

Architectural Heritage of Sacred Water: The Role of Women in Shaping Culture and Sacred Landscapes through Subterranean Architecture in India

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Abstract

Water has played a central role in Indian civilization, serving as a sacred and life-sustaining element. In semi-arid regions, water management structures like stepwells became essential for survival and social interaction. These subterranean architecture, dating back over 4500 years, are not just functional but also hold cultural and religious significance, often associated with women patrons who commissioned their construction for spiritual merit and legacy. This paper explores the overlooked role of women in shaping India's sacred landscapes through stepwell architecture.

The research employs a multi-disciplinary methodology, incorporating architectural analysis, literature reviews, and historical texts to examine the social, cultural, and gendered dimensions of stepwells across India. Case studies arise from regions like Gujarat, Rajasthan, Kerala, Tamil Nadu and Karnataka are analyzed to reveal patterns of design, patronage, and use. Women's involvement in commissioning these water structures is explored, with a focus on their roles as both patrons and participants in religious and social practices.

The findings demonstrate that stepwells were not only utilitarian structures but also gendered spaces where women were engaged in spiritual and communal activities. Women's patronage, particularly from the royal backgrounds, was instrumental in the creation of these sacred water structures, highlighting their social influence. The paper concludes that stepwells reflect the intersection of gender, architecture and culture, showcasing women's contribution to India's architectural heritage and their enduring legacy in shaping public and spiritual landscapes.

Keywords: Cultural heritage, Stepwells, Underground water structures, Women and architecture, Symbolism in architecture, Cultural identity

Introduction

Water has been central to human civilization from its earliest days, with the first great communities arising along rivers like the Nile, Euphrates, Tigris, Yangtze, and Indus. As the lifeblood of communities, water has always determined their prosperity, driving the rise and fall of civilizations throughout history. This understanding of the significance of water has led ancient civilizations to revere it and develop advanced irrigation techniques to sustain agriculture and support growing populations. These systems not only enabled food production but also fostered trade, social organization, and political power, as leaders wielded control over water access to maintain authority. This reverence and strategic use of water are also evident in India's history, where towns and cities flourished around key rivers such as the Ganga, Yamuna, and Indus, which became the foundation for the development of various dynasties.

The ancient civilizations of Harappa and Mohenjo-Daro has highlighted the sacred significance of water in Indian heritage. In Sanskrit, "Jeevan" (life) is synonymous with water, underscoring its vital role in survival. Water was not only essential for agriculture but also deeply revered, with many believing that acts of providing water or building wells could lead to spiritual rewards, including moksha (liberation). Archaeological discoveries, such as the early use of public baths in the Indus Valley, reveal the importance of water in daily life and religious practices, with the Rig Veda extolling its healing and purifying powers. One of the earliest water management systems ever developed was in the Indus valley civilization that had proper water supply and drainage network. Despite the hot and dry climate and low rainfall in the region, the civilization had achieved water sufficiency for its residents. Their water management system is one of the most well developed in the world and the Indus valley civilization is considered as an urban settlement due to these advancements (Ranga Naga Satyanarayana Murthy, 2022).

This sacred association extended to fertility, with shrines built near the water bodies for safe childbirth and curing barrenness, reflecting a cultural belief in the divine presence in water. The artistic depictions in stepwells and other water structures further illustrate this connection, where celestial beings like *Apsaras* and *Gandharvas* were believed to bless those who honoured them (Bhatt, 2014). Beyond its cultural significance, water also plays a crucial role in regulating climate, particularly in the arid regions of India, where evaporative cooling creates microclimates that support communal and cultural activities. The central role of water in shaping civilizations is evident in its influence on agriculture, trade, and social organization, underscoring its profound impact on societal development. Revered as sacred and life-giving, water has not only sustained communities but also held spiritual significance, fostering a deep cultural connection across ancient societies like India.

However, beyond their functional aspects, these subterranean structures also reflect the socio-cultural dynamics of their time. One significant yet often overlooked aspect is the role of women in shaping these sacred water landscapes. Women, particularly those from the noble and royal backgrounds, played a pivotal role in commissioning and constructing these water structures. Their influence is evident in the architecture, symbolism, and communal uses of the stepwells, which were often designed to provide sacred spaces for religious rituals and social gatherings.

This research examines the cultural and architectural impact of women on the stepwells across India, focusing on how these structures have been not only utilitarian but also served as sacred spaces that reinforced women's roles in spiritual and communal life. The paper explores the intersection of gender, architecture, and culture, demonstrating how women shaped the sacred architectural heritage of India. The aim of this research is to explore the architectural and cultural significance of stepwells as communal and sacred spaces. The objectives are:

1. To identify how women's social status in history, in different parts of India influenced their engagement with public utility structures like stepwells central to community life,
2. To analyze how women influenced the commissioning and design of sacred water structures in India.
3. To compare regional variations in women's roles in the construction and use of stepwells in northern and southern India with their status in society.

Background

Beneath the Surface: History of Water Structures

In 1864, the renowned French traveller Louis Rousselet stated that "[a] vast sheet of water, covered with lotuses in flower, amid which thousands of aquatic birds are sporting" (Rousselet, 1864) at the shores of which bathers washed, surrounded by jungle greenery. It was not a beautiful lakeside scene or a Ghatian riverbank he was describing, but one of the most ancient relics that have mesmerized Indians as well as foreigners alike (Unni, 2021).

Stepwells in India are unique structures with broad steps that descend into the earth to access underground water reservoirs, often reaching depths of 8 to 10 stories. Known regionally as "*bawdi*," "*baoli*," "*vav*," and other names, they are found nowhere else in the world. In Sanskrit, they are referred to as "*Vapi*" or "*Vapika*". These wells which are distinct to India and parts of Pakistan reflect a sophisticated approach to water management.



Fig 1: Chand Baoli, Rajasthan.
Source: www.travelplanet.in.

Stepwells serve more than just practical needs. Their elaborate form, scale, and spatial organization mirror the cultural values and practical realities of their times. In Western India, where arid climates necessitate efficient water storage, stepwells functioned as crucial community hubs, offering not only water but also spaces for social activities and festivals. Built from sandstone and marble, they feature intricate carvings and architectural elements from both Hindu and Islamic traditions, often including pavilions and temples that underscore their aesthetic and religious significance.



Fig. 2: Temple Tank at Vittal Temple Pushkarani, Hampi.
Source: www.nativeplanet.com.

In contrast, tanks—large shallower reservoirs with gentle slopes—are widespread across Deccan India and parts of Northern India. They serve various purposes including irrigation, religious rituals, and drinking water. Tanks are typically simpler in design compared to stepwells and are often associated with temples or palaces. They include decorative elements like platforms and sluice gates and may feature ramps for animals or boats. (Hegewald, 1998).

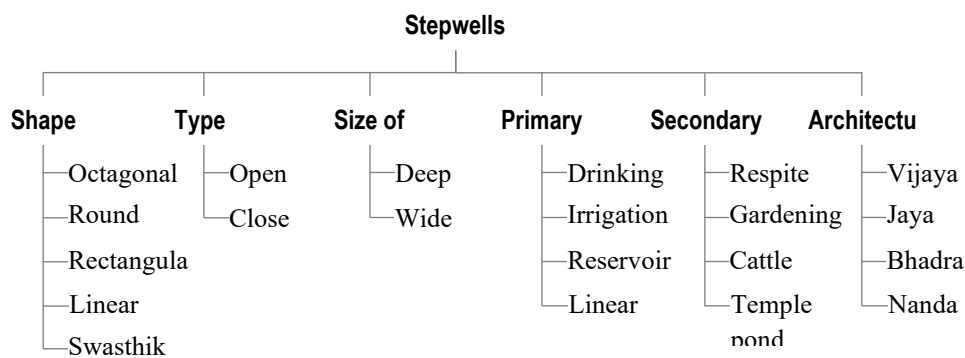
In the Northwestern and Northern parts of India, stepwells such as vavs and baolis are notable for their depth and architectural complexity. These structures not only store water but also provide social and communal spaces, especially during the hot summer months. They are often located near towns and trade routes, serving as cultural landmarks and gathering places.

