The Relationships Between Socio-Economic, Political and Cultural Profiles of the People and House-Forms: Sawantwadi, Maharashtra, India During the British era.

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Abstract

India is a country with diversity in climate, socio-economic status, political background and culture. Thus, the uniqueness of each region resides in its knowledge system in the form of its traditional architecture and climate responsive characteristics. Domestic architecture helps understand the socio-economic, political, and culture of any place. In order to understand housing in any particular place, one needs to understand the governing factors that have shaped it, such as the socio-economic status, political background and culture. These parameters exist at two levels: the macro and the micro. The macro level relates to planning & architectural aspects while the micro level relates to art, architectural details and social practices affecting the built habitat.

The aim of this paper is to explore the relationship between historic houses of Sawantwadi during the British era (1865 to 1947) and the socioeconomics-political and cultural aspects. The paper discusses different socioeconomic-political & cultural aspects of the people of the Sawantwadi town of British era and its relationship with the house-forms.

This Research employs data collection through documentary surveys, focus group discussions and observations. The paper concludes that the traditional house-forms in Sawantwadi have strong connections with socioeconomic -political & cultural profile of the residents and that it has enabled effective, efficient, economical and user-friendly house forms.

Keywords: House form, socio-economic -political aspects, culture.

1.0 Introduction

Sawantwadi is situated in the southern part of the coastal Maharashtra (*Konkan*¹), within its administrative set-up. It is a *taluka*² in the Sindhudurg district of Maharashtra, India. It has a tropical climate with temperature varying between 27 °C and 34 °C.

The history of Sawantwadi is very rich. The state was earlier ruled by the Maratha

¹ Konkan: Coastal region of Maharashtra in Western India.

² A taluka is a subdivision of a district, comprising a number of villages for revenue purposes.

dynasty Sawant-bhonsale. Historically, the region was very well-linked to distinct places through ports (eg. Vengurla port) long before the arrival of the Portuguese. These ports were used for trade regularly and were one of the main sources of transport.



Fig. 1: Maharashtra map showing location of Sawantwadi. Source: Author

On 7th April 1865, Sawantwadi state became a British protectorate. The rise of the British and the declining glory of the Marathas resulted in unstable conditions. On the same day, Sawant-bhonsale (king of Sawantwadi) and the British reached an agreement and obtained trade concessions in each other's territory. According to this agreement, the *Wadikars*³ gave lot of trade rights to the British in Sawantwadi. As a result, if the goods had to be transported from one state to another, the British were also given a license to do so. Due to this agreement, British traders started trading freely in and out of the state.

Sawantwadi, the capital of the Sawantwadi Sansthan was well-known for making wooden objects like Children's toys and *Ganjifa*⁴. The wood required for making wooden products was found in abundance here. However, the demands for these items were low. *Ganjifa* playing cards were of two types, 1) Hukumi 96 and 2) Dashavatari 120 cards. *Ganjifa* was started in Sawantwadi Sansthan, for the first time in 1760.

In 1949, Sawantwadi state merged with India and became part of Bombay and then Ratnagiri. On 1st May 1981, it was announced to be a *taluka* in the Sindhudurg district.

The selected research area of Sawantwadi falls within the *Western Ghats region*⁵, which is one of the UNESCO's listed World Heritage sites (as natural site). The historic houses of this place are products of the socio-economic-political and cultural aspects; it is sustainable and cost effective too. An analysis of these would yield a richer understanding of how socio-economic, political and cultural aspects have shaped it. Due to the change in these aspects, the historic house forms are becoming vulnerable. Today, apathy of climate and environment change is followed by change in the character of the place.

The aim of this paper is to explore the relationship between historic houses of Sawantwadi during the British era (1865 to 1947) and the socio-economics, political and cultural aspects. The objective is to study the influence of the socio-economic, political and cultural aspects on the domestic architecture of the place and time.

2.0 Review of Literature

Amos Rapoport (1969) in his book 'House Form and Culture' has discussed the form-giving parameters for a house in the vernacular context. He has argued that of all different parameters like climate, knowledge system, function etc., socio-cultural considerations are the

³ Wadikars are the residents of Sawantwadi.

⁴ Ganjifa is a type of playing cards and are traditionally hand-painted.

