

Study of Change in Land use/ Activity in Malviya Nagar, Jaipur City

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Abstract—Analysis of land use/ activity change in Malviya Nagar area in Jaipur city is observed in the present study which highlights the land use/ activity change, the factors responsible for the land use/ activity change and their impacts on other land use/ activity in the area. Various factors are responsible for social and economical development of an area. The literature study shows the rapid growth of the unplanned commercial area leads to various ill effects on the surroundings. This paper helps to understand different factors responsible for the land use/activity change. Here, it is attempted to understand the driver of land use/activity change. The current planning process of the concerned authorities doesn't co-operate with the ground reality of the area.

1. INTRODUCTION

The land use as given in the master development plan of a city comprises of the Residential, Commercial, Mixed use, Public & Semi-public, Industrial, Recreational, etc. The change in the land use to any other than the intended directly influence the microclimate of the region. Many cities of the country have shown a rapid growth in urban areas in past two decades. Urban sprawls are encouraged by the rapid growth in population and density. The data collection involved primary data by through various case studies and secondary data through surveys. A few indicators are examined to understand the dynamics of land use changes, the pattern of the growth of city population. The land use change causes rapid population growth and immigration of rural area people in search of better employment opportunities. This results in urban sprawls. These sprawls results in various ill effects such as traffic congestion in certain pockets at the fringes, depletes locally available resources and cover up most of the open spaces available for the noncommuters. In case of Jaipur city in the surveys, it is concluded that the land use defined in the current Master Plan-2025, is either changed through application or not followed illegally.

The land use change in this context can be even hazardous for the future generations. But if there are provisions in the master plan that the land use can only be changed after a particular period of time or within certain conditions, this won't affect the future development. It is also seen that the

development plans have not implemented properly by the development authorities, which resulted in undesirable land use conversion in that area. This land use change makes it difficult to implement the desired development programs in those areas.

2. LITERATURE REVIEW:

The regular change in the land use is now the biggest concern for the planners at the current time. The urban sprawls results in serious problems to the people living in the area and environment. To monitor the changing land use of Jaipur agglomeration, if remote sensing technique is used in optimized manner, it will be easy to eradicate most of the problems in advance.^[7]

In the other study where the three cities of India have been studied: Jaipur, an old planned city in the state of Rajasthan, Gurgaon, a satellite of the capital city and Ranchi, capital of Jharkhand state have seen rapid population growth, but forces which drive these are different from each other. Considering the case of Jaipur, where there is an attraction from arid and semi-arid regions for education, the opportunity for employment and proper infrastructure. People from India and abroad also visit the city for tourism. Gurgaon, an attraction for people from India and other parts of the world for various purposes such as residential and investment. Some people who work in Delhi prefer to reside here. Ranchi, the capital city of Jharkhand, attracts people for work opportunities, education, environment, and investment. Seeing the major problems in these three cities, in Gurgaon micro level plan is absent. The attraction of people is depended on the location. Jaipur has environmentally collapsed which can be clearly seen in the form of declined water level, increasing heat intensity, air pollution, etc. and the city is not capable of bearing the rapid population growth. In Ranchi, people from the surrounding areas move towards the city for their needs and requirement. The development process is neither well planned nor it is environment-friendly since last two decades.^[8]

3. STUDY AREA:

Jaipur, the capital of the Rajasthan state, also known as the Pink City (as shown in fig.1). Jaipur Municipal Corporation (JMC) and Jaipur Development Authority (JDA) deals with the city’s civic administration. Vidyadhar Bhattacharya, an architect from Bengal, was the architect of the city. However, there was also a contribution of Maharaja Sawai Jai Singh in the planning of the city. Hindu architecture can be clearly seen in the town. It is built in the form of 'pithapada,' an eight-part mandala. Being the patron of astronomy, Maharaja Sawai Jai Singh II used it in the planning of the city. The number 9 or its multiples has been used significantly, and it symbolizes the 9 planets. On either side of the market, 9 rectangular city sectors exist. The transport system of the city is very good where the National Highways link the city of Jaipur to other cities of India. The city also has Jaipur Railway Station which is one of the busiest railway station. Also, Jaipur International Airport has its connection to other cities in India and abroad.