Conversely, the Kund is a simpler design, often square or rectangular, with steps leading down to the water. Primarily used in rural areas or near temples, Kunds are essential for water storage and have religious significance, frequently playing a role in rituals and ceremonies.

In Central India, where the landscape is characterized by seasonal streams and ravines, the Chandela and Bundela kings developed extensive networks of tanks and stepwells, reflecting regional adaptations to the harsh climatic conditions. Similarly, Southern India has a rich tradition of temple tanks, known as *Kovil Kulam* in Tamil Nadu, *Kulam* in Kerala, *Kalyani* in Karnataka, and *Cheruvu* or *Pushkarini* in Andhra Pradesh. These tanks are integral to religious practices, serving both ritualistic and practical purposes, often boasting of intricate architectural features. The temple tanks fulfilled the community's water requirements and provided a platform for social interaction during religious and cultural celebrations (Surekha Ramineni, 2021).

While temple tanks in Southern India differ significantly from the grand stepwells of Northern India in form and scale, they both exemplify the ingenuity and cultural significance of traditional water management systems. Each type of structure, with its unique characteristics, highlights the diverse ways communities have historically interacted with their environment and integrated water management into their cultural and religious practices.

Table 1: Classification of Stepwells
Selvaraj, 2022



History and Evolution

Rock-cut stepwells in India emerged between the 2nd and 4th centuries A.D. to address the challenges of erratic monsoon rains and dry periods. These wells were crucial for ensuring a year-round water supply, especially in arid regions with water tables deep underground. Over time, stepwells evolved into intricate structures, with significant examples appearing in Dhank (550–625 A.D.) and Bhinmal (850–950 A.D.). The construction of stepwells and other water structures peaked between the 11th and 16th centuries, but evidence suggests they may have earlier roots in the Indus Valley civilization, which had similar cylindrical brick-lined wells (Sriparvathy Unni, 2021).

By the 19th century, thousands of stepwells had been built across India, including in private gardens where they were known as "retreat wells." Commissioning a stepwell was a highly regarded act of charity or commemoration.

Theoretical Framework

This research draws on several key concepts to frame the analysis of stepwells and women's roles in their commissioning and construction. These concepts include architectural heritage, sacred water, culture, and sacred landscapes, all of which intersect in the design and use of stepwells across India.

- **Architectural Heritage:** Defined as structures that embody the cultural and historical values of a society, stepwells are a vital part of India's architectural heritage. They served both functional and symbolic purposes, reflecting

technological advances in water management and cultural beliefs about water as a sacred element (Hegewald, 1998).

- **Sacred Water:** In Indian tradition, water is not only necessary for life but is also considered spiritually purifying. Stepwells, as sources of sacred water, were often closely associated with religious rituals and cultural practices. Water's role in fertility, healing, and purification, particularly in rituals performed by women, makes it central to understanding the cultural significance of stepwells (Bhatt, 2014).
- **Culture:** Culture here refers to the shared values, practices, and social structures within a community. Stepwells were not just functional structures but were embedded in the socio-religious fabric of Indian society. Women's involvement in the construction and use of these wells reflects their engagement with public and spiritual life, offering a deeper understanding of gender roles in these cultural practices (Altekar, 1959).
- **Sacred landscapes** are spaces where the spiritual and material worlds intersect. In India, stepwells were integral to these landscapes, functioning not only as water storage systems but also as religious and communal spaces central to daily life. This research specifically explores how women shaped these sacred landscapes through their involvement in the commissioning and design of stepwells, leaving a legacy that fused gender, religion, and architecture, thus highlighting the significant yet often overlooked role of women in shaping public and spiritual environments.

Literature Review

While much has been written about stepwells as functional and architectural marvels, the role of women in shaping these sacred structures remains underexplored. Existing literature tends to focus on the technical aspects of stepwell construction or their architectural styles, but few studies address the gendered dimensions of these spaces and how women's patronage and participation influenced their design and use.

- 'Water Architecture in South Asia' provides a comprehensive analysis of the types and developments of water structures like stepwells. However, the emphasis remains largely on their architectural features and practical functions, with little discussion on the socio-cultural roles that women played in commissioning and using these spaces.
- 'Her Space, Her Story: Exploring the Stepwells of Gujarat' offers a deeper look at the stepwells commissioned by women in Gujarat. Bhatt highlights how women patrons, particularly queens and noblewomen, saw these structures as a means of gaining religious merit and leaving behind a cultural legacy. However, Bhatt's analysis is limited to a regional focus and does not extend to the wider cultural implications of women's roles across different parts of India.
- 'The Position of Women in Hindu Civilization' discusses the social and religious roles of women in ancient India, noting that women often had limited access to public spaces due to patriarchal norms. Despite these restrictions, women in royal families sometimes exercised influence through their patronage of religious and public works, including stepwells. Altekar's work provides a historical context for understanding the societal norms that shaped women's roles, but it does not specifically address their involvement in sacred architecture.

Overview of the Role of Women in Indian Society

Historically, women were confined to the domestic sphere, while men engaged in the public realm. This division was not biologically determined but culturally constructed, with women seen as primary caregivers. As a result, women had limited opportunities to engage in public life. In Hindu Brahmanical tradition, women were restricted by sacred texts from worshiping certain deities and performing key rituals, reflecting their perceived lower status and ritual impurity. Excluded from the worship of major gods like Vishnu, Shiva, and Brahma, and from learning the Vedas or reciting the Gayatri Mantra, women developed their own rites centered on goddesses, or "Shakti," symbolizing female power. These rituals, varying by region, often took place near temples, rivers, stepwells, and ponds, focusing on fertility, family well-being, and prosperity. Women made offerings to local goddesses, sought blessings for their husbands, and performed ceremonies like Zarmazaryan after childbirth.

Women enjoyed relative freedom in marriage until the seventh or eighth centuries C.E., after which more constraints were imposed. Although formal Vedic education was generally inaccessible to women, especially among the higher castes, some royal women were educated at home. Widow remarriage, though not favoured, was not entirely forbidden, and polygamy was common, especially among the nobility. The institution of sati, while practiced in northern India, appears absent in Gujarat during the Maitraka period (475 to 776 CE) but is later evidenced in stepwell inscriptions. Despite moral constraints, some aristocratic women exhibited behaviours like drinking, revealing a complex social landscape. The ancient Indian texts express conflicting views on women in the 3rd and 4th centuries. The *Manusmriti* presents conflicting views on women's property rights, with some verses denying them ownership while others detail inheritance rights and financial security under male guardianship. These restrictions stem from concerns about women's supposed instability, though such views are outdated today. Kautilya's *Arthashastra* introduces '*stridhana*' (women's property) as a legally enforced source of financial security, ensuring maintenance for women and their children. Widows who didn't remarry could retain property for life, while remarriage often led to forfeiture unless aligned with in-law consent. Kautilya also outlined specific waiting periods for women whose husbands were absent, allowing remarriage under certain conditions, but if these conditions weren't met, remarriage was considered adultery. Upon a woman's death, her property typically passed to her children, or in their absence, to her husband or those who contributed to her dowry (Altekar, 1959).

