

Regional Classification of Courtyard Houses across Maharashtra

Ar. Kamini Badnore

Architecture/COA/RGPV/India

Abstract

Sensitivity to the regional context and an inductive approach is essential to realise the intentions behind the Maharashtrian traditional house forms.

This research focuses on development of the House form in Maharashtra, aiming to establish the principle behind the generic form and the typical variations in 5 traditional regions that comprises the present day state of Maharashtra, that is Desh, Khandesh, Marathwada, Vidharbha and Konkan. Spatial and distinct architectural styles of the WADA has been taken under here along the exploration of technology adopted for construction. However, this would not be an exhaustive account of all aspects related to this issue which includes sociocultural and political determinants as well.

Keywords: Wada Architecture, Vaastu Shastra, Indian traditional architecture, context, cardinal orientation, sustainability.

I. INTRODUCTION

Indian architecture is not a symmetric assimilation of plans and elevations. It is a living tradition. The architectural styles of residential buildings in India are derived from socio political, economical, and geographical factors as they are world over. Land resource availability is the primary requisites for construction methods and materials of building determinant. The structure design with topographical variation affects the design elements. Courtyard houses have been studied here, reflected the style and culture of the times and we are also indicative of the owners self image and aspirations. These factors combine in various ways to fulfill basic needs of protection from the elements as well as artful and igneous use of these elements. Rituals of daily life, movement of people within the house, and use of ascribe to various parts of houses determine space allocations. Courtyard houses, despite springing from similar culture and geographical background across the present day State of Maharashtra resulted in house forms having regional variations. These were houses in which the special and formal elements spell into a wonderful, introverted blueprint. At the core of the House was a courtyard. A number of courtyard houses formed a residential cluster. Wada houses typically have an introverted blueprint with a courtyard at its core. Several wada houses formed residential clusters called peth in Pune or pol in Ahmedabad or mohalla in north India. These clusters enclosed within a perimeter wall would have sufficient wells (for drinking water), worship and chowk within them. Just like a house has a chowk (courtyard), mirrored at the cluster level is also a chowk within a group of smaller wadas which are spaces for social activities in the community. These spaces don not have a particular function, most activities just spilled out here. It is this

outdoor usage of space, from a climatological and social point of view, that necessitated the courtyard getting formally integrated into the built form. The chowk of the village usually has a tree with a low platform (paar) around it. This facilitated the conglomeration of people for religious congregation and an open air sit out.

II. METHODOLOGY

This study is based on a literature review and case-study method. For the case study, houses from the Maharashtra region are taken. Maharashtra is India's second-largest state and the world's third-largest national subdivision in terms of population. It is geographically divided into five regions Nagpur Division; Vidarbha, Aurangabad Division; Marathwada, Nashik Division; Khandesh, Pune Division; Desh, and Konkan Division. The regions have different climatic, topographical, social, cultural parameters. The researcher considers the design attributes and principles of Vaastu Shastra used in Maharashtra architecture.



Figure 1 Five regions of Maharashtra

III. GEOGRAPHICAL BACKGROUND

Architectural form is a response to needs of individual and society to understand the origin and development of WADA form. The environmental, historical and geographical in which it has evolved has to be considered.

Maharashtra is a triangular region and is now geography defined by the boundries on the West and extends from the River Tapi and Narmada in the north to river Krishna and Tungabhadra in the South. 5 broad regions formed the present state of Maharashtra that is Konkan in extreme West. Desh, Marathwada Khandesh Vidarbha.

The Konkan and Desh regions are divided by Sahyadri mountain range, also called as the Western Ghats. Desh is the Plateau region and lies in the rain shadow of Western Ghats. Khandesh shares a common boundary with Gujarat. Marathwada lies between Desh in the West and Vidarbha in the east. The Konkan is the coastal plain lying between the Arabian Sea and the Western Ghats and stretches 330 miles from north to South and varies in with from 28 miles to 47 miles. The region is also divided into 5 administrative districts Thane, Mumbai, Raigad, Ratnagiri.

IV. HISTORICAL BACKGROUND

Wada architecture, as a residential typology, is traditionally associated with the Puranas. A Purana is a piece of Hindu religious literature, which contains prescriptions and guidelines for various caste-based solutions and for men of social and political standing. Vaastu Shastra principles are detailed instructions on choosing a site, examining the soil for building a house, selecting construction materials and where and how the functional planning should be done. Although Matsyapurana still shows that "the term describing the typology of the houses was in use in Indian society for at least a thousand years before the rise of the Peshwas and Wada architecture also implies that for over a thousand years Vaastu Shastras' house typology has been regarded as a guideline for building houses.". The Maratha dynasty had a significant influence on the social and cultural history. They introduced Wada architecture as 'the smallest unit of a neighbourhood planning system' which ensured that residents had access to secure courtyards (Gupta, 2013). It has thick outer walls with a small number of openings to control the interior atmosphere and ensure thermal comfort. On top of this, they created the teeka-greeva system which is an introvert design type consisting of rooms and verandas around a courtyard or courtyards (Sachdeva, 2020).