⁵ Western Ghats region are the Sahyadri hills range running parallel to western coast of India.

most influencing in giving a form to ta house. According to him, culture is responsible for giving certain type of forms.

In the Indian context, lot of work is available on $Haveli^6$ or courtyard. V.S Pramar's (1990) book on the Havelis-Wooden houses and Mansions of Gujarat describes wooden houses as the showcases of fine wooden art in the region. These wooden houses are good examples of traditional lifestyles, customs, and beliefs of its occupants.

When we talk about the domestic architecture of Maharashtra, two works should be considered. One is the work by M.S Mate (2008) on the architecture of Maharashtra and other is G'K. Kanhere (2013) on the courtyard houses of Pune. Both discuss various aspects of traditional architecture and socio-cultural factors, which shape domestic architecture.

3.0 Methodology

Multiple strategies and methods are used to collect data. The strategies are,

- I. Interpretive Historical Strategy
- II. Case Study Strategy

I. Interpretive - historical strategy

Part 1: Analysis of archival writings.

The interpretive-historical strategy focuses on processing the available quantitative data from secondary sources. Different data sources, which are available in native and English language are categorized as follows:

- a) **Official records:** These include sources like the Gazetteer, survey reports and other publications by the government.
- b) **Descriptive writing:** These include travelogues, guides, memories, etc. written with the purpose of describing the town and its houses to a general audience.
- c) **Prescriptive writing:** These are written by authors conversant with the field of house design and construction in order to increase the awareness about the subject.

Part 2: Field inventory of extant house form.

All the extant houses from the British era of Sawantwadi were considered as data and are collected from the revenue department (i.e. from property tax department). Based on the visual reckon survey, following houses were eliminated from data.

- a) Houses with no proper access and permissions.
- b) Houses built with multi-owners.
- c) Houses dilapidated beyond recognition.
- d) Houses that had been extensively modified and do not reveal its original characteristics.

After elimination, 110 extant houses were recorded from the British era of Sawantwadi and were considered as the sample. Photographic inventory for these samples were prepared and further analysis was done. Based on the identified characteristics of the socio-economic, political and cultural aspects, these samples were categorized into four major types.

The types are based on house forms influenced by

- 1. Political affiliations.
- 2. Cultural aspects.
- 3. Socio-economic status.
- 4. Others.

⁶ Haveli is one of the traditional house forms of India.

Table: 1 Identified characteristics of house form types Source: Author

	Methodology/ Justification	
I. Pol	itical affiliations	
1	Family background	
2	Architectural Characteristics of the house form	
	 Size of the plot area is bigger with more built up area. Consists of one or two courtyards. More rooms with bigger span compared to other types. Consists of <i>Kacheri</i> (office)/<i>Darbar</i> (meeting room) area, <i>Sopa</i> (covered veranda), social gathering space, inviting entry, more than one wooden staircase. Houses with large square or circular pillars for front veranda, large & good quality of wooden sections, mostly imported from abroad. Bigger size main door with decorative frame. Coloured glass windows with iron barred grills. Cantilevered balconies, use of steel sections etc. Wall thickness is more than 1 meter, constructed with stone, mud, lime, jaggery etc. Use of aesthetic elements like decorative facia and arches. 	Multiple- strategy method
11. Cu	Itural aspects Family background Architectural Characteristics of the house form Planning as per Vastu Shastra Provision of front verandas for visitors. Consists of one Majghar house plan. Majority of houses for particular Brahmin community have two kitchen concepts and Devghar is near the vegetarian kitchen. Nahani (Bathroom) is provided near the kitchen (as per cultural aspects, kitchen can only be entered after bathing). Walls are constructed with mud and floors are finished with cow dung. Women-centric spaces are provided at the back of the house.	Multiple- strategy method
111. So 1 2	Family background Architectural Characteristics of the house form Two Majghar (Hall) planning is the main character of this type. Padavi, the back side varanda contain various equipment. Loota is provided with a wooden jail. Use of aesthetic elements like decorative facia, and arches Guest bedroom is provided at the front (entry from Loota).	Multiple- strategy method
IV. O	thers	
1	Family background	
2	Architectural Characteristics of the house form	

	Small in size with limited rooms.	Multiple-
	Constructed with mud and locally available materials.	strategy
	Small staircase, which leads to the attic.	method
	Linear planning.	