Women's involvement in productive activities like agriculture, textile production, and the manufacturing of weapons contributed significantly to their freedom and higher status during the Vedic age (Altekar, 1959). However, their position began to decline when the availability of cheap or forced labor from the enslaved population or Shudras allowed Aryans to rely less on women, reducing their role as productive members of society.

In ancient India, women held a respected position in society, contributing significantly to family and community well-being. They enjoyed opportunities for intellectual and spiritual growth, with many becoming revered rishis. However, over time, their status declined, particularly in the later Vedic period, where discriminatory practices, such as preference for male children, began to emerge. Women were increasingly viewed as liabilities, primarily trained for household responsibilities, while men were seen as assets, receiving education and opportunities for personal development. (Kapur, 2021) During the Mauryan period (2nd - 4th century BC), women's status further deteriorated. They were denied equal rights, subjected to the purdah system, and restricted in their autonomy. The Gupta period (mid 3rd-mid 6th century BC) saw an even greater decline, with women becoming entirely dependent on male relatives throughout their lives. Practices such as child marriage, sati, and the Devadasi system reinforced their subordination.

Despite these challenges, women played crucial roles within their households and participated in governance and administration, particularly in royal courts. However, they faced significant barriers to education and personal development, limiting their ability to improve their quality of life. The practice of female infanticide also emerged, driven by the belief that girls were liabilities, which persisted until the British intervention in the 19th century.

In education and politics, women in the Vedic period (5th – 15th century BC) were encouraged to learn, but these opportunities dwindled over time, reflecting the broader societal shift towards patriarchy and gender discrimination. Despite their contributions, women were increasingly marginalized, with their status tied primarily to their roles as wives and mothers, reinforcing their subservience to men. (Kapur, 2021) In early Hindu religious traditions, women were accorded spiritual equality with men. They were allowed to participate in rituals and could perform religious duties either alongside their husbands or independently. The concept of the feminine divine in the form of goddesses like Saraswati, Lakshmi, and Durga reinforced the spiritual reverence for women. The Bhakti movement in medieval India played a crucial role in reasserting the spiritual equality of women. Bhakti saints like Mirabai and Andal were prominent female figures who emphasized personal devotion to God, bypassing traditional gender-based religious hierarchies. This movement allowed women a more direct connection to the divine, promoting spiritual and social inclusiveness.

During the Vedic period, women held a respectable and active role in society, including participation in public life and the freedom to choose their husbands. However, their status declined over time, leading to seclusion, the introduction of the *pardah* system, and the substitution of education with early marriage (Altekar, 1959). Women were increasingly denied education and subjected to practices like Sati, Jauhar, and Devadasi, losing their freedom and facing discrimination. The once-high status of women in the Rigvedic age gradually deteriorated, reducing them to domestic roles and stripping away their autonomy. Thus, the position of women in Hindu civilization fluctuated between periods of relative autonomy and participation in the public sphere to times of increased seclusion and marginalization. Religious and cultural movements, particularly in the earlier and later periods, played significant roles in advocating for women's equality and rights, even as social norms often worked against these ideals.

Regional Perspectives

The status of women and the positions they held in society is shown to have regional variations across India. Parts of the north-western regions of India, where Jainism was heavily practiced, there was a strong cultural influence on the status of women in a largely Patriarchal society. Jainism, which emphasized non-violence, simplicity, and spiritual equality, allowed women to take part in religious life, including becoming nuns. Women played active roles in religious life and occasionally in social and economic matters, especially in affluent Vaishya or merchant and artisan families. Though they had some degree of economic freedom, their roles in the public realm were dictated by their caste and class. Elite women enjoyed greater privileges while women in lower tier of the social hierarchy faced many restrictions. Despite the spiritual inclusiveness promoted by Jainism and other local traditions, patriarchal norms were prevalent. Practices such as child marriage and dowry were common. Restrictions on widow remarriage and social seclusion (*pardah*) were also present, especially in the later medieval period.

In other parts of the region like Rajasthan, the status of women was deeply influenced by the warrior culture of the Rajputs. Royal women from the Rajput courts and noble families were expected to uphold values of honour, loyalty and sacrifice. The *Pardah* system, or the practice of keeping women in seclusion, became an integral social norm of western India, more so in Rajasthan. Royal women lived within the confines of the *Zenana* (women's quarters), and their public roles were limited. But they wielded

influence behind the scenes, often acting as advisors and guardians of family honour. Though they lived secluded lives within the household, they were also celebrated for their resilience and valour. The practice of Jauhar – a form of collective self-immolation of women to avoid dishonour when their husband or kin were defeated in war along with other practices like Sati – self-immolation of widows on their husband's funeral pyre, highlighted the glorification and valorisation of sacrifice and honour in the Rajput society. These practices, while glorified in historical literature, significantly restricted the autonomy and freedom of women. Rajput women from aristocratic and royal families occasionally assumed leadership positions despite these limitations, especially during emergencies. Well-known instances are Maharani Durgavati, the ruler of the Gond kingdom, and Rani Padmini, who is renowned for spearheading the act of Jauhar. Women also participated in religious endowments and patronage of temples. This was emphasised by the advent of the Bhakthi movement, which had a significant impact on the spiritual and social life of women in Gujarat as well as Rajasthan. Saints like Mirabai, from Rajasthan are excellent examples of women who, by putting their devotion to God first, defied patriarchal rules and societal conventions. Rajput princess Mirabai is admired for challenging conventional notions of what it means to be a royal woman and claiming her spiritual autonomy. She frequently left the royal household to lead a nomadic life as a saint and sing devotional songs. The merging of the warrior traditions and influence of Jainism and Bhakthi movement had a significant impact on the societal perception of women. While women's roles were largely restricted within the household, religious movements provided some space for spiritual freedom. Women participated in temple life, religious festivals, and the arts, although often within prescribed boundaries.

In some parts Deccan and Southern India, within certain communities, matrilineal practices like property rights and lineage being passed through the female line, prevailed. These systems, especially observed among Nair and Bunts in Kerala and Karnataka, gave women a certain degree of economic independence and social security. The Deccan region, being a crossroads of different cultures and empires, saw varied influences on women's status. During the reign of the Marathas in the 17th century, women in royal and aristocratic families held significant power, especially in administrative and political matters. Several queens and noblewomen have played pivotal roles in statecraft and diplomacy like Jijabai, the mother of Chhatrapati Shivaji, who was instrumental in his upbringing and the establishment of the Maratha empire. In both Southern and Deccan regions, religious movements like Bhakti played an important role in enhancing the status of women. Female saints like Akkamahadevi in Karnataka and Andal in Tamil Nadu found prominence in religious traditions, asserting women's spiritual autonomy. These women challenged rigid social hierarchies and often transcended traditional gender norms. The patronage of queens and noblewomen in temple construction and religious endowments highlights their influence in both the religious and public spheres. Women in Southern and Deccan regions often had more opportunities for social participation, economic independence, and spiritual recognition, in contrast to the more restrictive norms that developed in Northern India during later periods. However, this was often influenced by class, caste, and changing socio-political conditions.

