



Values and Conservation of Rural Landscapes

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Abstract

The present paper is the outcome of the research focussed at studying the architecture and landscape of villages of Pune district. This research had two fold aims - to study the relationship between the landscape and settlement pattern at the macro level and the effect of natural and cultural variables on architecture and manmade landscape at the micro level. To study the landscape characteristics and settlement pattern, GIS mapping was used. The distribution of villages, house density, forests and agricultural land is found to be associated with the slope and relief of the district. Interviews with the villagers, mapping and observations helped to study the associations of people with landscape. The cultural landscape of the rural settings is shaped by the socio-religious associations of the people with the natural landscape elements viz., landform, water and vegetation. The paper highlights the traditional knowledge systems which may prove useful in today's context of resource scarcity. The rural landscapes are valuable resources to understand the man-nature relationships. Value based conservation of these landscapes is essential for preserving the traditional knowledge systems and guiding the development of these areas.

Key words: Nature, culture, traditional knowledge, settlement pattern, cultural landscape

1. INTRODUCTION

According to the Census of India 2011, 68.84% Indians (around 833.1 million people) live in villages. Traditional rural settlements represent the best synthesis of people's ability to modify the environment to their own advantage with the least impact (Sangiogi, 2008). Rural areas are characterised by low densities, farmlands, and region specific agricultural practices. The vernacular architecture of rural areas is a response to physical environment, resource availability and socio-cultural patterns. Architecture here takes a form which is most deeply rooted to the context in which it grows and is closely associated with the people who make it (Jain, 1980). The rural landscapes which embody traditional knowledge of sustainable management techniques are largely unexplored (Shimrah et al., 2012).

Sangiogi (2008) stated that due to the state of decay of rural heritage the international community has started taking interest in it. The International Council on Monuments and Sites (ICOMOS) vide its various charters aims at conserving the tangible and intangible heritage of the world. A more specific charter of the ICOMOS on Built Vernacular Heritage of 1999 state that due to homogenisation of culture and of global socio-economic

transformation, vernacular structures are extremely vulnerable, and are facing serious problems of obsolescence, internal equilibrium and integration (ICOMOS, 2018).

The classical and heroic architecture of India has been well documented and fairly well preserved but the vernacular traditions, despite their closer association with the people have been ignored (Jain & Jain, 2000). Many relevant studies with a focus on rural livelihoods such as (Shriniwas, 1977) can be found in various disciplines of sociology and anthropology. However, there are only a few relevant studies such as Jain & Jain (2000), Udumale (2003) concerning the architecture and landscape of rural areas. The research focus on Architecture of Maharashtra has been predominantly on the fort architecture, temples (Kanhare, 1989) the *wadas*, colonial architecture (Gupta, 1985). Given this background, this paper focuses on the traditional wisdom, landscape associations and resource management techniques followed across various villages studied.

2. THEORETICAL UNDERPINNINGS

Meinig (1979) in his Ten Versions of the Same Scene explored the observer bias and stated that any landscape is composed not only of what lies before our eyes but also what lies within our heads. He thus gave the ten interpretations of landscape as: Nature, habitat, artefact, system, problem, wealth, ideology, history, place and aesthetics. These are values which people may hold for the landscape and accordingly respond to it. Homans (1958) in his Social Exchange Theory states that people engage in an interaction process where they seek something of value which may be material, social or psychological. Baudrillard (1998) discussed ways in which values are attached to objects such as functional value, exchange value, symbolic value and sign value.

Cultural landscape as a concept was evolved by German geographer Otto Schlutter (Cultural Landscape, 2018). Sauer (1925) stated that there is a distinct relation between people, culture and ecology. Ramkrishnan (2001) stated that the eco-centric view of traditional societies is widely reflected in their attitudes towards plants, animals, rivers and the Earth. He defines the word Traditional Ecological Knowledge [TEK]. Rural areas are rich with TEK and hence there is a need to explore this knowledge. For example: Singh, Pasupuleti and Khare (2016) studied the disaster risk reduction through learning of traditional architecture and settlements in the Bagori Village of Uttarkashi in North of India.