Town planning principles were adapted in medieval period. Grid iron planning or radial planning or amalgamation of both, where nucleus was the abode of either the ruler or temple.

a) Wada architecture influenced by the Vastushastra.

The Vastu Purush Mandal is the essential factor in shaping the architecture of wada styles. It recommended profession wise allotment of residences.

Also caste wise allotment was done :

- i. North- Brahmins
- ii. South east- Kshatriyas
- iii. South- Vaishyas
- iv. West- Shudras

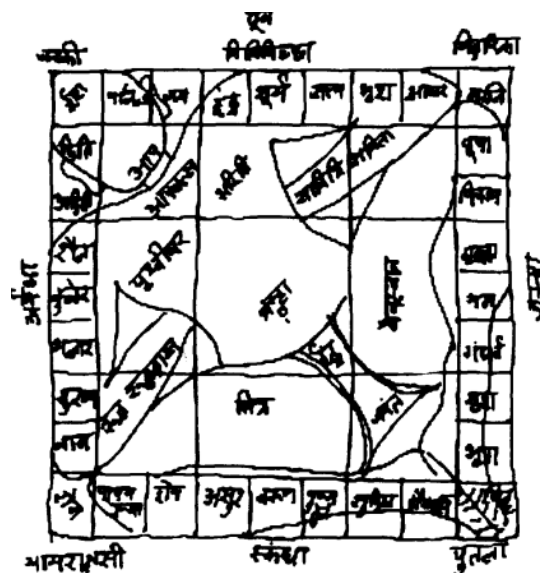


Figure 2 Vastu Purusha

b) References from the Matsya Purana:

Definite and detailed references and guidelines are found in the Puranas on different types of houses which could be built for different castes and men of social and political positions within the society. Guidelines on matters ranging from how to select the site and examine the soil for building the house to how to select construction material, where and how the various functions are to be located etc., are given elaborately in the Puranas

Puranas also inform us that the four cardinal directions are of great importance to the planning of the house and the functional distribution of spaces must be in strict adherence to the rules stated therein to ensure the well-being of the residents. The Puranas in their available form today are conservatively said to have been written many centuries ago, but even then they show that the tenets describing the typology of the houses were in use in Indian society