In Southern India, women enjoyed higher status compared to the North. While Northern India lacked female administrators, Southern India boasted figures like Priyaketaladevi, queen of Chalukyas Vikramaditya, who ruled three villages, and Jakkiabbe, who governed seventy villages (G.Paranthaman, 2019). Women in the South participated actively in all spheres, as noted by travellers like Domingo Paes and Nunez, who observed their involvement in administration and education in Vijayanagara. Historian and scholar, Ibn Battuta also reported on the presence of schools for girls in Honnavar, in present-day Karnataka. However, Southern India also grappled with the practice of Devadasis, where girls were dedicated to temples as servants of God, living celibate lives supported by temple grants, with some transitioning to court performers known as Rajadasis (G.Paranthaman, 2019). Initially, the practice of Devadasis allowed

women to hold a respectable place in society as artists and religious performers, although it later deteriorated into a more exploitative system. Women in the south, especially Tamil Nadu, appeared to have more freedom and autonomy. Tamil literature, especially the Sangam texts, reflects a society where women were active in social, economic, and cultural spheres. Women played key roles in the agricultural economy and were involved in trade and artisan activities. During the Sangam period (300 BCE – 300 CE), women were seen not just as homemakers but also as poets, warriors, and independent individuals. Women were deeply involved in temple life as well and played key roles in cultural and religious activities. In Kerala, women traditionally held a higher status than in many other parts of India due to the matrilineal inheritance system, which gave them economic power and social prominence. The Nair matrilineal tradition allowed women to own property and have control over family matters. This system, known as *Marumakkathayam*, highlights the fact that property and family lineage were traced through the female line, giving women significant social and economic power. Women owned and managed property, and their male relatives (usually brothers) would take on the role of managing the household rather than their husbands. However, patriarchal norms still existed in the form of caste-based restrictions and limited access to formal education. In the matrilineal system, women of the household held a central position and family decisions were often influenced by the senior women in the family, which was usually a joint family model known as *Tharavadu*. This provided women a high level of economic security and social standing, particularly compared to other regions where patrilineal systems were dominant. Marriage customs in Kerala, influenced by matriliney, were more informal under the *sambandham* system, allowing women social freedom without permanent cohabitation with husbands (Altekar, 1959). As patriliney rose in the 19th and 20th centuries, women's roles became more patriarchal. Despite economic autonomy, formal education for women was limited, mainly confined to household responsibilities, with some higher-caste women accessing religious learning. Women participated in temple rituals but were excluded from leadership roles, and the devadasi system was less prominent compared to Tamil Nadu and Karnataka. While matriliney offered some independence, caste distinctions remained, with upper-caste women enjoying more privileges than lower-caste women, particularly Dalits and Adivasis, who faced marginalization. Kerala's women contributed significantly to arts, music, and folklore, preserving local traditions despite their limited public visibility.

While these studies provide valuable insights into the architectural and social significance of stepwells, there remains a significant gap in understanding the gendered dimensions of these structures, specifically:

1. **Women's Roles in Shaping Sacred Landscapes:** There is limited research on how women's patronage influenced the design and cultural use of stepwells, particularly in terms of their spiritual and communal significance.
2. **Regional Variations in Women's Contributions:** Most existing studies focus on stepwells in Gujarat and Rajasthan, leaving other regions like southern India underexplored in terms of women's roles in shaping sacred water structures.
3. **Intersections of Gender, Architecture, and Culture:** Few studies examine the broader cultural implications of women's roles in these structures, particularly how gender influenced the sacred and social uses of stepwells.

This research aims to fill these gaps by exploring how women from different regions of India contributed to the creation of stepwells, highlighting the intersection of gender, architecture, and sacred landscapes.

Research Methodology

This research investigates the role of women in the commissioning, construction, and cultural significance of stepwells in India. A multi-disciplinary approach is employed, focusing on historical, architectural, and socio-cultural analysis. A study of water structures, such as stepwells and their counterparts in various parts of India, is

conducted. The study investigates regional disparities across the different dynasties of ancient India through a literature review on the role of women in ancient Indian society across different regions, including their status in the public domain, economic freedom, and involvement in cultural and religious activities.

An initial observation is undertaken to identify the layers of comparison under which the architectural and spatial details are analysed. Case studies of stepwells from different regions, such as Gujarat, Rajasthan, Karnataka, Tamil Nadu and Kerala were selected as case studies. Each stepwell was analysed to understand its architectural style, material use, and cultural significance, with special attention to the patrons involved and the stepwell's role in community life. Data collection, by studying inscriptions on stepwells, historical texts, and epigraphic records were examined to identify women's involvement in commissioning and constructing these water structures.

Stepwells from different regions and periods were compared to identify patterns in design, usage, and patronage. Differences in regional practices, such as the influence of Jainism in Rajasthan or matrilineal traditions in Kerala, were considered to illustrate the varying degrees of agency women held across India.

Case Studies of Stepwells across India

1. Adalaj Stepwell, Ahmedabad, Gujarat

The Adalaj Stepwell, located in Gujarat, is a prime example of a stepwell commissioned by a woman—Queen Rudabai, wife of the Vaghela chief Veer Singh, in 1499. Following her husband's death, Queen Rudabai took on the responsibility of completing the construction of the stepwell, highlighting her influence in both architectural and cultural spheres. This stepwell reflects the intersection of architecture, religion, and gender in India's cultural history.



Fig 3: Adalaj Stepwell.

Source: Author (2018)

Originally initiated by Rana Veer Singh of the Vaghela dynasty, construction was tragically interrupted by his death in battle against Mahmud Begada, the Sultan of Gujarat. In a poignant display of loyalty and determination, Queen Rudabai continued the construction, contributing significantly to its completion. Her efforts included adding resting areas for travelers and spaces for rituals, showcasing her generosity and concern for community welfare.

This five-storeyed, octagonal subterranean structure spans 250 feet, characterized by intricately carved columns, ornate balconies, and shrines dedicated to Hindu deities. The stepwell exemplifies the fusion of Hindu craftsmanship with the floral and geometric patterns of Islamic architecture. Constructed in the Solanki architectural style predominant in Gujarat, the stepwell features two well pits—one for everyday use and another for rainwater collection during monsoons. Its design includes cooling mechanisms that lower temperatures as one descends, creating a comfortable environment in contrast to the scorching heat outside. The stepwell's walls are adorned

with sculptures and carvings depicting Hindu goddesses, celestial dancers, and scenes from daily life, reflecting the societal roles and values of the time.

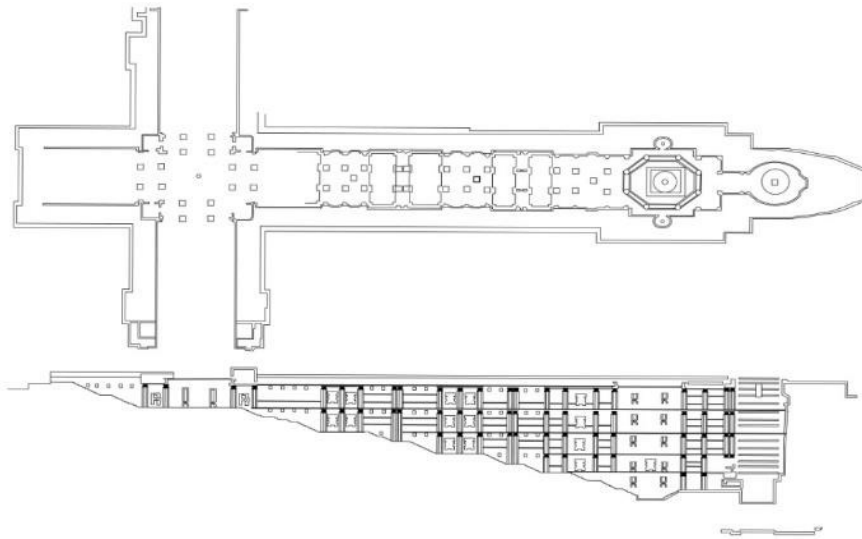


Fig. 4: Plan and Cross section.