Limitation

This research does not carry out any depth analysis of materials, or any investigation by physical intervention in the building (scraping, removing layers, collecting samples, opening joints, etc.) It also does not involve any techniques like chemical analysis. All this is beyond the scope of methodology.

II. Case Study Strategy

Multiple case studies consider socio-economic, political, cultural, architecture and technological aspects with maximum diversity but evenly spread over the period of study was the basis of selection of cases. This data was derived from the published biographies, memories and other documents. Wherever no published data is available, surviving family members became the data source.

The second type of data is architectural characteristics of the selected houses. The houses themselves are the sources of this data. Additionally, archival photographs, documents, or drawings were also used as a data source. Data for the case study is collected from the following sources:

- a) **Interviews:** In-depth open-ended interview of the owner's descendant is conducted and data is identified as per the heads and codes mentioned in the table no 2. Content analysis of the transcripts are used to extract relevant data from the conversation.
- b) Field Observations: Documentation of the house.
- c) **Document Analysis:** Archival documents related to the owner/ family/ house if found.

Table 2: Type of content. Source: Author

S. No.	Type of content (heads)	Code
1	Family background.	FB
2	Economical & social status of family	ES
3	Lifestyle	LS
4	Traditional customs & values	TCV
5	Environmental values of house form.	EV

4.0 Socio-economic and political profiles of the residents of Sawantwadi. 4.1 Social life

The Sawantwadi society was generally stratified in terms of caste, economic status, occupation and gender. The residents of Sawantwadi follow the historically rooted occupations, based on community definitions. For example, the different caste groups are based on occupations. As a result, every caste was independent from the other and specific customs, traditions, and practices of a particular caste existed. As per the census 1871, a total 21 castes or community divisions were recorded belonging to different traditions and culture (Fig.2). Based on these different occupations, people formed into small groups called *wadi*⁷.

⁷ Wadi is a small settlement comprising with majority of people belonging to the same caste and occupation.

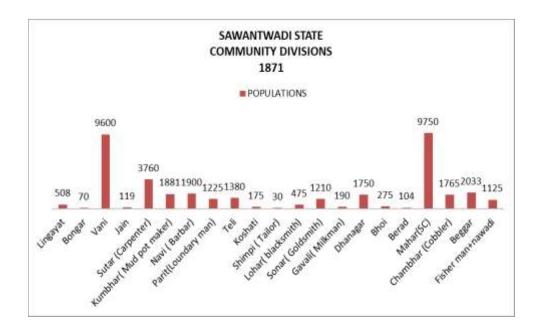


Fig. 2: Sawantwadi state community divisions 1871. Source: Author

4.2 Social status of women

Women were considered weaker and less important than men in all aspects and were looked down upon. They were neither given much attention nor were their education taken into consideration. However, the women of the royal family were educated and used to take part in politics.

4.2.1 Dev-dasi (Bhavin⁸)

Bhavin traditions were found in this period. A proper set of rules were made for *Bhavin* traditions by the administrators. *Bhavin* was selected by the administrator or member of the royal family. It was necessary to take permissions from the king to function as a *Bhavin*. In some cases, the king used to give a salary to them. This remained in practice until the 19th Aug 1931, when the rule of anti-devdasi (Devdasi Pratibandhak Kayda) was enforced.

4.2.2 Purchase and sale of *Kunabi*⁹

Kunabi was bought and sold in the Sawantwadi state. *Kunabini*¹⁰ had no place in the society and were treated as slaves. All kinds of household and farm work were done by them.

4.3 Education

During the 19th century, traditional education system was common in the society. Father's skill and knowledge was passed to his children. In 1838, the first school started in Sawantwadi palace for the prince, and the children of *Sardars*¹¹ & *Vatandars*¹². Higher income group started appointing private teachers '*Paantoji*' for their children. *Modi*¹³ reading-writing, maths, and the reconstruction of account were added to their syllabi. In 1852, the first library was established. In 1859, the first English school was started. In 1919, 104 schools were

⁸Bhavin is a selected woman, who gave up all their social as well as personal life rights and dedicated their lives to God.Also called as *Devdasi*.

⁹ Kunabi is a caste found in Konkan region, and the male belongs to this caste is called as Kunabi.

¹⁰ Kunabini is female belongs to Kunabi caste.

