartments.

Important housing colonies developed in the Patna Municipal corporation area by the Bihar Housing Board include Shastri Nagar, Rajendra Nagar, Kankarbag Colony, Patel Nagar, Raj Bansi Nagar, Patrakar Nagar, Lohianagar, Chitragupta Nagar, Hanuman Nagar, Sri Krishna Nagar, Gardanibagh etc. Private commercial areas have also developed along the roads. The agricultural market especially wholesale vegetable markets are located in the inner areas of Patna Municipal limit like Bazar Samiti, Musallahpur, Mithapur, Antaghat etc. and none of them have proper planning and do not have any waste management systems. This leads to congestion of traffic, mismanagement of solid waste disposal system, and chaos within the city area. The commercial establishments within the city are all lined along the arterial roads and there is extensive mixed land use of commercial and residential use throughout the urban centre.

Residential Areas:

The urban centre of Patna has unplanned development and there is uneven concentration of population. Focal points related to commercial, transport system, health centre educational institutions and other urban function have caused heavy concentration of people in certain areas and these people have residences near the focal points. Mostly people like residence either very close or at nearby distance leading to mixed residential areas. Virtually these are limited areas where only residential function dominates. It is only the planned packets where planned residential areas have developed but even in these areas people have started housing cooperative society are coming up fast in western Patna near Raza Bazar, on Bailey Road, Sheikhpura, Khajpura and also in Kankarbagh in South Patna even Patna New Bypass Road. So closely together that sun seldom reaction to the ground the unplanned

settlements both or authorised and unauthorised types constitute about more than 90 percent of the total settlements.

The old unplanned localities an inhabitant the original population of the city. These high concentrations of commercial as well as residential activity. These are a mixture of diverse community except a two areas. The living condition of the people are marginal became must of the buildings are in à dilapidate condition. The absence of basic civic amenities provides haphazard way of long which result in the most unhygienic environment.

Objectives:

- i. ensure sustainable development of Patna urban area
- ii. Preparation of an integrated structured plan identifying the major activity nodes, educational institution, residential and other zones.

Land use is itself full of problems intern of b..... Norms. It may aggravate menace of slums which is throwing big challenge to urban land acquisition and development. As such it needs to be underlined that the urban development problems are complex and require a package of policies to manage issues of varied nature and character. One has to further refine one's own vision in the context of the fact that the urban development and urban policies are framed and implemented through a mix of local, state and national agencies, and therefore, inter-governmental relations, institutional arrangement and mechanism and important to consider.

Since there is flux of arrival of poor people in the urban centre of Patna then should be priority in providing urban housing to the weaker section and to rehabilitate the slum and pavement dwellers and therefore emphasized the need for massive urban land development and urban housing, considering the immensity the problems, it necessary to develop a proper mix of public, private and cooperation urban housing.

Likelihood :

- i. the new role of approving the building plans,
- ii. creating housing complexes and other development work,
- iii. To check gross violation of building byelaws which is rampant in Patna and in recent years a large number of apartments and big residential houses have come up in violation of norms. :

The proposed master plan of Patna envisaging the expansion of the state capital by bringing in satellite townships under its ambit will be ready shortly. Building byelaws are also to be amended simultaneously and adopted. New construction in city could be regulated and urban growth is a planned one. The state govt. is likely to introduce an act to reconstitute the regional development authority.

There are indications that under the delimitation of metropolitan areas, adjoining townships of Patna like Bihta, Maner, Masaurhi, Bakhtiarapur, Hajipur and even some area of Sonapur could be developed 30% of land in and around greater Patna to be earmarks as agricultural area for green cover and later day expansion plans.

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