Source: Author

Architectural and Cultural Significance: During the construction of the Adalaj Stepwell in late 15th century, the city of Ahmedabad was a flourishing cultural and economic hub under the rule of Sultan Mahmud Begada of the Gujarat Sultanate. The period was marked by the fusion of Islamic and Hindu architectural styles, and public works like stepwells were vital for water management in the arid region.

The Adalaj Stepwell is intricately designed, with elaborate carvings that depict religious symbols, celestial beings, and daily life scenes, underscoring its dual role as a sacred and communal space. The design features cooling chambers and shaded pavilions that allowed women to gather for social and religious rituals. This illustrates how women's patronage not only shaped the functionality of the stepwell but also its cultural and spiritual significance.

Gendered Influence: Queen Rudabai's commissioning of the stepwell after her husband's death demonstrates women's ability to influence public works and religious life despite the patriarchal restrictions of the time. The stepwell served as both a water conservation structure and a sacred space for ritual purification and social interaction, particularly for women, reinforcing their spiritual roles in the community.

Women, particularly from noble families, played a significant role in commissioning such structures in Gujarat. Although the society was patriarchal, noblewomen could wield influence, especially as patrons of public buildings. The construction of Adalaj Stepwell, commissioned by a widow, reflects women's contributions to cultural and community life, despite their broader limitations within the domestic sphere. The construction of stepwells marked a significant landmark in the socio-cultural realm. This stepwell not only served the mundane purpose of supplying water for regular activities but was also a cultural hub, where many dance and music festivals took place. The wide, spacious landing areas served as platforms where travelling artists could showcase their talents in a cool and stunningly picturesque backdrop.

The multitude of carvings and sculptures depicting the daily lives of the common people are perhaps the only reminders of the rich culture and traditions that existed in the past. They also served the purpose of being mini temples, as statues of various gods and

goddess were carved into them and many of the rituals were done by women, exemplifying the status and power of women in society (Sriparvathy Unni, 2021).



Fig. 5: Common Landing.
Source: Tripadvisor

2. Chand Baori, Abhaneri, Rajasthan

Chand Baori, constructed in the 10th century AD in Abhaneri village, Rajasthan, is one of the largest stepwells in India. Also known as *Baoli* or *Bavdi*, it plunges 30 meters deep with 3,500 stone masonry steps. Commissioned by Maharaja Chand of the Nikumbh dynasty, it was dedicated to Goddess Harshat Mata, whose temple was built adjacent to the stepwell. The primary purpose was to ensure a reliable water supply in the drought-prone region, although it also served religious functions. In the 18th century, the Mughal Empire restored the structure, adding art galleries, rooms, and retaining walls. Although no direct inscriptions attribute the construction to a specific woman, the connection of the stepwell to the Harshat Mata Temple suggests that women played a central role in its use, particularly for religious and social purposes.

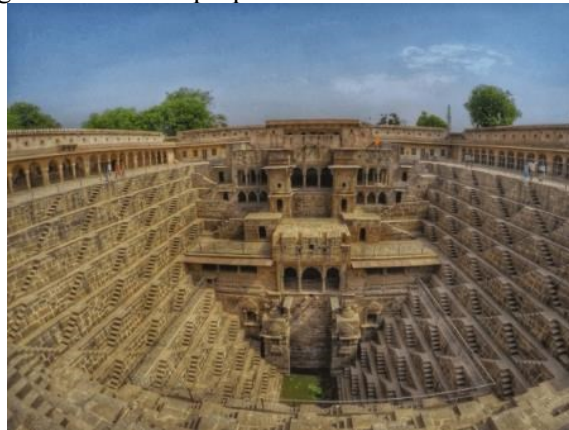


Fig. 6: Well of Chand Baori.
Source: The Decor Journal

Architectural and Cultural Significance: Chand Baori's 3,500 steps descend into a 30-meter-deep well, creating a massive space for both water storage and religious rituals. The stepwell is a monumental, four-sided structure featuring 13 stories of steps, each side sloping at a 70° angle to reach the groundwater level. The design creates an optical illusion of diminishing rectangles as the steps scale down toward the water. The arrangement of steps in a triangular pattern, particularly at the corners, showcases the complexity of the construction. Architecturally, Chand Baori blends Hindu and Islamic influences, with Hindu deities and carvings preserved even after the Mughal additions of arched galleries and terraces. Designed to conserve water in the arid Rajasthan region, its architecture includes long corridors of steps leading to multiple levels below ground. At

the twelfth level, the remains of shrines retaining the deities that overlook the sacred waters. As the water level rises, the shrines become submerged (Lautman, 2017).

Chand Baori also functioned as a communal space, where the temperature at the bottom remained cooler by 5-6°C, offering respite in the hot climate. One side housed a pavilion for royals, while the other sides featured steps leading to the water, with galleries supported by pillars and balconies showcasing intricate sculptures. The stepwell's religious significance was enhanced by its proximity to the Harshat Mata Temple, reinforcing the connection between water and worship.

While explicit documentation regarding the use of Chand Baori by women is lacking, historical studies, including those by Jutta Jain-Neubauer, suggest that stepwells were traditionally gathering spaces for women due to their involvement in water collection and religious practices. Chand Baori, with its wide steps and shaded areas, likely served as a place where women gathered for practical purposes and religious observances, particularly given its connection to the goddess of happiness and fertility (Jain-Neubauer, 1981).

The stepwell was constructed during a period of cultural and religious prosperity under the Gurjarat-Pratiharas, reflecting the responsibilities of local rulers like King Chanda to invest in public works that benefited both the practical and spiritual needs of the community. Women, as the primary water gatherers, likely played a key role in utilizing Chand Baori as a space for socializing and religious rituals, reinforcing their central role in managing domestic water resources.

The Mughal restorations, while adding new architectural elements, did not alter the original Hindu design or disrupt the social functions of the stepwell. The shaded galleries and terraces provided spaces where women could congregate, and the stepwell's proximity to the Harshat Mata Temple continued to draw visitors for religious purposes. The symbolic connection between water, life, and fertility remained strong, with women playing a key role in maintaining these traditions throughout the centuries.

Women's Involvement: While there is no explicit documentation of women patrons, historical records suggest that women were the primary users of the stepwell for religious observances. The design of Chand Baori, with its broad steps and shaded galleries, allowed women to engage in social and spiritual activities. This highlights how stepwells were more than functional structures; they were gendered spaces where women participated in religious life, reinforcing their connection to sacred landscapes.

Thus, Chand Baori remains a testament to the advanced water management and architectural achievements of its time. Its use as a communal space, particularly for women, highlights the intersection of practical infrastructure, religious devotion, and social interaction. The Mughal additions reflect a broader policy of cultural integration, respecting the stepwell's Hindu roots while enhancing its aesthetic and social appeal.