The study of rural landscapes can thus bring forth the man-nature associations and valorisation of landscape and also shed light upon the traditional knowledge systems in the rural areas. With these two objectives, the study was carried out. The setting of the study and the methodology is presented in the succeeding sections.

3. SETTING FOR THE STUDY

The study was limited to the villages in Pune District of Maharashtra. Pune, the eighth largest city of India is an important urban centre in the western part of the country and is around 160 kilometres from Mumbai. It lies between 17 degrees 54' and 10 degrees 24' North latitude

and between 73 degrees 19' and 75 degrees 10' East longitude. The district has a geographical area of 15,642 sq.km. (NIC, 2017).

The shape of the district is roughly triangular lying at the foothills of Sahyadri ranges and can be broadly divided into three zones based upon the physiography viz., *Ghatmatha*, *Maval* and *Desh* [Refer figure 1]. Climate of the western region of Pune is moderate whereas the eastern part is hot and dry (NIC, 2017). *Ghatmatha* is the western rugged zone of hilly terrain and deep valleys, the *Maval* is the central zone with small hills and plateaus while *Desh* is relatively flatter zone (Mishra, 2013).

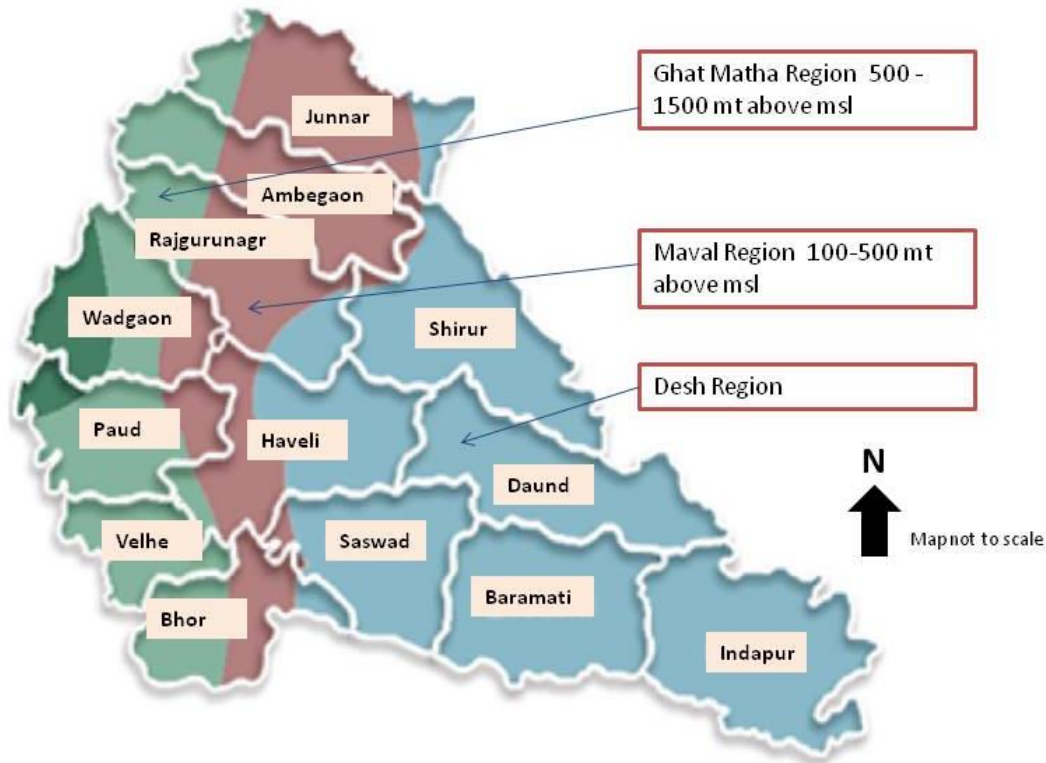


Figure 1: Geographical Divisions of Pune District
Source: Based on <http://krishi.maharashtra.gov.in>

For understanding the landscape associations of people, villages from all the three geographical zones of the district mentioned above were selected.