¹¹ Sardar is a chief or leader of a group.

¹² Vatandars is a title given to landowners, particularly in Maharashtra.

¹³ *Modi* is a type of script.

functioning. Education on technical fields like carpentry, blacksmith, bamboo work, handicraft etc. was offered as free education within the family or the same caste.

4.4 Population

As per the census 1871(Fig.3), 3/4 population were Hindu's in the Sawantwadi.

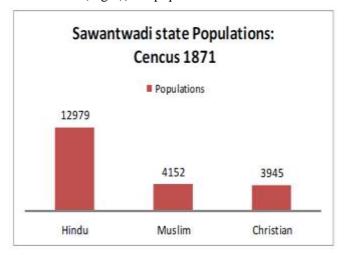


Fig. 3: Sawantwadi state population: Census 1871. Source: Author

4.5 Economy

The Sawantwadi Sansthan in the early phase of time-line had agriculture as it's primary employment source. The main crops consisted of coconut, coffee, cashew nuts, black pepper and $kokum^{14}$. Tobacco farming/trading was also one of the important sources of income. Various taxes such as the land tax, coconut tax, betel nut tax, jaggery tax, jack fruit tax, tax on tobacco etc were enforced. The professional taxes included carpentry and fabrication etc. Tax on toll plaza, on punishments, on remarriage of divorcee, and on re-entry into the caste were also imposed. The barter system was followed where goods were purchased in exchange with grains rather than the conventional money.

During the British era, Sawantwadi has faced many financial crisis due to heavy floods (1874), draught (1876-77) and a locust attack (1904). In 1885, a legislative committee was appointed by the British for smooth working of Sawantwadi Sansthan.

As per the Fig.4, the Jain community was largely involved in businesses. There were five classes of local merchants in Sawantwadi. These included *Vani*¹⁵, *Lingayat*¹⁶, *Jain*¹⁷, *Bogar*¹⁸, and *Jaangam*¹⁹ etc. *Vani* who came from North Karnataka years ago and settled in this state.

¹⁴ Kokum: It is a plant growing in Sawantwadi and surrounding area, which also becomes part of local cuisine.

¹⁵ Vani – People belonging to Vaishya-Vani sub-caste in Hindu mainly involves in retail business also known as Banyan.

¹⁶ Lingayat, - It is caste, majorly native to Karnataka state in India, who worships Lord Shiva.

¹⁷ Jain -A Jain is a follower of Jainism, a religion of India.

¹⁸ Bogar was a South Indian by birth, belonging to the goldsmith caste.

¹⁹ Jangam is a sub-caste in Hinduism.

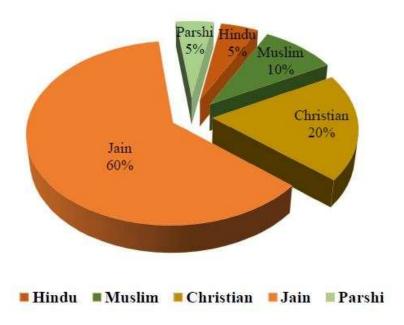


Fig. 4: Percentage of people involved in business. Source: Author

The town of Sawantwadi had many small factories manufacturing chess and various kinds of toys as well as wooden utensils. Colourful goods including idols of cow horns, anointing vessels, etc., were very popular in the state and artisans were recognised and appreciated abroad.

Several natural calamities in the consecutive years in the area impacted crop yields thus creating a base for out-migration. The British ruled nearby states were developing rapidly. Construction of railways, an industry, cantonment etc., in these states required a huge number of labourers. Therefore, calamities and availability of occupations in the nearby states made the residents to migrate from Sawantwadi. In fact, the Brahmin of Sawantwadi also migrated to Pune (Brahmin ruled Maratha estate) in search of better social status and growth. Less education, low development rate, and lesser health care facilities became the reasons for out-migration. The rate of out-migration increased as never before and that was due to above events.

5.0 Socio-economic and political profile and domestic architecture.

Domestic architecture is an example for understanding the socio-economic, political and culture of any place. In order to understand housing, one needs to understand the governing factors such as the socio-economic status, political background and the culture that have shaped it. These factors help in the evolution of different types of house-forms of any place.