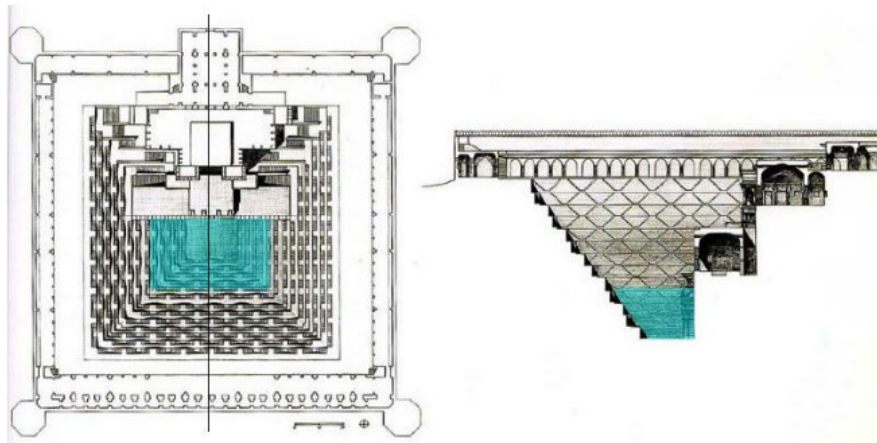


Fig. 7: Plan and Cross section

3. Taj Bawdi, Vijayapura, Karnataka

Taj Bawdi, located in Vijayapura (Bijapur), Karnataka, was constructed during the reign of Ibrahim Adil Shah II of the Adil Shahi dynasty, around 1620. This stepwell was commissioned in honor of his wife, Queen Taj Sultana. It reflects the era's architectural prowess and was built to serve as a vital water source for the city (Valliyil, 2022). This stepwell reflects the integration of water management with royal patronage and the symbolic role of women in shaping public infrastructure

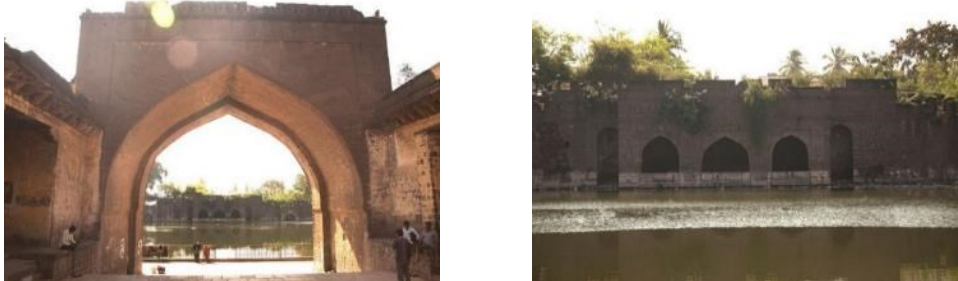


Fig. 8: Entrance arch of Taj Bawdi (l) and arches along the sides (r).

Source: D'source

Architectural Features: The stepwell has a rectangular layout with descending steps on all four sides, and the entrance is marked by a grand arch and octagonal towers. The use of intricate carvings and Vijayanagara architectural style emphasizes the blending of aesthetic, practical, and spiritual elements. Taj Bawdi functioned as both a water reservoir and a social gathering place, where people, particularly women, would congregate for religious ceremonies and social events. It measures 20.7 sq.m (223 sq. feet) area and 15.8 meter (52 feet) depth. The entrance to the well has 10.6 meter (35 feet) span majestic arch. Its design includes intricate carvings and ornamentation characteristic of Vijayanagara architecture, showcasing detailed geometric and floral patterns. The use of local stone and the elaborate design highlight the architectural sophistication of the period.



Fig. 9: Entrance arch with octagonal towers, with the east and west wings as rest houses.

Taj Bawdi played a crucial role in the community by providing a reliable water source and serving as a space for social and religious activities. It reflects the integration of water management with cultural practices and highlights the architectural heritage of the Vijayanagara Empire. The stepwell stands as a testament to the city's historical significance and the artistic achievements of the era.

Women's Influence: Although direct involvement of Queen Taj Sultana in the construction is not well documented, her association with the stepwell reflects the symbolic role of women in commissioning public works during the Adil Shahi dynasty.

The stepwell's cultural and religious significance indicates that women, particularly those in royal families, used their influence to shape public and sacred spaces that served both practical and spiritual purposes. During Ibrahim Adil Shah II's reign, the construction of Taj Bawdi reflects the socio-political landscape of Bijapur, where rulers commissioned public works to demonstrate their benevolence and address urban needs. The stepwell's creation highlights the importance of water management and public amenities in the administration and cultural life of the city. It also signifies the royal family's commitment to both practical and symbolic contributions to the community.

4. Swastika stepwell, Tiruchirappalli, Tamil Nadu

Some of the earliest forms of stepwells were seen in Tamil Nadu, dating even before their Northern counterparts. Maamiyar Marumakal Kinaru (Mother-in-law and Daughter-in-law) officially called the Swastika stepwell is a significant historical and architectural structure located in Tiruvellarai, near Tiruchirappalli, Tamil Nadu. It was built during the reign of the Pallava king Dantivarman (796–847 CE) by Kamban Araiyan, the younger brother of Visayanallulan of Alambakkam, as per the inscriptions on the parapet wall. This stepwell, also known as Marppidugu Perunkinaru, is notable for its unique swastika design, which is symbolic and holds cultural significance in ancient Indian traditions (Jegan Palanichamy, 2017). It is a unique example of a stepwell with symbolic and religious significance. Built during the Pallava dynasty in the 8th century, this stepwell's design reflects the cultural and spiritual practices of the time, particularly in relation to women's participation in religious life.

Architectural and Symbolic Features: The stepwell's swastika design, an auspicious symbol in Indian culture, reflects the intertwining of architectural and spiritual elements. The stepwell has four entrances, one from each cardinal direction, with steps leading down to the water. The swastika shape, often considered auspicious in Indian culture, represents an intertwining of architectural and spiritual symbolism. The design also ensured privacy for users, earning the well its nickname "Mother-in-law Daughter-in-law Tank", since the layout ensures that activities happening on the footsteps of the well can only be seen from the opposite set of stairs and not from any other sides (Jegan Palanichamy, 2017).



Fig 10: Top view of Marppidugu Perunkinaru.
Source: vikatan.com

Cultural and Religious Significance: The stepwell was primarily constructed for water conservation and public use, reflecting the Pallavas' emphasis on hydraulic engineering. Inscriptions from the 8th century describe the stepwell and provide details about its construction and the royal patronage behind it. The well is not only a marvel of engineering but also an artistic creation with sculptural elements that depict the cultural

and religious ethos of the time. Despite its age, the stepwell has been well preserved, and its renovation was undertaken in later centuries, such as in the 13th century under the guidance of local patrons. The design and use of the Swastika Stepwell underscore how women were central to religious rituals related to water, fertility, and purification. This stepwell illustrates how sacred water structures were not just functional but were integral to women's roles in religious and social life, providing them with spaces for ritualistic and spiritual engagement.



Fig. 11: Swasthika stepwell.
Source: Know Your Heritage (blogspot.com)

5. Peralassery Temple Tank, Kannur, Kerala

The Peralassery Stepwell in Kerala, located near the Peralassery Subramanya Temple in Kannur, is one of the most notable architectural marvels in the region. The stepwell has a multi-tiered structure with numerous steps leading down to the water. The symmetry of the descending steps creates a visually stunning effect, typical of traditional stepwells. The well is constructed using large, intricately carved laterite stone blocks, typical of traditional Kerala temple architecture. The stone helps the structure withstand the heavy monsoon rains Kerala experiences. The well has a large water reservoir at the bottom, reflecting its primary function as a water source for the temple and surrounding areas. Surrounding the stepwell are carvings and iconography linked to the temple's religious traditions. The temple itself is dedicated to Lord Subramanya, and the stepwell is considered part of the sacred space.

