Urban Heritage Conservation for Sustainable Development: A Case of Kapurthala



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1 Introduction

Urban heritage within sustainability means to tie together the past, present and future of the cities that meets the requirements of human in any era [6, 7]. Heritage is what has been handed over to generations by their ancestors [2]. It lies in everything right from the fairy tales told by their grandmothers to the buildings one live in or work in. As being heirs to this legacy, there is need to conserve the heritage in the same way as ancestors did. Even the same message was conveyed by the former president of India, Dr. A. P. J. Abdul Kalam, quoted as "we will be remembered only if we give to our younger generation a prosperous and safe India, resulting out of economic prosperity coupled with civilizational heritage" [4].

Kapurthala is one such city in Punjab with rich treasure of cultural heritage in the form of architecture and urban spaces that needs to be conserved in such a way that it becomes the reason for social integrity and economic prosperity for generations to come. But Kapurthala has been neglected and vandalized beyond its limit. Therefore, the paper aims to investigate the existing issues related to the city, and its surroundings and intervene in the form of designing the surrounding areas, recommending the strategies and framework for urban design guidelines.

This paper is structured in five sections. Following the introduction (Sect. 1), a focus on Kapurthala for the contextualization of the study is discussed in Sect. 2.

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© The Author(s), under exclusive license to Springer Nature Singapore Pte Ltd. 2021 H. Singh et al. (eds.), *Sustainable Development Through Engineering Innovations*, Lecture Notes in Civil Engineering 113, https://doi.org/10.1007/978-981-15-9554-7_21 Existing conditions of the city are discussed in Sect. 3. Section 4 draws recommendations for the sustainable urban heritage, and Sect. 5 concludes the paper by summarizing the findings of the study.

2 Setting the Context: An Overview of Kapurthala and Its Heritage

Kapurthala also known as the "City of Palaces and Gardens," recording continuity of settlement and culture since eleventh century, is unique in the aesthetics, and blend of French, Greek, Roman and Indo-Saracenic (Mughal-Gothic) architectural styles and is, even today, a living example of these secular and aesthetic mix of the city. Kapurthala city spreads over 1947 hectares housing total population of over 1.01 lakhs as per 2011 census (Census of India, 2011). Kapurthala Municipal Council has been divided into 29 wards.

Kapurthala, a princely state in British India, is also quoted as "Paris of Punjab" (Fig. 1) because of the monuments which were constructed here during the regime of Jagatjit Singh (1872–1948). He was a frequent traveler across the globe, so he had the global exposure too. That is how he got all the monuments built which were inspired by different styles of architecture. The state introduced fresh innovations and improvements from each such visit. Modern sewage, water system and a telephone system were implemented in 1901. Many highlights were an improved justice system in 1904, legislative and police reforms from 1906 to 1910, a state assembly and

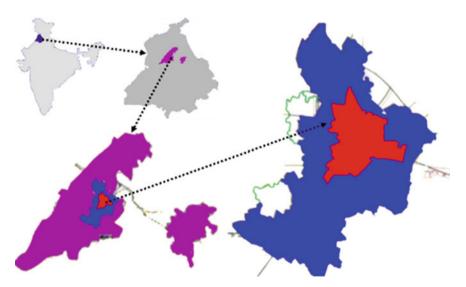


Fig. 1 Kapurthala location on India map. *Source* Prepared from Master plan Kapurthala, 2010–2031

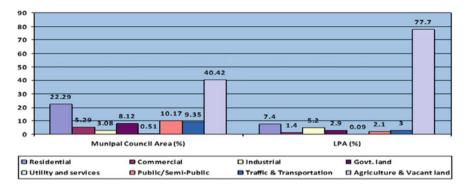


Fig. 2 Land-use map of Kapurthala with percentage distribution of various land uses. *Source* Master plan Kapurthala, 2010–2031

state council in 1916, free compulsory primary education from 1918, agricultural cooperative credit societies in 1920, and factories in the 1940s.

Land-use pattern: Most of the core area of the city is very densely populated with very less open spaces. The graph actually shows above 40% of open space in municipal council area. But the fact is that open land is actually trapped in some complexes like Jagatjit palace, Kamra Bagh, D.C. residence, etc., which actually is not accessible to the public. City is now expanding outwards, as is shown in master plan which shows considerable amount of residential development on Kapurthala-Jalandhar road (Fig. 2).

Sustainability and quality of life are closely linked to the quality and effectiveness of physical and social infrastructure in urban areas. Physical infrastructure is like the backbone of any city where as social infrastructure is all about better society and community development.

Traffic and Transportation: Intercity traffic is managed by bus stand and railway station which is located inside the city. Though there is no airport in close vicinity except one at Amritsar which is 75 km from here. There is no truck terminal present in the city. Autorickshaws and rickshaws are there in the name of public transport within the city. Some of the key issues include acute shortage of parking, absence of railway over bridge, leading to jam on rail crossings, inadequate road width within the urban area, due to encroachment on both sides of the roads.