The layout of the house-form of Sawantwadi is also influenced by socio-economic as well as political and cultural profiles of residents. The housing type of Sawantwadi is a result of the socio-economic, political and culture of the residents.



Fig. 5.c: Section of house of the elite class, Sawantwadi. Source: Author

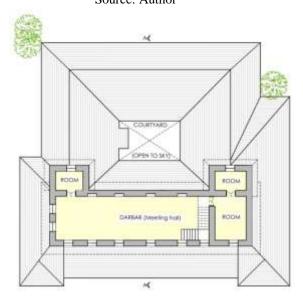


Fig. 5.b: First floor plan of house of the elite class, Sawantwadi. Source: Author

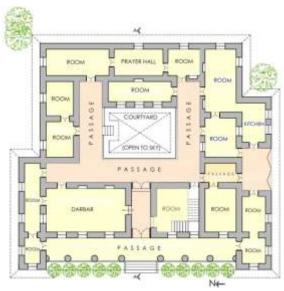


Fig. 5.a: Ground floor plan of house of the elite class, Sawantwadi. Source: Author

The royal families enjoyed the highest social status due to their positions. The house-form which was more influenced by political affiliation consisted of one or two *courtyards* with different functional rooms around. The first *courtyard* is for the public use, social gathering and was also used as an office normally called as *Kacheri*²⁰. *Kacheri* area had separate arrangements in walls for the storage called *paadtal*. The daily business was conducted in the *Sopa*, which is a physical form of a covered veranda. In some cases, *Sopa* is supported with huge square or circular pillars constructed with stones and mud as materials. These pillars gave the impact of royal or political background (Fig.6). The windows of the royal family houses consisted of colour glass panes, which were imported from eastern countries.



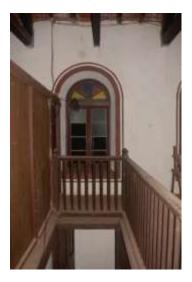


Fig.6: Huge pillars of *sopa* & colored glass windows of houses of the elites. Source: Author: Kazi wada Sawantwadi.

²⁰ Kacheri is an office place.



Fig.7: Inner courtyard of house specially meant for ladies. Source: Author: Kazi wada Sawantwadi

Different rooms were placed around the inner courtyard like the *Balantinichi-kholi* (Delivery room), the kitchen, store room etc. *Balantinichi-kholi*, a dedicated room was provided for the new born babies and nurturing mothers. The room was located and designed in a way to provide the required warmth, natural light, ventilation and privacy to the users. Windows and ventilators of this room were placed at a higher side of the wall to avoid any vision from outside the room. Women-centric spaces were at the back of the house and they were mostly not allowed to be in the front part. There were a dedicated space/dark room for the menstruating women away from the hustle of the house.

The house planning in Sawantwadi is simple and functional. The geometry of the *Konkani-house*²¹ plan is based on square/rectangle models. The activities needed to be accommodated in the planning of the house for particular seasons, religions and occupations. The culture, tradition, daily activities in household, climate divides *Konkani house* into different spaces like (Fig.8.c) *Aangan/Khal*²² , *Loota*²³ ,*Majghar*²⁴ , *Swayampakghar*²⁵ , *Devghar*²⁶ , *Adgalichi kholi*²⁷ , *Balantinichi- kholi*, *Padavi*²⁸ , *Paras*²⁹ , *Maangar*³⁰ , *Gotha*³¹ , Detached toilet. The activities such as harvesting the fruits, drying, cutting, peeling, making by products or utilizing various parts of trees such as wood, leaves, and branches were manually carried out *in Aangan*. *Aangan* provided with *Tulsi Vrundhanvan*³².

²¹ Konkani houses are dwellings in coastal Maharashtra in Western India.

²² Aangan is a front open space of the house.

²³ Loota is the transitional space that connects Aangan and Majghar.

²⁴ Majghar is main room located at the centre of the house.

²⁵ Swayampakghar is a cooking space provided in every house.

²⁶ Devghar is a residing space for god/goddess, where Hindu people perform prayers and rituals.

²⁷ Adgalichi kholi is the store room.

²⁸ Padavi (backside veranda) is the transitional space that connects Majghar and Paras (backyard).

²⁹ A *Paras* is the space at rear side of the house with *Gotha, Maangar* and detached toilet.