4. METHODOLOGY

The research was designed as a qualitative inquiry using multiple tools of data collection. The research aimed at exploring peoples’ associations with the landscape. At macro level, Geographic Information Systems (GIS) mapping helped in understanding the geographical landscape of the district and village distribution and location. The case study method was used to get insights at the micro level. At case (village) level, tools such as field observations, interviews with villagers and secondary data from the local administration offices of the village helped in understanding the patterns of association with the landscape elements.

4.1 Case selection

Around 13 villages from various geographic zones of Pune district were studied (Refer Table 1) and three villages were selected for detailed study.

Table 1: List of villages studied with salient features

S.No.	Village Name & Taluka	Salient Features	Images
01	Bhedse (Tal Maval)	Buddhist caves, Tourism	
02	Bhaje & Karle (Tal Maval)	Buddhist Caves Ekvira temple & Pilgirmage	
03	Shilatne (Tal Maval)*	Relatively non-descript agrarian village along base of a ridge	
04	Tamhini & Adarwadi (Tal Mulshi)	Rice cultivation Steep sloping roofs Devrais (sacred grove)	
05	Kadus (Taluka Khed)	Tukaram Gatha, famous for temple. Interesting Brick masonry, courtile houses, timber framed construction.	
06	Ranje (Taluka Bhor)	Temple, water kundis, water harvesting system	
07	Hiware (Taluka Purandar)*	Engirdling wall around the village, Shiv temple.	
08	Roti (Taluka Daund)*	Significant Shiv Temple, Rotmal nath temple, Mundan/Head shaving ceremony, Water harvesting system	
09	Kumbhargaon (Taluka Indapur)	Lake, Famous for migratory birds, particularly the Flemigoes	
10	Morachi Chincholi (Taluka Shirur)	Peafowl is a big attraction, resorts	

Note: *studied in detail

4.1 Methods of Data Collection

For the study following methods were used:

- GIS Mapping
- Field study, by physical inventory and mapping
- Measured drawings and documentation of various landscape features.
- Personal interviews with the villagers.
- Indepth interviews with key informants (using a non-structured informal approach).
- Secondary data from the village administration office.

5. FINDINGS

The findings in this paper are grouped as per the three landscape elements viz., landform, water and vegetation.

5.1 Landform

The distribution pattern of villages in the district with reference to the natural landscape of the district was undertaken for which GIS mapping was used. However considering the focus of this paper, the GIS mapping results are only mentioned here and are not elaborated or presented in detail. The GIS data analysis brought forth the following observations: The terrain in terms of its slope and elevation has an effect on the distribution and size of the villages. The steeper slopes and higher elevations have smaller village sizes but greater density of villages as compared to the gentler slopes and lower elevations in the district. On higher altitudes the forest is denser as compared to the lower ones. This is also due to the Sahyadri range Ghat Matha region with abundant rainfall, and lesser development due to steep slopes. The gentler slopes offer flatter portion of land for agriculture and hence more agricultural lands are found in the Desh and Maval region as compared to the Ghat Matha. The topographical characteristics affected the architecture of the villages in terms of plinth profiles and retaining wall (Figure 2).



Figure 2: Stepped plinth of village houses



Figure 3: Engirdling wall at Hiware Village.

In the village Hiware, located on a flat terrain, interesting feature of a defensive wall engirdling the village is found, as there is no natural feature available for defence. This village belonged to one of the ministers of the Maratha rulers in 19th Century.

