



City profile

City profile: Jaipur



M.F. Jawaid, Manish Sharma, Satish Pipralia, Ashwani Kumar*

Department of Architecture and Planning, Malviya National Institute of Technology, Jaipur 302020, India

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ABSTRACT

Jaipur is the tenth largest metropolitan region in India, grown to be a popular tourist destination and a centre of business, commerce, and education. It has been the central focus of the state governments' visioning strategies by virtue of it being an urban heritage and the capital of state of Rajasthan, hence the efforts have been made to develop it into the 'world-class' city. After the inclusion of Jaipur City in the Smart City Program, the city is expected to undergo massive urban restructuring. This paper presents an outline of the history and planning of Jaipur, followed by an exploration of emerging urban and infrastructural challenges with a focus on management and governance.

1. Introduction

Jaipur is the tenth largest metropolitan city in India and capital of the largest Indian state of Rajasthan. It is one of the notable examples of medieval Indian Town-planning and architecture. It is a multi-functional city, acting as a major centre for administration, commercial, educational, tourism, healthcare, and politics. It was planned as a walled city founded by Raja Swai Jai Singh II in 1727 as the new capital of Dhoondhar Kingdom. The walled city continues to serve as the city's central business district, hosts a dense concentration of tourism attractions and trade, and originates 60% of the city's commercial activity (MacDonald, 2015).

The city attracts tourists, both foreign and domestic, in large numbers being a part of 'Golden Triangle' with Delhi and Agra. The city of Jaipur on an average served host to about 4900 tourists per day in 2015, with an average stay of 3 to 4 days in the city, with foreign tourist growth rate at 11.70% in comparison to 20.27% of the domestic tourist growth rate (Table 1 and Table 2). The State of Rajasthan stands 6th in terms of foreign tourist footfall (Ministry of Tourism, G. o, I., 2014) and about 30% of the foreign tourists visiting the state visit Jaipur as well.

The paper is divided into three parts. The first part of the paper describes the planning history and socio-economic profile, followed by nature and condition of housing and urban amenities, which is then followed by analysis of Land use and environment of the city. The penultimate section accentuates the problems and issues associated with planning, land use, urban services, and delivery mechanism which also affects the environment of the city. The paper is then summarized by the final concluding section highlighting the opportunities to tackle

the problems of uncontrolled and unplanned urbanization and deteriorating environmental quality.

2. Planning and socio-economic profile

2.1. Location, geography & climate

Jaipur is located between 26°23'N to 27°51'N latitudes and 74°55'E to 76°50' E longitudes (Fig. 1) at an average elevation of 431 m occupying an area of 11,151 sq. km (Master plan 2025). The distances from major urban centres of the region and the country are listed in Fig. 2. The Jaipur City has semi-arid plain flanked by hills of Aravali range on Northern and Eastern parts with isolated peaks with a relative height of over 200 m. These hills house the Fort of Jaigarh, the Amber Palace, Moti Dungri palace, and a sacred spot of Galtaji, etc. It's because of these topographical constraints that the city is experiencing a growth towards the south (approaching Tonk) and west (towards Ajmer) and the city is expanding in a distorted linear geometry. The Southern and Western part of Jaipur also has isolated and discontinuous hillocks. The topography is primarily flat beyond the hills in the city area with a gentle slope from North to South and then to South-East. The Amanishah Nala (also called as Dravyawati River) cuts through the city from north to south and turns eastward to join Dhund River flowing along the eastern edge of the city, to form a single stream. A small drainage system in the north foothills culminates in Mansagar lake.

The Jaipur has hot and dry climate (Bansal & Minke, 1988) characterized by very hot summers with highest mean monthly maximum temperature of 40.3 °C in May and mild winters with mean monthly temperature of 7.8 °C in January and low humidity round the year and

* Corresponding author.

E-mail address: ashwani.patiyal@gmail.com (A. Kumar).

Table 1
Tourists arrival in Jaipur.

Tourists arrival in Jaipur			
Year	Domestic tourists	Foreign tourists	Total
1989	385,000	155,000	540,000
2012	998,703	534,256	1,532,959
2013	1,104,905	566,429	1,671,334
2014	1,170,152	568,234	1,738,386
2015	1,201,152	596,756	1,797,908

Source: Department of Tourism, Rajasthan.

Table 2
Tourist growth rate.

Annual % growth rate	Indian	Foreign	Total
1991–2001	9.45	0.12	6.79
2012–2015	20.27	11.70	17.28

Source: Department of Tourism, Rajasthan.

the average annual rainfall of 633 mm (Meteorological Centre, 2011). The North-West and West are predominant wind direction with an average monthly wind speed of 3.0 to 10.0 kmph during the year, but in summer, there are dust storms, dust - raising winds (Meteorological Centre, 2011).