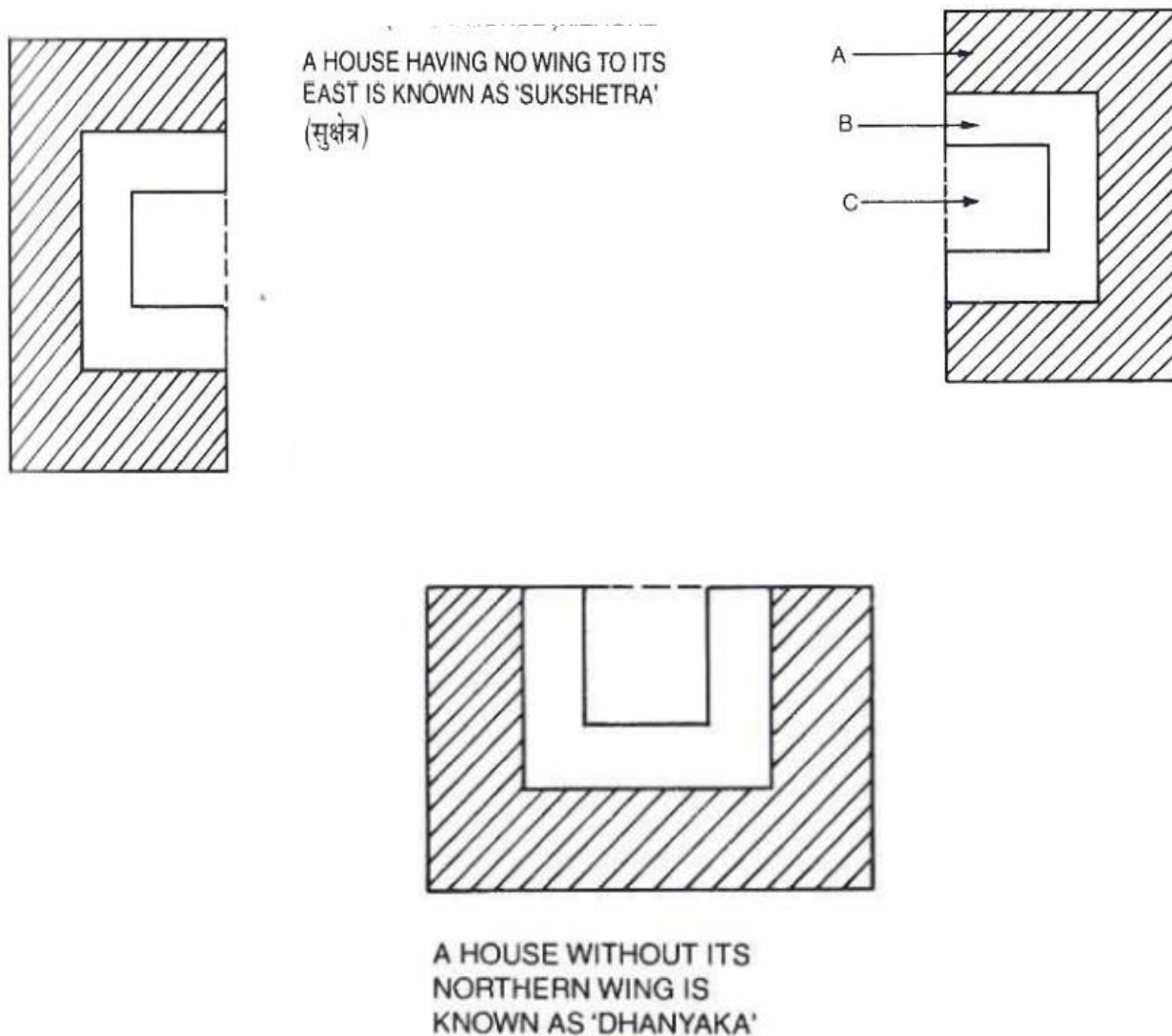
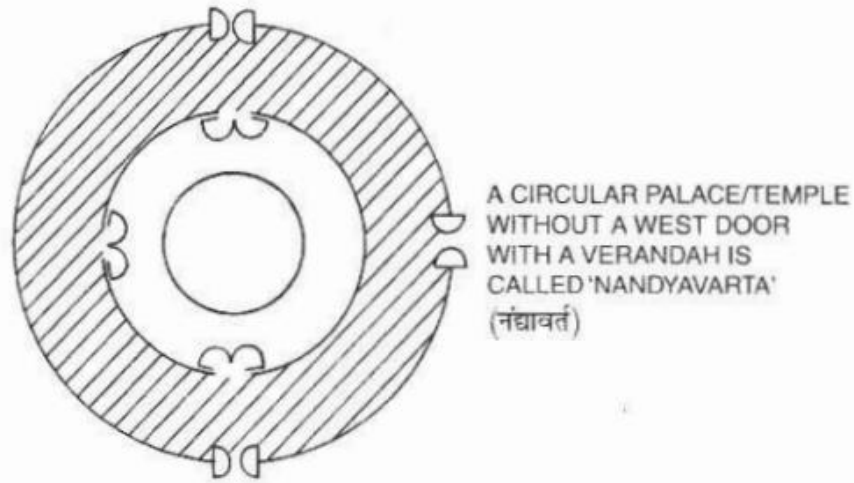


Figure 3 Source: Matsyapurana



V. CLASSIFICATION ON BASIS OF WADA ARCHITECTURE ACROSS MAHARASHTRA

Categorization across the 5 traditional regions of the state, bringing a semblance to this house form scattered across the width of Maharashtra. The regional classification suggest at a glance plan typology, similarities and variables across the region as well as sociological typologies which exist within every region.

Most of the Garhi and Rajwada are found in the Desh and Vidharba regions, the center of power of the Peshwas. They were built with elaborate wooden carvings, three or four courtyards, four to five floors and a more diverse style, borrowing elements from the Rajput and the Islamic styles of architecture. The Konkan region, home to administrative noblemen, also had large wada but with little to no ornamentation. Khandesh and Marathwada regions, home to mercantile noblemen, had smaller houses with shared walls. Kahandesh had a mix of Gujarati architecture, since it bordered the Gujarat state.