³⁰ Maangar is the covered space at rear side of the house for storage of farming equipment, grass and wood.

³¹ Gotha is a cow shade.

³² Tulsi Vrundhavan: In Hindu religion, it is a special structure constructed to grow Tulsi (Holy Basil) plant for worship.



Fig.8.c: Schematic section of House influenced by Socio-economic status at Sawantwadi. 1. Aagan 2.Loota 3.Majghar 4.Majghar (for female) 5. Padavi 6. Mala (Attic) 7.Paras 8.Tulsi Vrundhavan Source: Author

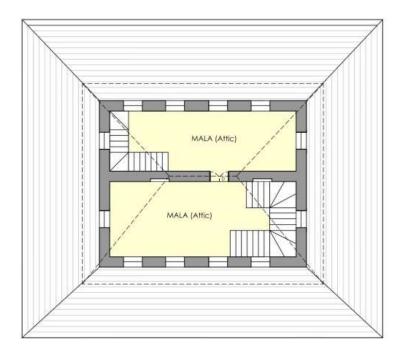


Fig.8.b: First floor plan of House influenced by Socio-economic status at Sawantwadi. Source: Author

Loota is a space provided to cut off the direct entry to other spaces in the house. Entry for guest bedroom is provided through *Loota*. *Majghar(hall)* located at the centre of the house usually is a cool and dark room surrounded by other rooms.

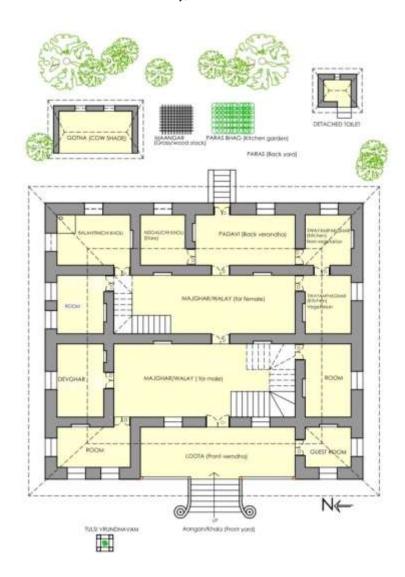


Fig.8.a: Ground floor plan of House influenced by Socio-economic status at Sawantwadi. Source: Author

Two Majghar (Hall) planning is the main character of the house form influenced by socio-economic status. The first Majghar was used to welcome the guests or to host any other social activities. The second Majghar was normally used by ladies and was surrounded with Balantinichi-kholi, Adgalichi kholi, Swayampakghar and Padavi. Padavi. The back side veranda of the house layout was peculiar, containing various equipment for different purposes like, jata³³ for flour making, ukkhan for grounding chillies, pata-varvanta³⁴ for grounding the spices, chuli³⁵ etc, used by ladies. Two wooden staircases were provided in the house; one is from the first Majghar used mainly by the visitors and the other is from the second Majghar used by the ladies.

The two-kitchen concept was observed in the few Brahmin community houses. One was for vegetarian cooking and the other was for for non-vegetarian. A worshiping place *Devghar* is always near to the vegetarian kitchen with a low level opening to provide *Naivedyam*³⁶ for daily ritual, which is part of the daily ritual. *Devghar* was important and the

³³ Jata is a traditional mini flour chakki.

³⁴ Pata-varvanta is term used in the state of Maharashtra. Pata referring to flat stone and varvanta referring to a cylindrical grinding stone.

³⁵ Chul is term used in the state of Maharashtra referring to traditional earthen cooking stove.

³⁶ Naivedyam is a food item offered to god/goddess as a ritual.

house could not be occupied until the vastushanti (house warming ceremony) had been performed and the vastu³⁷ idol was embedded under the devghar. The storeroom would contain enough grain required for a year while the *Maangar* would store a year's supply of timber used as fuel for cooking and heating water.