2.2. History of city of Jaipur

The history of Jaipur Kingdom can be traced back to 1150 CE, but the present walled city was only planned as the new capital in 1727 CE (Fig. 3). The old city design has careful planning with intricate detailing and clarity of thought with amalgamation of contemporary Mughal architectural vocabulary with local architectural style into form and character of the different elements and components individual buildings at the micro level to components and constituents of the city at macro level thereby preserving a high quality of architecture and environment (Jawaid, Pipralia, & Kumar, 2016).

The nature and character of the city was further detailed out and preserved by Mirza Ismail, the Prime Minister of the Kingdom from 1941 to 1946, and it was during this period, that some of the major development started outside the walled city. The city is popularly known as the Pink City because of predominantly pink/rose colour and complimentary colour schemes along with the use of red sandstone in building facades (Jain, 2011). There are two theories associated with the colour of the city being Pink. One theory justifies it as the city of Jaipur being painted Pink to welcome Prince of Wales and Queen Victoria, during their 1876 visit to India. Another theory suggests that the city of Jaipur had been painted Pink to replicate red sandstone which was extensively used in the Mughal Buildings of that era (Sachdev & Tillotson, 2002). It is one of the few planned medieval city which is still catering to present day pressures of vehicular traffic on roads, though the quality of the environment has deteriorated very much in present times with the rise in population and density, and lack of significant conservation measures (Jawaid et al., 2016).

2.3. Urban planning of city of Jaipur

The planned area of the walled city was 481 ha in 1728 CE which

grew to 960 ha by 1930–31 with limits of the municipal area extended beyond the wall of the city with the introduction of railways, etc. The city further expanded to 4000 ha by 1951 during this phase the population also increased rapidly due to the immigration of people during the independence of India in 1947 and accession of the Princely state of Jaipur into the Union of India in 1948. The area of the city also increased to accommodate the growth of population along with economic growth in the industrial area especially after 1970 when the master plans start to be implemented, and the areas of the city reached 17,234.5 ha by 2005 (Fig. 4). The process of the master planning of the city started with the first Master Plan was prepared in 1965 by the Urban Improvement Trust (UIT) for the horizon year 1991 extended up to 1998, within this period the Jaipur Development Authority (JDA) was constituted under Jaipur Development Act 1982. The planning and development activities were then transferred to the JDA which also included the development of housing, lands for housing, infrastructures, etc. The 2nd Master Plan prepared by JDA in 1995 for the horizon year 2011 but both the plan witnessed many shortcomings due to unprecedented population growth on account of in-migration. The 3rd or the current Master Development Plan for 2025 has been prepared by the JDA incorporating the measures to curb the illegal developments and taking the growth rate of development into account.

The master plans were prepared to regulate and monitor the development and its intensity, land use and its changes over the period leading to illegal and unwarranted growth in the city. The Master plans have been found to be ineffective on the part of implementation as it lacks clear-cut guidelines for the development intensity of the urban area with time, the nature and quantum of transformations in the city fabric and the adjoining areas as well as built form and structure within the developed urban area as a whole. This is despite of the fact that the city has a long planned history as well as in the urban planning in modern period especially post independence. The third Annual Survey of India's City-Systems-2015 (ASICS) conducted by Janaagraha Centre for Citizenship and Democracy to evaluate the quality of governance in 21 cities in 18 states on 83 parameters (Centre, 2015) also highlighted substantial shortcomings in terms of urban planning, transparency, accountability and public participation in local governance placing Jaipur at the penultimate position.

2.3.1. Smart City Mission

Rapid urbanization-induced population and economic growth, mostly in Indian Tier I and Tier II cities has exploded many critical issues, and a huge gap is evident between the demand and supply of urban infrastructure and services (Ahluwalia, 2011). The Ministry of Urban Development & Urban local bodies have proposed many programs focusing on providing basic infrastructure, city utility services for such cities and towns, but it earlier lacked sustainable aspects of the development as the core approach. The Ministry of Urban Development, Government of India, has announced the Smart City Mission for the improvement of the quality of life of the residents using urban informatics and technological support to improve the efficiency of services, and Jaipur City has been selected to be a part of the phase 1 pool of cities which will be covered during Financial Year 2015–16 to Financial Year 2019–20. The focus of the mission is on sustainable development and inclusion of technology to carve out smart solutions for the city. With the ultimate goal of achieving urban transformation to promote sustainable development and better living conditions, convergence of other Central and State Government Programs/Schemes like AMRUT, Swachh Bharat Mission (SBM), National Heritage City Development and Augmentation Yojana (HRIDAY), Digital India, Skill development can be aligned with the Smart Cities Mission (MacDonald, 2015).

The core work areas identified as the main pillars of comprehensive

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