Architectural Features: The Peralassery Temple Tank is characterized by its descending steps and symmetrical design, which creates a visually striking structure. The tank's function was not only to store water but also to serve as a space for ritual purification. Women used the tank for bathing before participating in religious ceremonies, reflecting the importance of water in Hindu rituals. The stepwell is part of the Peralassery Subramanya Temple, making it not just a functional water structure but also a spiritually significant site. It is used during temple rituals and festivals, especially for bathing purposes before prayer. This stepwell represents a unique example of Kerala's adaptation of stepwell architecture, which is more common in arid regions like Gujarat and Rajasthan. Historically, stepwells like this were built as water conservation structures, ensuring a year-round water supply, even during dry periods. Though Kerala is rich in natural water sources, this stepwell demonstrates the integration of water management with spiritual practices.

Women's Role in Religious Life: The Peralassery Temple Tank was a central part of women's religious practices in Kerala. The use of the tank for purification rituals

highlights how women's spiritual engagement was closely linked to water. Women would use the well for ritual bathing before participating in temple ceremonies, as water is considered a purifying element in Hindu culture. But this was not exclusively meant for women devotees as it was a public temple tank. Women may have also been involved in festivals and offerings related to the temple and well.



Fig. 12. Peralassery, Kannur.
Source: NativePlanet

Inferences

The case studies presented in this research illustrate the significant yet often overlooked role of women in shaping sacred water structures across India. Through their patronage and participation, women helped to create spaces that were not only functional but also deeply intertwined with the spiritual and social life of their communities. This analysis explores the key themes that emerge from the findings: women as patrons, the gendered nature of sacred spaces, and the regional variations in how women influenced the design and use of stepwells.

1. Women as Patrons of Sacred Architecture

The commissioning of stepwells by women, particularly noblewomen and queens, demonstrates their ability to engage in public and religious works despite the broader patriarchal constraints of their societies. The case studies of Adalaj Stepwell and Rani ki Vav show that women's patronage was driven by both religious devotion and a desire to leave a legacy.

Adalaj Stepwell, Gujarat: Queen Rudabai's decision to continue the construction of Adalaj Stepwell after her husband's death exemplifies how women exercised agency in public works, particularly in sacred spaces. The elaborate carvings and architectural details of the stepwell reflect the queen's influence in shaping the cultural and spiritual significance of the structure. By commissioning this stepwell, Rudabai not only ensured water conservation but also created a sacred space that reinforced women's roles in spiritual and communal life.

Rani ki Vav, Gujarat: Similarly, Queen Udayamati's commissioning of Rani ki Vav highlights the gendered dimensions of sacred architecture. The intricate carvings, many of which depict women performing religious rituals, reinforce the idea that women were central to both the creation and use of these spaces. Through their patronage, these noblewomen left behind architectural legacies that continue to shape India's sacred landscape.

The patronage of stepwells by women also reflects the social and religious motivations behind such projects. These structures were often built as acts of religious merit, but they also provided women with a means to exercise power and influence in public life, particularly in relation to sacred and communal spaces.

2. The Gendered Nature of Sacred Spaces

Stepwells were more than just water reservoirs; they were gendered spaces that served as communal and sacred sites, particularly for women. The design of these stepwells, with their shaded galleries and cooling chambers, created spaces where women could gather for religious rituals, social interaction, and respite from domestic life.

Chand Baori, Rajasthan: Although there is no direct evidence of female patrons, the connection between Chand Baori and the Harshat Mata Temple suggests that women were central to the use of the stepwell for religious rituals. The association of the stepwell with a fertility goddess reinforces the gendered significance of water in Indian culture, particularly for women who sought divine blessings for fertility and well-being. The addition of respite areas by Mughals also meant that women could spend their leisure hours in these spaces when they came to collect water.

Swastika Stepwell, Tamil Nadu: The design of the Swastika Stepwell, with its symbolic swastika layout, reflects how stepwells were also sacred spaces where women as well as men could engage in private religious rituals. The layout ensured privacy, allowing women to perform purification rites away from public view. This highlights how stepwells were designed with privacy during spiritual needs in mind, especially for women, further reinforcing their role in the sacred landscape.

In both cases, the stepwells were gendered spaces that allowed women to participate in public religious life while also providing them with opportunities for social interaction. These structures reflect how women's spiritual and social roles were integrated into the design and use of sacred spaces, offering a rare form of public participation for women in otherwise restrictive social settings.

3. Regional Variations in Women's Influence

The influence of women on the construction and use of stepwells varied significantly across regions, shaped by local cultural practices and societal norms. While women's roles were more prominent in some regions due to matrilineal traditions, others saw women influencing public works through symbolic associations with royalty and religious practices.

Taj Bawdi, Karnataka: The symbolic association of Queen Taj Sultana with Taj Bawdi reflects how women in southern India contributed to public works through royal patronage. Although there is no direct evidence of her involvement in the design, the stepwell's dedication to her underscores how women in royal families were memorialized through public infrastructure. This highlights how women's roles in shaping sacred landscapes were often mediated through symbolic connections to public works, reflecting their influence in more indirect ways.

Peralassery Temple Tank, Kerala: In contrast, women's involvement in the Peralassery Temple Tank demonstrates how stepwells in southern India were more closely tied to religious and communal life. Women, along with men and children, used the temple tank for ritual purification before participating in religious ceremonies, reflecting the deep spiritual connection between women and water in Hindu culture. In Kerala, where matrilineal traditions allowed women greater autonomy, their participation in religious life was more visible, highlighting the regional variations in how women contributed to sacred spaces.

The regional differences in women's roles reveal the complex social and cultural dynamics that influenced their participation in public and religious life. In northern India, women's involvement was often through royal patronage, while in southern India, women engaged more directly in religious rituals and community life, particularly in matrilineal societies.

4. Sacred Water, Women and Architectural Heritage

The role of water as a sacred element in Indian culture, combined with women's involvement in its management and ritual use, underscores the gendered dimensions of

sacred architecture. Stepwells were not just utilitarian structures; they were sites of spiritual significance where women could assert their presence in public and religious life.

The association of stepwells with fertility goddesses, as seen in Chand Baori and Adalaj, highlights how these structures were imbued with spiritual meaning that was closely tied to women's roles in society. The architectural features of these stepwells, such as the carvings of goddesses and celestial beings, reflect the cultural beliefs about water, fertility, and purity that shaped their use. Women's participation in these spaces, whether through patronage or ritual use, reveals how gender influenced the design, function, and cultural significance of stepwells. These structures served as sacred spaces where women could engage in spiritual practices, reinforcing their connection to the divine and to the community.

This research highlights the central role that women played in shaping sacred water structures across India, particularly through their commissioning, construction, and use of stepwells. These subterranean water structures, deeply intertwined with the spiritual and communal life of their communities, reveal the intersection of gender, architecture, and culture in ways that challenge traditional narratives of women's limited public influence.

Key Findings

Architectural features: The architectural design of stepwells across India was not only shaped by the local environment and materials but also influenced by the gendered societal roles, particularly in regions where they played significant roles in religious and communal life. In contrast to the stepwells of the Solanki or Nikumbh dynasties in Northwestern India, those in the Southern Deccan regions did not prioritize recreational spaces for women. While there were certain secluded areas where women could spend time away from their homes, these spaces were not as prominent or well-documented as those in Gujarat. In the Deccan, women's spaces were often linked to religious and community life, including secluded temple courtyards where they gathered for rituals and festivals. Temples served as cultural hubs, offering women opportunities to participate in religious activities and socialize.