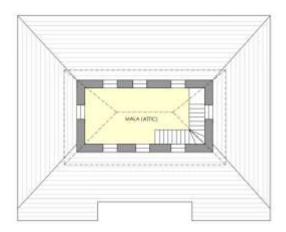


Fig.9.b: First floor plan of house form Influence by culture aspects at Sawantwadi. Source: Author

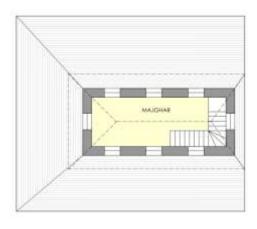


Fig.10.b: First floor plan of house form of others Source: Author

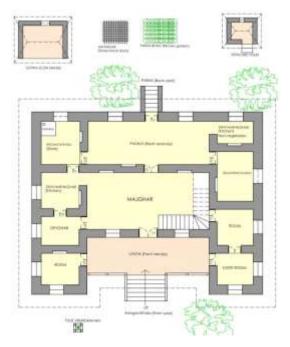


Fig.9.a: Ground floor plan of house form Influence by culture aspects at Sawantwadi. Source: Author



Fig.10.a: Ground floor plan of house form of others Source: Author

Detached toilet concept is seen in all houses, but this concept is changed due to the impact of British culture. Considering the change in technologies and materials, the iron-barred windows have crept in. They are a British era feature since no earlier buildings shows them. Arches and use of glass have been introduced by the British. Spanning of roofs with trusses is also the example of the changes in technology and modernization. Steel sections came to be

³⁷ Vastu is a Structure/ Dwelling in a plot of land.

used as floor beams and joists. Use of cast iron building components; both decorative and structural, glass, factory made floor and roof tiles, sanitary ware, and plumbing apprentices are the changes seen in domestic buildings during the British era.

6.0 Religious Beliefs

In Sawantwadi, *Bhoomipuja*³⁸ is an auspicious moment, which was considered important before starting any construction work. This puja has respectful and emotional links to the traditions. *Bhoomipuja* is a ritual performed before commencing the construction work, with a belief of wiping out the ill-effects of *vastu* and seeking forgiveness for causing harm unknowingly to living organisms on that piece of land. Once the puja is completed, before beginning the actual construction, the chief of the mason (*Vishwakarma*) lays down the layout of the structure either on a slate or directly on the soil as the action of respect to the land.

At the beginning of the construction work, it is a tradition to start with the main door frame 'chowkat³⁹' puja. Every house is witnessed to have a wooden lintel with lord Ganesha carved on it (regionally known as ganeshpatti). Umbartha⁴⁰ is also a feature seen at the entrance of all houses, which is made from Umbartree⁴¹ wood. It is believed to absorb all the negative energy while crossing and entering the house.

Cow dung and *gomutra*⁴², were considered to be holy and signified purity. Once a week, the flooring in the house and sometimes the walls were also plastered with a thin layer of cow dung. *Gomutra*, sanctified with holy verses was sprinkled in the house using mango leaves to purify the environment. This tradition was also witnessed in Sawantwadi settlement during the British era.

7.0 Conclusions

This research paper concludes that Sawantwadi traditional house forms have strong connections with socio-economic, political and cultural profiles of the residents to evolve effective, efficient, economic and user-friendly house form. In fact, these aspects also create functional and Nature-friendly design. Hence, these houses are also called as "Medicinal Houses".

Reflection of the culture and tradition is seen in the lifestyle of the people of Sawantwadi, in every aspect and every space we encounter. The study revealed various examples where one can see lot of references in people's way of living, staying, working and house planning styles deriving inspiration from the history, tradition and culture of the place. However, certain change in lifestyle is witnessed as the reason being modernization, migration of youth to cities for work and education, technological advancements, etc.

House-forms also accepted exotic foreign features that made it aesthetically appealing on the one hand and on other hand show the influence of foreign rule, and influence of urban elements post-migration.

References:

Alkhazmi, H. E. (2017) Investigating the Visual Privacy on Houses Layouts in Traditional Desert. International Journal of Applied Engineering Research, 12(19), pp. 8941-8951.

Chadalavada, K. & Viswatej, K. (2017) Analyzing Vernacular Sustainable Design Principles-A Case Study of a Vernacular Dwelling in Godavari Region of Andhra Pradesh, India. International Journal of Emerging Trends in Science and Technology, 4(2), pp. 5010-5017.

Chaya, C. (2018) "A Concept of Sustainability" Identification and Study of Various Spatial Organization and Construction Techniques Adopted in Traditional House Form,

³⁸ Bhoomipuja is a ritual performed before commencing the construction work.

³⁹ Chowkat is a frame of door or window.