5.2 Water

In the surveyed villages, various forms of water conservation and storage techniques can be seen under usage. A few of them are presented below:

Water system in Village Ranjhe (Taluka Bhor, Pune)

The village has an architecturally significant temple dating back to the 19th Century. The temple precinct has a tank (kund). The kunds have natural springs of water and can be accessed by the flight of steps for holy bathing or ablution. The overflow from the kund is diverted through a channel which in turn drives out water outside the temple precinct into the farmland to irrigate it. Finally, the water is driven into a well where it is discharged replenishing the water table (Figure 4).

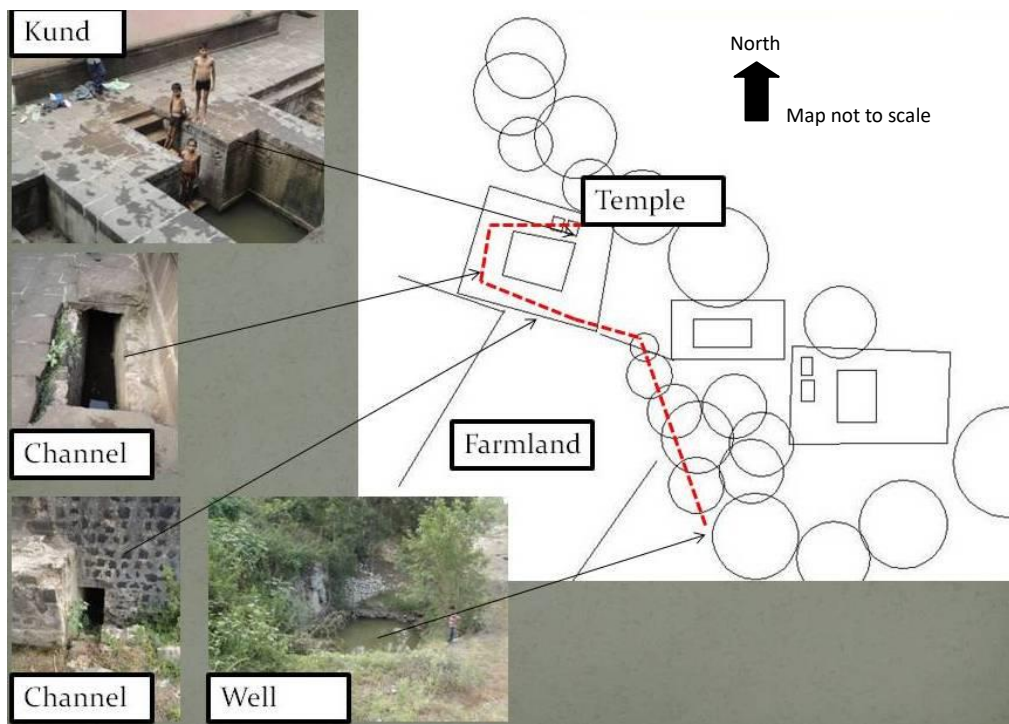


Figure 4: Plan showing Water Management System at Ranje

Water system in Village Hiware (Taluka Purandar, Pune)

On the western edge of the village, a natural rivulet flows along which the Shiva Temple has been sited. This seasonal rivulet has been dammed by constructing an embankment with walkway above. This embankment consists of sluice gates below to allow water flow during flooding. This system retains the water in the channel to allow people to use this water for holy washing from the temple side (Figure 5).



Figure 5: Embankment at Hiware

Water harvesting pond in Village Roti (Taluka Daund, Pune)

Daund is one of the drought prone talukas of the district. Roti village situated around 40 kilometres from Baramati town demonstrates water conservation strategy similar to the Khadin ponds in Rajasthan. The low lying terrain is used to store water by constructing an embankment. This water replenishes a village well-located at the foot of the embankment (Figure 6).