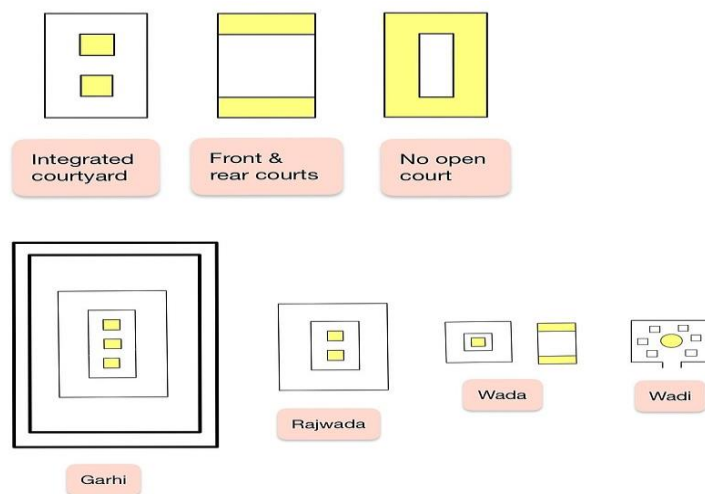


Figure 4 House form across various regions

VI. WADA ARCHITECTURE

Wada consists of architectural elements such as central courtyard which is raised on its plinth, verandah, terrace, staircase, water tank (pushkarni or haud), well, fountain (karanje), basil plant shrine (tulsi vrindavan). The permutations and combinations of these elements determine Wadas scale. (Dengle, 1998; Dhepe & Valsson, 2017; Gupta, 2013).