⁴⁰ Umbartha is the plank, stone, or piece of timber that lies under a door.

⁴¹ The scientific name of the Umber tree is the Ficus glomerata, also known as fig tree.

⁴² Gomutra: Urine of cow.

- Sindhudurg District, Maharashtra, India. Refereed Journal of Council of Architecture, New Delhi, India, 2(1), pp. 61-70.
- Dayaratne, R. (2021) Reconstructing Culture and Place: The Sri Lankan Society and Space in Melbourne, Australia. ISVS e-journal, Journal of the International Society for the study of Vernacular Settlements, 8(3), pp. 94-109.
- Deshpande, R. & Kotharkar R. (2015) 'Dwellings' then and now: A Typological Approach for Privacy Analysis of 'Wada' and Modern Houses. Londan: University College London, Bloomsbury.
- Dhepe, S. & Valsson S. (2017) Traditional Approach towards Contemporary Design: A Case Study. International Journal of Engineering Research and Application, 7(3), pp. 12-22.
- Dhongde, S. (2018) Exploring the relationship between socio-cultural factors & architecture: A case of domestic architecture in nineteen century, Pune,: Shodhaganga.
- Kanhere, G. K. (2013) Temples, Wadas, and Institutions of Pune. Pune: BNCA Publication cell.
- Ganguly, R. (2015) Role of Vernacular Architecture of India. In Green Building Design A Case Study of Pauni. International Journal on Recent and Innovation Trends in Computing and Communication, 3(2), pp. 130-135.
- Groat, L. & Wang, D. (2013) Architectural Research Methods. 2nd ed. New Jersey: John Wiley & Sons, Inc., Hoboken.
- Jagtramka, R. Kumar, A. & Pipralia, S. (2021) Transformation of Stone Dwellings in Khudargad, Chhattisgarh, India. Journal of the International Society for the Study of Vernacular Settlements, 8(1), pp. 23-32.
- Kulkarni, A. (2016) Wada Architecture of Maharashtra, Scotland: The University of Edinburgh.
- Kumar, V. Sashu, K & Srigonda, R. (2020) People's Acceptance of Vernacular Houses: The case of Ghantasala, Andhra Pradesh, India. Journal of the International Society for the Study of Vernaular Settlements, 7(2), pp. 32-46.
- Malik, S. & Hassan, K. (2019) An Investigation of House Designs in Lahore: Transformation of Residential Architecture from traditional to modern. Journal of Design and Built Environment, 19(1), pp. 49-59.
- Mate, M. (2008) Maratheshahi vastushilpa. Pune: Pune continental prakashan.
- Narkhede, P. (2016) "Identifying the factors of urban housing change and evolving guidelines for future housing development- Case of Pune, India, Shodhaganga.
- Parmar, V. (1989) Haveli- Wooden houses and Mansions of Gujarat. Ahemdabad: Mapin publishing Pvt.Ltd.
- Rapport, A. (1969) House Form and Culture. London: Prentice-Hall Foundation of Cultural Geographys series.
- Shah, M. (2017) Urbanisation and its effects on vernacular houseform: A study of Sawantwadi, Maharashtra, Ahemadabad: CEPT University.
- Sharma, P. (2016) Sustaniable planning of Rural Development: A case of village Pachgaon, Gurgaon, Haryana: Amity School of Architecture & Planning, Amity University.
- Shinde, S. (2004) Sawantwadi sansthanacha itihaas 1812 te 1988, Shodhaganga.
- Solikhah, N. &. Fatimah, T (2020) Lessions Learned from Vernacular Architecure Towords Sustainable Human Settlements: Insights from Praigoli Village, West Sumba, Indonesia. Journal of the International Society for the Study of Vernacular Settlement, 7(4), pp. 34-52.
- Tony, M. (2021) Socio-Cultural Aspects Influencing the Spatial Configuration of Indo-Portuguese Houses, Vallam, Thanjavur: Periyar Maniammai Institute of Science & Technology.
- Vartak, K. & Bhide, C. (2018) Mass Migration from Rural India. Journal of Interdisciplinary Economics, 31(1), pp. 1-21.
- Widiastuti, I. (2013) The Living Culture and Typo-Morphology of Vernacular Houses in Kerala. Journal of the International Society for the Study of Vernacular Settlements, 2(4), pp. 41-53.