According to Kapurthala Water Supply and Sewerage Board, "82% of total area of town (2008) is covered with sewerage system and rest area is served through septic tanks and independent institutional setup." According to the data available from Kapurthala Municipal Council, the total solid waste generated on daily basis in the town is 25 tons. Out of the total, 80% waste (20 t) is domestic waste and rest 20% (5 t) waste is from sabzi Mandi.

There is no system for storm water drainage, and water generally flows into open drains (Fig. 3). Kali Bein (Black Stream-rivulet of Punjab) is the main source of surface water in the town. But due to the water pollution caused by the industries, its



Fig. 3 Condition of neighborhood. Source Author

water is no longer potable. Therefore, Kapurthala is dependent on ground water for water supply.

Recreational/Open spaces: There are two parks and one stadium in the town. Parks are Shalimar Bagh and Kamra Bagh, both having area of 8 ha each. Then, there is Guru Nanak Stadium present in the city. Municipal Council Office and Fire Brigade are in the Shalimar Bagh. Guru Nanak Stadium on Jalandhar Road is used for all types of sports activities and government functions organized in the city.

Socio-cultural: Socio-cultural facilities include community hall, sports complex, stadium, playgrounds, public libraries, art gallery, cinema hall (550 seats), dharamshala's (rest houses). The key issues are the poor infrastructure in District Library and Community Hall, no multiplex or mall in a city; the only cinema hall present there is in critical condition, a need of community rooms, community halls, library, recreational club, drama, dance, musical center, meditation hall and spiritual centers.

2.1 Heritage Buildings in Kapurthala

City has a number of buildings which have historic, cultural and heritage importance. Built heritage includes museum and palaces, gardens, clock tower, temples, gurudwaras, community hall, clubs, schools, colleges and guest house. Efforts made by the last ruler of Kapurthala, Jagatjit Singh, transformed the image of the city into a colonial look alike. Beautiful gardens like Shalimar Garden and Kamra Garden are famous for their tree lined avenues and quality of plantation. The city has a very prominent urban axis (Jalandhar–Kapurthala Road) along which nearly all the major historical structures were built, with Jallowkhana at the beginning of this axis. All the heritage structures and the axis itself are shown in Fig. 4. However, architectural style of various heritage buildings inside the city has been shown in Fig. 5.



Fig. 4 Map showing the location of heritage sites and their approach routes. *Source* Primary survey done by author

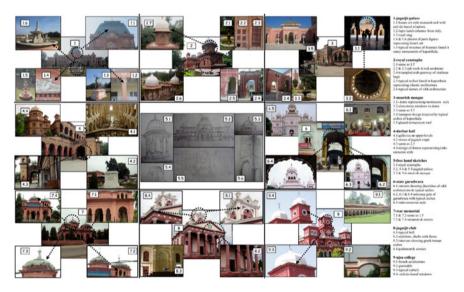


Fig. 5 Architectural style of Kapurthala. Source Primary survey done by author

3 Issues and Challenges in Kapurthala

Kapurthala is an example of historic towns but the current scenario of the city does not reflect the magnificence of its past. This is due to shear neglect, continued dereliction and vandalism of some of its historic monuments and poor level of social and physical infrastructure. The city is no longer Paris of Punjab. Its rich cultural heritage is deteriorating and dying due to lack of awareness among the local residents. Although the city has abundant heritage resources, planning and management of heritage core areas has always been neglected in Kapurthala. Limited attempts to conserve the built heritage and lack of initiatives regarding marketing of Kapurthala heritage has resulted in decay and destruction of the rich heritage. This section is an attempt to map out the issues related to heritage management in Kapurthala which could be reversed back with various interventions.

Vandalism and neglect: There have been a total neglect for many public as well as private heritage buildings. Two such palaces, Jallowkhana and Gol Kothi, are the paragons of total institutional neglect. Gol Kothi has to be maintained by State Archaeology Department of Punjab [1], but it is in ruins and declared not fit to be occupied by local authorities. Jallowkhana is also in a very pathetic state and is in ruins too. It is even encroached by local neighborhoods. Ex-army headquarters which is also known as Bhoot Bangla is also in very pitiable plight.

Lack of green spaces: Most of the core area of the city is very densely populated with very less open spaces. There is 40% of open space in municipal council area [5]. But the fact is that green spaces are very unevenly spread and trapped in some complexes like Jagatjit palace, D.C. residence, etc., which actually is not accessible to the public.

High-density core areas: The core areas of the city are very densely populated. There are zig-zag narrow streets with open drains on either one or both sides. There is lot of encroachment in terms of vehicle parking and in the form of informal commercial activities by the shopkeepers too. For instance, Jallowkhana lies in ward 20 of the city which is a medium density ward but immediate wards surrounding it are highly dense in terms of population per hectare (Figs. 6 and 7).