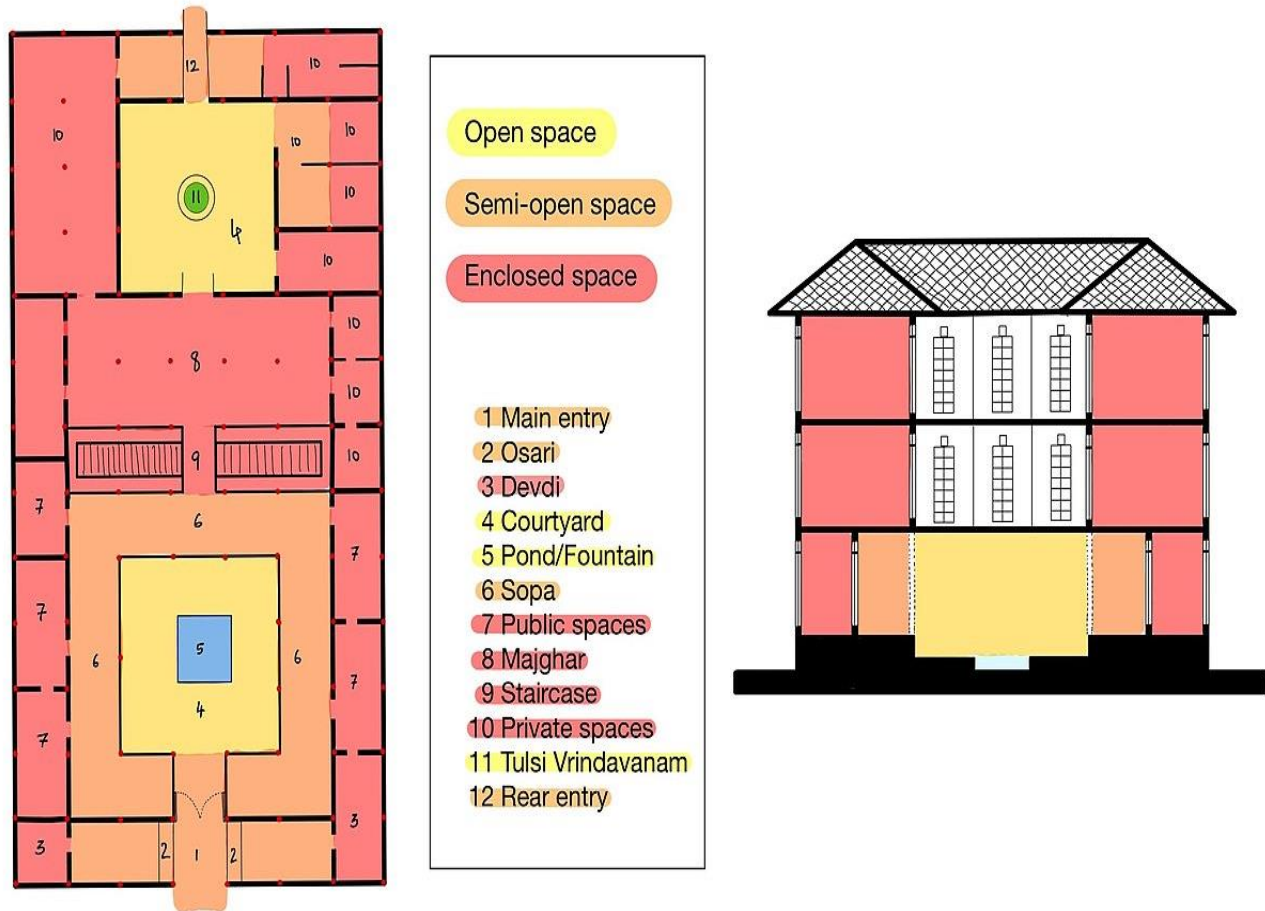


Figure 5 Plan and Section of Typical wada

VII. CLASSIFICATION ACROSS MAHARASHTRA STATE

a. Desh

This region has a variation of plot size, the main Garhi or rajwada being the focus the focus with other wada in long narrow plots, forming a street, facades, a long narrow streets. In Chandwad and Wafgaon, streets with row housing of wada existed. Each of these identified for specific requirements. One street for selling silver or selling grocery. These had wide platforms of plinth which made it convenient to sell their wares. These street radiated from Garhi in the center.



Figure 6 Features in Desh Region

Shaniwar wada, Pune: The Shaniwar wada represents the Garhi in all its glory, although only the ramparts and bastions exist, the plinth with within suggest a kind of structure that may have existed. The Shaniwar wada, marks the initiation of Peshwa rule in Pune and is a landmark in the city of Pune



Figure 7 Shaniwar Wada, Pune

Shaniwar Wada features the Maratha Imperial architectural style. For the construction, teak was sourced from the Junnar jungles while lime was brought from the Jejuri lime belts and stones from the Chinchwad quarries.

The fortification wall of the palace had five entry points and nine bastion towers. The palace was designed with intricately carved teak doorways, exquisitely designed teak pillars, and marble floors. Scenes from the Ramayana and Mahabharata

adorned its walls while glass chandeliers hung from the ceilings. Within the palace complex, the Ganpati Rang Mahal was erected as a separate place for observing religious functions. It had a massive statue of Lord Ganesha.

A majestic fountain shaped like a lotus, called Hazari Karanje or the Fountain of a Thousand Jets, adorned the palace complex. It is believed to have been the most exquisite fountain of that era whose jets formed 80 feet-high arches. The Thorlya Rayancha Diwankhana or the court reception hall of Baji Rao I, the Juna Arsa Mahal or the Mirror Hall, and the Naachacha Diwankhana or the Dance Hall were some of the other splendid structures that existed within the palace.

Important Features:

- Dilli Darwaza or Dilli Gate, the main gate of the fortified palace
- Mastani Darwaja aka Mastani Gate or Aliibahadur Darwaja, the gateway used by Mastani, the second wife of Baji Rao I, when traveling out of the palace complex
- Khidki Darwaja or Window Gate, named after the armored window contained there
- Ganesh Darwaja or Ganesh Gate, near which existed the Ganesh Rang Mahal
- Jambhul Darwaja or Narayan Darwaja aka Narayan's Gate, used by concubines to access and leave the fortified premises
- Nine bastion towers
- Garden complex
- Hazari Karanje, the sixteen-petal lotus-shaped fountain.



Figure 8 Inside View of Shaniwar Wada

b. Marathwada

In Marathwada, plots were squarish compared with the narrow deep plots in Desh as well as Khandesh. In Paithan in the Marathwada region and Srighonda in the Desh region, the smaller wadas are characterised by typical facades of garhis. At a smaller scale without bastions these wada here reflect the same fortified exteriors as garhis. Stone up to the parapet level, with brick above material used for construction similar to Garhi. The corner of these wadas were invariably rounded. One reason could be that the rounded edges facilitated movement on horseback along the cobbled street, especially since lanes were narrow.

The geometry of the structure is further enhanced by the use of aedicules, the architectural framework around niches or windows used in miniature form as an element of architectural composition on wall surfaces as openings, motifs and panels.

Aedicules are used to frame openings and entrances to demarcate transition zones, to outline niches for oil lamps or storage or in a purely representational manner. Irrespective of the particular form or nature of usage of the aedicule as an opening, and arrangement of opening or as a frame, each aedicule is centred and symmetric. Unlike their Rajasthani counterparts, the Maratha aedicule is rather simple in composition, serving essentially as a means of highlighting the balanced composition of façade.



Figure 9 Typical street view



Figure 10 Typical Marathwada aedicules

c. Konkan:

In coastal Konkan plots are Square, making the plots larger and wider. Streets too are wide. Pen in Konkan was the trade route between Desh and Konkan. Active trade carried on between the two areas. Caravan of pack animals carried goods to and from the Deccan across the passes of Nane and Bhor through the Sahyadri range. Prominent WADA, like those of the Datars and Limayes, are found here. There was a conspicuous absence of Garhi or rajwada here. The inhabitants were proletariat, comprising mostly tax collectors.