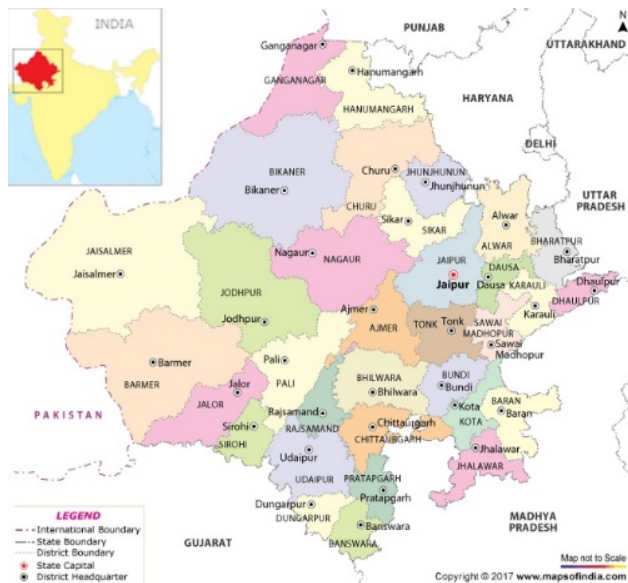


Figure 1- Location of Jaipur Source: www.mapsofindia.com

The study area in Malviya Nagar, Jaipur across the railway line includes some of the important buildings such as Jaipur Stock Exchange, World Trade Park, Gaurav Towers, Anand Fort, Crystal Court, GT Central, Gyan vihar School, Amit Bhardwaj Ground, etc. In the defined area, the land use/activity have been observed on site. This area serves as a main commercial hub for the south of Jaipur. So, there is an extensive amount of pressure in this area. With a course of time, the land use of this area changed significantly. First of all, when the first master plan for Jaipur was formulated, 1971, the whole area was left for agriculture purpose. As the threshold of the residing population on the core city area increased, the fringes of the city started to grow as well. Subsequently, the planning authorities have to change the land

use from agriculture to residential and then to commercial as well. We can see it in past years master plans as shown in fig.2:

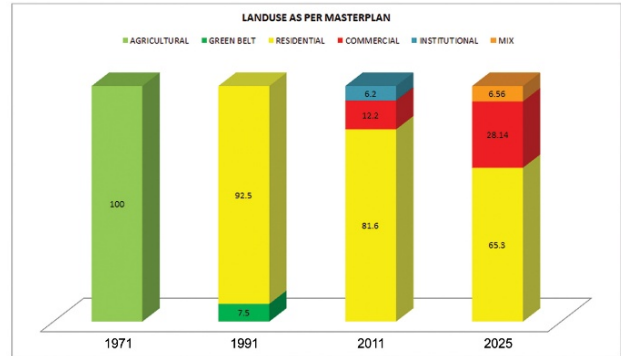


Figure 2 – Land use change over the period in Malviya Nagar, Jaipur Source: author

In the illustrated in figure no. 2 that the percentage of agriculture land has dropped drastically during the time period of 1971-1991. Moreover, the percentage of residential land use also decreases in the period of 1991-2011. This is due to the introduction of commercial land use which increased upto 12.2 percent from an absolute zero. Noticing the development around the authorities took notes for the next master plans as they introduced an entirely new classification of land use, i.e., mixed land use. In the master plan of the year 2025, the authorities have provided 6.56 percent mixed land use, in fact, the commercial increased up to 28.14 percent from 12.2 percent as provided in previous master plan-2011.

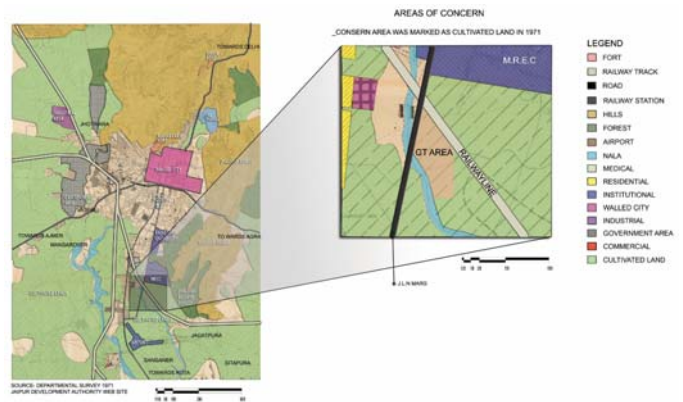


Figure 3- Master plan 1971 Source: archives, Master development plan-1971, JDA^[1]

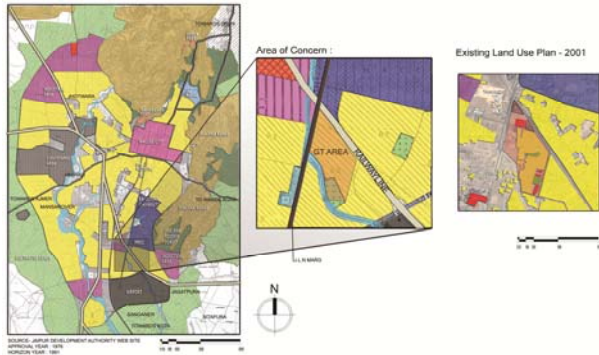


Figure 3- Master plan 1991 Source: archives, Master development plan-1991, JDA [2]