Figure 6: Water Harvesting at Roti

5.3 Vegetation

The people's association with vegetation were found to be primarily of two types: utilitarian and religious. The religious associations with vegetation were found at a larger scale in the form of sacred groves, at the village scale in the form of tree shrines and at the domestic scale in the form of plants of religious significance planted in the domestic open spaces.

Devrais or Sacred Groves were found mostly in the Mulshi taluka of the district where the forests of the Western Ghats are located. The villagers believe that the forest or grove belonged to the Gods and therefore the shrines of these Gods are worshipped. Cutting any tree or even picking up any twig from the grove is strictly prohibited. Hence, old specimen of native species of this region still can be found in these groves. This sacred belief in turn was a conservation mechanism for the local bio-diversity and ecology.



Figure 7: Temple at Sacred Grove in Tamhini (left), Tree shrine at Ranje (Centre) and Tulsi plant with rangoli in front (right).

Local species like *Ficus bengalensis*, *Ficus religiosa*, *Ficus racemosa* are worshipped and tree shrines were constructed around or below them in the villages.

Tulsi plant is planted in front of many of the houses and worshipped daily. A pattern on ground made using white powder, called rangoli is drawn every day by women in front of the *Tulsi vrindavan* located in the house. *Tulsi vrindavan* is a special built planter to hold the *tulsi* plant. Fodder, fuel, tree products, fruits etc are extracted by the villagers from the plants in the village, or in their house or in the forests around. However, they are restrained from taking anything from the sacred groves. In the villages of Mulshi taluka, the local fruits like black berries were extremely popular among the tourists and selling these fruits helped in generating income for the local community during the fruit season. Through the interviews with the villagers, it was realized that their staple food included mostly the produce they grew in the farms or near their houses. The vegetables they consume depended upon the season in which they were grown. Apart from the associations with landform, water and vegetation, it was found (in two villages) that tourism (generated due to birds) was an important source of income for the villagers.

5.4 Birds

In the village Morachi Chincholi, landscape with vegetation attracts peacocks. The local people feed the peacocks. The local economy of the villagers depends on the tourism, which

thrive on the tourists coming to see the peacocks. Similar was the case with Kumbhargaon, a village in Indapur taluka. The water courses in this village attract migratory birds including the flamingos and the local communities thrive on tourism as one of the important sources of income.

6 SUMMARY OF FINDINGS AND CONCLUSION

The emphasis was on understanding the landscape associations of the villagers, valorisation of landscape elements and traditional ways of conserving landscape and resources, as discussed below:

- The topography and relief of the district affected the distribution of villages. It was found that the density of villages was inversely related to the gradient of the terrain. While at the micro scale, the settlements followed the terrain and adopted techniques like stepped plinths, retained storm water channels and maintained harmony with the landforms.
- Reservation of sacred groves by the rural communities ensured conservation of native species. At the village level the tree shrines, tree worship ensured protection of native trees. Plants with religious, utilitarian and medicinal values are planted in and around the houses. Villagers' staple diet consists of local farm produce enable them live a very sustainable life style.
- Sustainable water management techniques were learnt from the study of the villages. The religious associations of people with water resulted in elements like kunds in temples and ghats along the water courses.
- Morachi Chincholi and Kumbhargaon demonstrate unique cases of village economies based on tourism attracted due to the migratory birds. Conservation of the landscapes is thus necessary to sustain the migratory birds.

It can be thus concluded that there are still strong associations of the people with the landscape. These associations are manifestations of the values which the people hold for various landscape elements. Native plants (through sacred groves and worship of the sacred groves) are being conserved due to their religious value and significance, while the tourist attractions (due to birds) demonstrate the economic value of landscape. Water conservation techniques demonstrate the resource value of landscape. There are lessons to learn from the rural landscapes about resource management and sustainable life style. The rural landscapes are valuable resources to understand the man-nature relationships and value based conservation of these landscapes is essential for preserving the traditional knowledge systems and guiding development of these areas.

Authors' Note

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