The larger wadas found here belong to the wealthy traders and farmers, the small ones to the common people. Despite large plot areas, the wadas in Konkan sometimes did not have internal courtyard because of heavy rainfall. The Konkan house is rarely planned around a courtyard. Instead, it has the majghar at its centre. The majghar or



Figure 11 Typical View of street in Konkan

inner room was a multipurpose room meant for private family activities. The majghar was usually dark and cool, surrounded by a layer of rooms around it. It was an inner core which required maximum security and insulation from the heat. Above the majghar was an attic where grain was stored. Marine life, fruit, and other horticultural produce have their own seasonal impact on the Konkani consciousness. A particular season demands the activities that precede it. This has a direct impact on the festivals as well as the routine activities at home. These all point towards a house design which cares as much for the outdoor spaces as for the indoor spaces. This rule applies even to groups of houses, where the open spaces or angans between and behind the houses assume importance and must be taken into consideration while locating and planning the individual houses. The concentric plan of the Konkani house seems to cater admirably to the constraints mentioned above. The architectural design of the house is a representation of an extroverted attitude of the house. Surrounded by open space, the house does not need a courtyard open to the sky within, but rather a well protected, dry, and cool room.

Prominent example- **Datar Wada, Pen.**



Figure 12 Datar Wada

Datar Wada is a fine example of Konkan Wada architecture with a central court with a stone fountain. All rooms open on a veranda or balcony surrounding this courtyard. It's predominantly a wooden structure with stone walls on the ground floor and brick walls plastered with lime on the first floor. Original stone flooring on the ground floor and timber flooring on the first floor has been now replaced. Doors and windows have solid timber shutters with heavy ornamentation. The roof consists of original wooden rafters and purlins however original country tiles are replaced by Mangalore tiles. Intricately carved timber members like column capitals, brackets, cornices, door frames, arches, and medallions exhibit fine workmanship. Skillful lime stucco work is also seen at places to make patterns that are typical of the Islamic influence during the period.

Built in 1725, the Wada belonged to the Datar family who had connections with powerful Peshwa rulers and hosted the Peshwas in their journeys in this part. Pen was the stockyard of the region of Konkan. Goods from Pune, Satara, Khopoli were transited through Pen. Jungle wood, Sagwan (*Tectona grandis*), mangoes, jamun (*Syzygium cumini*) were traded. The Datars were the tax collectors. The family was also active in the freedom struggle.

Datar Wada is one of the very few surviving structures in Pen dating back to the time of its establishment and thus a living witness to the cultural history of Pen



Figure 13 Pictures of Datar Wada

d. Khandesh:

Pimpalner, a mercantile town, had a temple as a nucleus. Narrow streets line with wadas form the street facade. Continuous balconies on the first floor projected beyond the facade. Continuous plinths extended through the width of the dwelling units.

The external ramparts and bastions with the entrance gateway are in stone but the entrance is more ornate. Wall have alcoves which are miniature versions of fluted columns and Peshwai arch module – these are aedicules or scaled down version of larger modules. Beams, brackets, beam heads which formed part of the covered colonnade surrounded the courtyard and were profusely carved. Here the deep wood carvings on beams, brackets and beam heads found in Gujrat and typical of the Hindu style are observed. The distinct style of carving came to this region from Gujrat via Khandesh. Curvilinear roof, similar in form to the meghdambari accentuate the elevation from within the first courtyard and acts as a viwing balcony or jharokha. The co existence of the curvilinear form, and adaption of Islamic style along the deep carved beams and brackets of the Hindu style is the Maratha style of architecture.

The wada facade is characterized by a narrow width. Their height is not much more than thrice the length of the plots that they are built upon. Although they may display variances in height, together they form a series of vertical