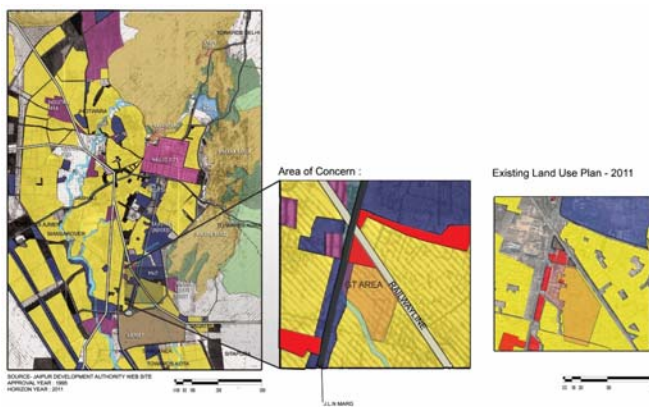


Figure 3- Master plan 2011 Source: archives, Master development plan-2011, JDA [3]

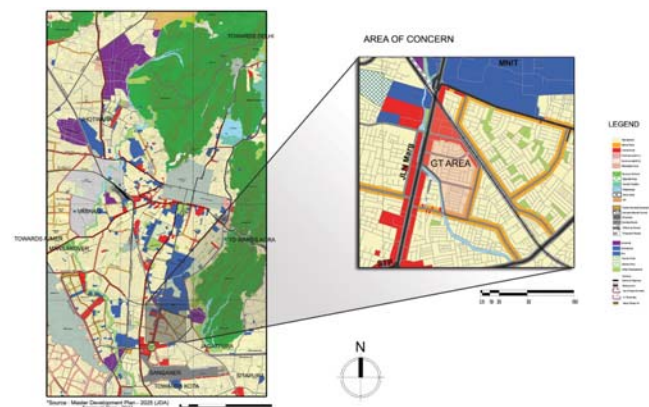


Figure 3- Master plan 2025 Source: archives, Master development plan-2025, JDA [4]

4. INFERENCES:

There was a lack of commercial spaces observed near the residential areas, and the residential area needs commercial activities in terms of some daily need shop, etc. so there was a rise in mixed-use activities in the residential areas. People started having shops on the ground floor and living on the first

floor or shops in the front portion and residence in the rear portion.

Also after the development of buildings like World Trade Park (WTP), Gaurav Towers, etc. there was a need for some commercial activities like small hotels, restaurants, cafeterias, small shopsto be developed, hence the lane behind the World Trade Park (WTP) and near Gaurav Tower area started converted into commercial use and activity.

Problems or the issues with this type of unplanned land use/ activity change include uncontrolled land prices, lack of residential areas which leads to thehousing shortage, parking problems which leads to traffic congestion, environmental problems like noise pollution, air pollution, etc. which leads to bad living conditions.

5. CONCLUSION:

The drastic increase in the urbanization resulted in ever increasing demand of the urban facility. There are two main types of factors identified which affect the land use change, 1) proximate causes and, 2) underlying causes.

When there are unplanned land use/ activity changes, it leads to many problems like parking issues, traffic congestion, environmental problems like air pollution, noise pollution, etc. Sobefore planning an area there are actions to be taken at the planning level which takes care of the land use/ activity changesconsidering the future demands in the area.

The current pattern of the urban sprawl has the drastic impact on the locally available resources and the nearby environment.

REFERENCES:

1. Jaipur Development Authority, Master Plan-1971.
2. Jaipur Development Authority, Master Plan-1991.
3. Jaipur Development Authority, Master Plan-2011.
4. Jaipur Development Authority, Master Plan-2025.
5. Zeleke, G. and Hurni, H., 2001. Implications of land use and land cover dynamics for mountain resource degradation in the Northwestern Ethiopian highlands. *Mountain research and development*, 21(2), pp.184-191.
6. Gupta, R. and Singh, R.B., 2012. Environmental Implications of Land Use Change in Jaipur City Using Satellite Data. *Indian Journal of Regional Science, Kolkata*, 44, pp.141-155.
7. Dr. K.N. Joshi, Changing urban land use and its impact on the environment (A Case Study Of Jaipur city)
8. Gupta, R., 2014. The pattern of urban land-use changes: a case study of the Indian cities. *Environment and Urbanization Asia*, 5(1), pp.83-104.