Women as Patrons of Sacred Architecture: The case studies of Adalaj Stepwell and Rani ki Vav demonstrate how noblewomen, such as Queen Rudabai and Queen Udayamati, used their influence to commission these architectural marvels, leaving behind legacies that continue to shape India's sacred landscapes. Their patronage reflects a desire to gain religious merit and contribute to the public and spiritual life of their communities, thereby asserting their presence in traditionally male-dominated spaces.

Stepwells as Gendered Spaces: Stepwells were not merely functional water storage systems; they were gendered spaces where women engaged in both religious and social activities. Structures like Chand Baori and Swastika Stepwell show how stepwells provided women with opportunities to perform rituals and participate in community life. These spaces were carefully designed to accommodate women's spiritual and social needs, reinforcing their roles in both sacred and public spheres. Temple tanks (Kalyani or Pushkarini), especially in southern India, were associated with bathing rituals, particularly for women before religious ceremonies. Although not explicitly reserved for women, these areas were often used for spiritual cleansing and social interaction. Royal and noble women had access to Zenanas or Anthapuras (women's quarters) within palaces. These private, often lavish spaces allowed women to socialize and engage in leisure activities, though they were restricted to the confines of their households. However, ordinary women and those from lower social classes had little opportunity for personal time away from their household and familial responsibilities, as they were largely confined to their kitchens. Their only respite came from attending temple visits and local festivals.

Regional Variations in Women's Influence: Despite privileges, royal women often had limited opportunities to interact with others outside their daily routines. Temple tanks became semi-public spaces where women could spend time together, turning a routine activity like bathing and purification into a social occasion. In rural areas, communal spaces like small ponds or riverbanks served as gathering points for women to collect water, wash clothes, and share stories, functioning similarly to stepwells in Gujarat. The research reveals significant regional differences in how women influenced the construction and use of stepwells. In northern India, women's involvement was often through royal patronage, as seen in the stepwells of Gujarat and Rajasthan, where women's roles were largely symbolic but powerful. In southern India, particularly in Kerala and Karnataka, women were more visibly engaged in religious rituals and community life, reflecting the impact of matrilineal traditions and cultural practices that granted women greater autonomy. Just as the architecture of stepwells evolved to reflect local customs and climate, the role of women in these spaces varied significantly depending on the region's cultural and religious context. In Gujarat and Rajasthan, where patriarchal norms dictated the lives of women, royal women and those with means commissioned architectural marvels like stepwells. These structures provided spaces where women could gather, partake in rituals, and find respite from household chores. Stepwells like Dada Harir Vav, Rani ki Vav, and Adalaj Stepwell demonstrate how women created spaces for others, immortalizing their contributions as both water sources and social hubs.

In Rajasthan, where social seclusion was strictly enforced, stepwells were more functional and utilitarian, lacking the social elements seen in Gujarat. However, some stepwells, like Chand Baori, were modified during the Mughal period with pavilions and covered spaces, though it is unclear if these were used by women. Due to strong religious influences, women in Rajasthan could partake in rituals involving stepwells, but these opportunities were limited. An exception is Bundi, known as the "City of Stepwells" (Lautman, 2017), where Queen Nathavati is credited with constructing around 21 Baoris. The most notable is Rani ki Baori, a remarkable architectural feat built in 1699 AD during the reign of her son, Maharao Raja Budh Singh. At 46 meters deep, the Baori features intricately carved walls and pillars, high arched gates, 50 stairs across three floors, and places of worship on every level. Queen Nathavati reportedly commissioned the structure as an act of defiance against patriarchal norms, providing a space where women from across the city could gather and enjoy some freedom.

In contrast, Deccan India followed matrilineal traditions that gave women greater power and a larger societal role, including in spiritual activities. Apart from exceptions like the Taj Bawdi in Vijayapura, Karnataka—commissioned by Ibrahim Adil Shah II around 1620 in honor of his wife, Queen Taj Sultana—and a few stepwells from the Maratha era, public water structures in the Deccan were largely limited to temple tanks and palace pools.

In Tamil Nadu and Kerala, where women held high societal positions, stepwells were rare. Temple tanks were common but lacked dedicated spaces for congregation or recreation. While women, mostly of noble birth, had private spaces within their homes, they had few opportunities to socialize outside their domestic roles, except during religious festivals. Even though women in Kerala were often more literate than in other parts of India, they lacked platforms to apply their knowledge. Women from lower castes faced even more restrictions, leading to largely housebound lives with little opportunity for education or social interaction.

Sacred Water and Spirituality: The connection between women, water, and spirituality is deeply embedded in Indian culture. Stepwells, as sources of sacred water, were sites where women could participate in rituals associated with fertility, purity, and healing. The architectural features of these stepwells, from religious carvings to symbolic designs like the swastika, underscore the spiritual significance of water and its association with female power and divine presence.

Implications for Vernacular Architecture and Sacred Landscapes

This research provides important insights into how gender, architecture, and spirituality intersect in the creation of vernacular architecture. By recognizing women's contributions to the commissioning and use of stepwells, a more nuanced understanding of how sacred landscapes were shaped by social, religious, and cultural dynamics is achieved.

The findings challenge the traditional view of women as confined to the domestic sphere, revealing how women, particularly those from noble backgrounds, used their influence to shape public works that had lasting religious and cultural significance. Stepwells served as both practical water conservation structures and sacred communal spaces, offering women a socially acceptable form of participation in public life.

Conclusion

This research offers a deeper understanding of how gender shaped the production of sacred spaces in ancient India and opens avenues for further research on the role of women in shaping other forms of vernacular architecture and sacred landscapes across different cultural contexts. The connection between water, fertility, and feminine power is deeply embedded in Hindu culture, as seen in the construction of stepwells dedicated to goddesses like Harshat Mata. These spaces often became communal hubs where women gathered to perform religious rituals, socialized, and temporarily escaped the confines of their domestic lives. Through these activities, stepwells provided women with a socially acceptable public space that allowed for both personal and collective expression.

While stepwells were prevalent in Northern and Western India, temple tanks in Southern India also played a significant role in community life, albeit with different architectural and social functions. In both regions, these water structures served as vital links between the practical need for water and the spiritual practices that surrounded its use. The Mughal additions to some of these wells, such as Chand Baori, demonstrate how different cultural influences were integrated without disrupting the original purpose or social functions of these spaces.

A notable contrast emerges between the stepwells of Northern and Southern India, suggesting an inverse relationship between the societal prominence of women and their need for dedicated spaces in public domains. In Southern regions, where women historically held higher status, communal spaces like stepwells and temple tanks were primarily functional rather than exclusively spaces for women's social engagement. This perhaps reflects a reduced necessity for distinct spaces for women, as their presence and influence were more integrated within broader society. Conversely, in the Northern regions, where women had comparatively limited societal power, stepwells provided them with rare and essential communal spaces, subtly challenging the boundaries of public visibility and enabling social agency within restrictive societal norms. Ultimately, stepwells and temple tanks reveal a unique intersection of gender, architecture, and culture, emphasizing the important yet often overlooked role of women in shaping sacred landscapes. These structures highlight how architectural spaces were not only reflective of the socio-cultural dynamics of their time but also served as powerful indicators of the societal position of women. Through their contributions to these projects, women left a lasting imprint on the architectural and cultural heritage of India, promoting water preservation and creating communal spaces for social interaction and religious devotion.

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