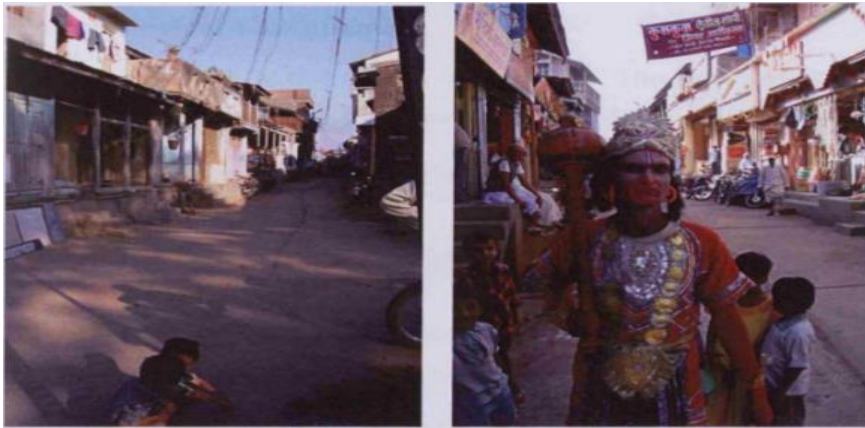
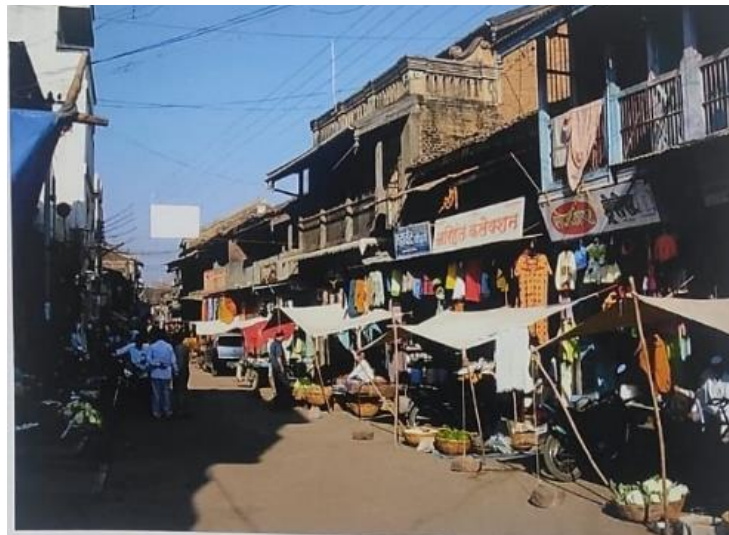


Figure 14 Street view, Khandesh region



strips that comprise of the street facade. The facade of each wada may be highly individualized reflecting the taste of their patron, however, each individual wada elevation usually establishes some semblance of visual continuity with the one adjoining it thus lending a cohesive character to the streetscape

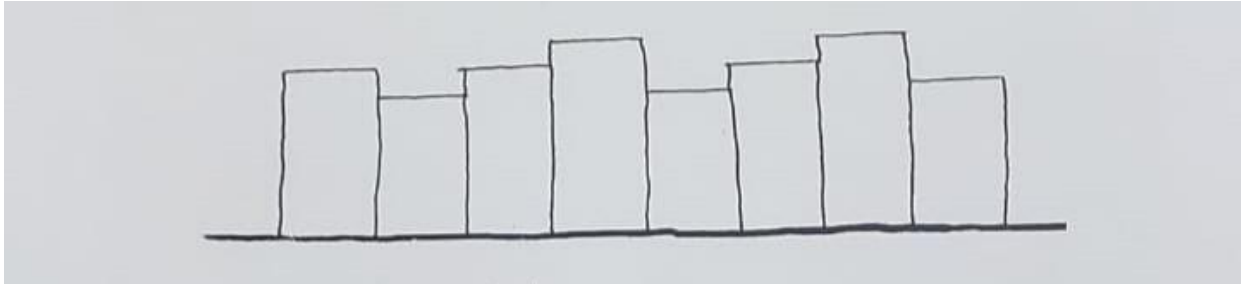


Figure 15 Skyline of street wada

Prominent Example: Patil Wada, Savda

Baba patil is popular name of B.D. Patil, successors of Rao sahib, Bhika Durga Patil, who was elected member of Savda municipal in 1922, President of Raver taluka 1924-30 and President of Raver agricultural development association in 1926. Mr. Patil has all these information has recorded and certificates. This wada is simple, influence of Maratha architecture. It has more than twenty five rooms which were for visitors and guests who used to visit for trading and other official work. Doors, windows, balconies has basic wooden frame work. Ceiling is unique wooden decoration patterns. Shrine is simple room where all Patil family gather annually and perform ritual and traditional pujas. On second floor veranda and long passages is unique design. Furniture is rich in aesthetically and lot of art work. In garden there are tiny sculptures of stone whom they called miracle of Krishna. Furniture and artifact collection is aesthetically rich and ornamental. Baba



Figure 16 Patil wada

Patil has collection of musical instruments. He is a good singer of Urdu gazals. Tiny silver plate has donation inscription in Devanagari broken into pieces rolled in elongated silver box.

e. Vidharbha:

Located away from any measure water body and at the centre of Indian Peninsula, Vidarbha is dry or mildly humid for most of the year, except for the raining seasons, Summers are extremely hot with daytime temperatures regularly exceeding 40 degree Celsius. Similar to Desh region, here to the wadas have varying plot size, the rajwada being the focus with the other wadas occupying narrow plots forming a street façade. Courtyards moderate the hot dry climate of the region. Senior Bhosle Wada, Junior Bhosle Wada, late Rani Bakabia, Bhosle Wada, Kaptain wada Ahirrao wada, Sahukar Wada are some of the prominent Wada found in this region.