Fig. 6 Comparison of population density. *Source* Master plan Kapurthala, 2010–2031

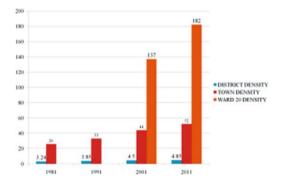




Fig. 7 Urban fabric around Jallowkhana. Source Master plan Kapurthala, 2010–2031

Uneven distribution of various amenities: Schools, colleges, hotels, religious buildings, etc., are unevenly distributed throughout the city which increases the walkable distance from them. And when the distance increases, people prefer using automobiles than being pedestrians. Thus, adding to the number of vehicles on the road. So, uneven distribution of such amenities, along with other reasons like situation of bus terminal in the center of the city, is some reasons for a greater number of traffic jams in the city. The following are some of the ped-shed analysis showing walkability from Jallowkhana site (Fig. 8).

Some new insertions are unsympathetic to the scale and character of existing historic structures, and such haphazard developments have not been monitored by the local authorities. Resource shortages have resulted in no maintenance and thus environmental degradation. Additional damage has also occurred due to unconsidered additions, repairs and alterations.

4 Proposals and Recommendations for Sustainable Development of the Historic Town

The first step is to develop the entire building form and architectural style of palaces and gardens as they once existed. Nowadays, historic buildings are completely ruined and encroached by residents (Fig. 9). Residents have built their houses on the historic lands. However, the court ordered that the original position of Palaces such as Jallowkhana be restore but the local authorities took very little or no steps

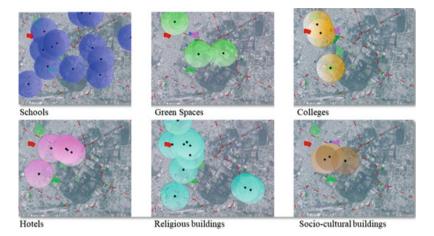


Fig. 8 Ped-shed analysis. Source Author

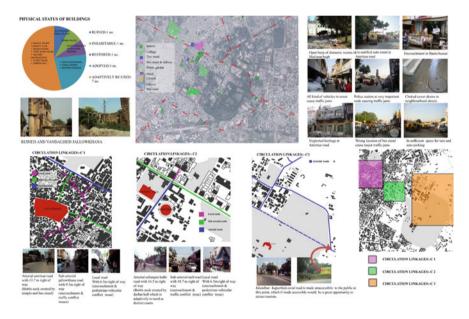


Fig. 9 Existing conditions of Kapurthala. Source Author

to protect their land and existing structure. Some of the urban design proposals and guidelines are suggested that can be adopted by the local government officials for the conservation of urban heritage and the integrated revitalization of the Kapurthala. In addition, by conducting a SWOT analysis, one can focus on the strengths, minimize weaknesses, and make the most significant possible advantage of opportunities available [3].

Fig. 10 Design proposal. *Source* Author



4.1 Urban Design Proposals and Guidelines

Walkways around the peripheral roads can be proposed and carved out from the historic structure's land itself. Further, ample open spaces can be left around the palace, so that people can sit here and relax. Huge space can be designed in front of the street, which makes its way from Shalimar Bagh because it was there in the original design. Copper water tank present in this open area is adaptively re-used. Its new use is of a new watchtower. Tourists can come here and see the whole area from here. Further, its function of supplying water is also proposed to be re-established, and it would supply water to the new development only. Some of the proposed spaces are library, restaurant, museum, art and craft school for women, light and sound shows, display areas for the retail of handicrafts, watchtower, statue of Jassa Singh Ahluwalia, etc. (Fig. 10).

Framing the urban design guidelines is very important for this part of the city. Now, as the proposal is to renovate and conserve the palaces, the surrounding areas also need to be intervened. So, guidelines for the façade regulations of the two main approach streets to the Jallowkhana are prepared. Some of the guidelines are listed below:

- Streets from Shalimar Bagh and Sadar bazaar need to be pedestrianized. The street width would be such that an emergency vehicle could move.
- As the corbels/brackets are very much used in the city buildings. So, the implementations of the corbels need to be there, which would support the roof projections.
- Typical arches which are used in many of the heritage buildings need to be made part of the façade of these two historical streets.
- Another proposal is to remove all the visual pollution by laying down underground
 cables for telephone and television. In addition to this, a standard hoarding design
 would be made for all the shops on the streets. The material of the hoarding would

be red sandstone, and the name of the shop would be carved in that with font height of 100 mm only.

- Land use of all the shops needs to be assessed. In order to promote tourism, local handicrafts and materials would be sold here.
- All the street lights would be operational from solar energy.

5 Conclusion

The findings and observations from the study highlight the fact that while the urban heritage of the city is currently under severe stress.

- There are tremendous opportunities to renew that area through sustainable urban renewal.
- To sustain the heritage value of the city, it requires a comprehensive set of visions to enhance same and inclusive economic development.
- Further explorations for improving urban design elements and community-based area renewal in the city may be carried out along with the recommendations provided in this paper.

Acknowledgements Authors would like to thank local government authorities of Kapurthala city for allowing visits to the site and conduct the surveys.

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