The space within the Wadas has been renovated to accommodate modern furniture. Due to addition of furniture, the flexibility of space has reduced and is often used for a single activity. Within the enclosed spaces, the subdivision in terms of bed rooms and personal spaces has been created through renovation. The activities related to open spaces are reduced as they are replaced by parking of vehicles

Chitnavis wada, Nagpur: The most interesting fact about Chitnavis Wada is that it is built in the traditional style with 3 different courtyards, each having its purpose. The first courtyard has the life of Krishna depicted in paintings on the walls. The ground floor of the Wada has mud floors, wood columns and wood-panelled ceilings. This particular courtyard which has the Deoghar has beautifully carved columns and brackets.

The second courtyard which is adjacent to the kitchen was used as the dining area which has a fountain and is still present there. The third courtyard was the service courtyard, activities like cooking, drying and cleaning took place. The granary and the cow shed were right behind the third courtyard.

Murlidhar temple which is within the Wada compound in the North-west corner was built in sandstone with a mandap with carved wood columns and a tiled roof.



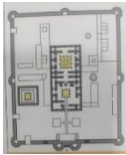
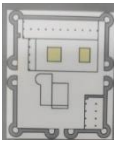
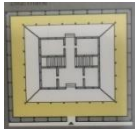






Figure 17 Chitnavis wada, Nagpur

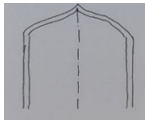
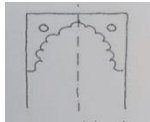
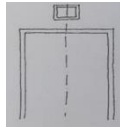
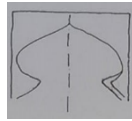
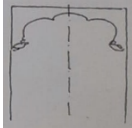














CONCLUSION

The objectives of the research work to identify the principles underlying the Wada house form in Maharashtra and to identify its variations across the region. The identifiable element were the fluted columns and cusped arches which were influences of Islamic style were present in large wadas. These cusped arches came to be known as Peshwa arches because of the patronage under which they were built. Deep ornamentation of Hindu style was found in beams and brackets. The smaller wadas lacked ornamentation.

Following table gives a comparative examples of different zones.

Table 1 Comparative Analysis

Factors	Region					
	Overview					
		Desh	Marathwada	Konkan	Khandesh	Vidharbha
a	Spatial organization	Introvert courtyard	Introvert courtyard	Extrovert courtyard	Introvert courtyard	Introvert courtyard
b	Social Setup	Mostly rule of the Peshwa	Merchants, ordinary people	Administrative and noblemen people	Merchants, ordinary people	Mostly royal families and noblemen
c	Typology most found	Garhi/Rajwada and Temple Wada	Ghat wada and Rajwada	Tenement wada Muslim wada	Noblemen, Ordinary, Merchan wada	Noblemen, Ordinary, Merchan wada
d	Plans					
e	Street view					

f	Building Materials	Basalt, Teak wood, kiln-burnt brick, Mortar- of lime, sand, jaggery, wheat chaff and water	Basalt, Teak wood, kiln-burnt brick, Mortar- of lime, sand, jaggery, wheat chaff and water	Basalt, Granite, Teak wood, kiln-burnt brick, Mortar- of lime, sand, jaggery, wheat chaff and water	Basalt, Teak wood, kiln-burnt brick, Mortar- of lime, sand, jaggery, wheat chaff and water	Basalt, Limestone, Teak wood, kiln-burnt brick, Mortar- of lime, sand, jaggery, wheat chaff and water
g	Architectural elements: Aedicules':					
`	Factors	Region				
	Overview					
		Desh	Marathwada	Konkan	Khandesh	Vidharbha
h	Architectural elements: Ornamentation					
i	Architectural elements: Wells					
j	Entrance Gates					

k	Other features	2 or 3 courtyards with bastions	Common wada with 14 courtyards expressive ornamentation in elevation	3 or 4 courtyards with deep ornamentation and wooden brackets	Rear courtyard with well, extended plinth in front narrow deep plot.	3 or 8 courtyard wada
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The most important changes to wada in the recent years have been economic and social. From a joint family system of land owners to multi-storied apartment housing, this change has been responsible for the disappearance of a large number of wadas in Pune. Most of them belonged to wealthy families who owned landed estate but post independence laws regarding land holdings meant that many had their estates confiscated by the government. In an attempt to redistribute wealth more equitably they forfeited their vast estates and sold them to developers and builders who demolished them, built apartments instead. This economic and social change has been responsible for the disappearance of a large number of Vadas in cities like Pune (Nashik), Wai and even Mumbai

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