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RESEARCH ARTICLE

EXPERIENCING THE STEP-WELLS OF GUJARAT

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ABSTRACT

The history of India spans over more than 2000 years. It has different states each with its own distinctive social and cultural character. The westem regions of India have a hot and semi- arid climate with irregular rainfall. There was always a need to collect water of monsoon rains to utilize it during the dry months of the year. That is how the step-wells came into existence and India is a home to hundreds of them. Recent innovations like taps, hand pumps, plumbing, and water tanks reduced the physical need of the step-wells and these marvels ignored by the communities slowly converted from social gathering spaces to filthy breeding grounds for disease and parasites. India is is a developing nation and it is our great opportunity today to conserve and promote these monuments and their priceless architecture before it disappears for all time to come. Step-well, whether it is simple and utilitarian or complex and ornamented has a unique character. All of them have strikingly beautiful architecture.

INTRODUCTION

Step-wells are principally deep dug trenches or rock-cut wells or ponds of water reached by a winding set of stairs or steps. Step-wells are categorized by their scale, layout, materials, and shape excavated several stories underground in order to reach the worktable, the level at which the soil or rock is always saturated with water. Step-wells typically comprise of two parts : a vertical shaft sheltered from direct sunlight by a full or partial roof from which the water is drawn and the encircling prepared subterranean passage, chambers and steps which extend access to the well. The mellifluous play of ornate Hindu and Jain symbols intermingles seamlessly to the beautiful Islamic floral patterns on the walls and columns are carved by ornamentation and mythological scenes making these structures exceptionally rich monuments. Commissioned by royal, wealthy, or powerful patrons, step-wells are complex engineering accomplishments, they present marvellous examples of both Indian and Islamic architecture and are not found anywhere else in the world.

Aim: To understand the traditional and vernacular architecture of Step-wells and analyze the experience associated with the spaces.

Objectives

Primary Objective: Understand the experiential architecture associated with step-wells.

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Research objective: Study the diverse manners in which architectural elements respond to space.

METHODOLOGICAL OBJECTIVE

Discern the basic functioning and phenomenology of a step-well and correlate the experience with the culture and tradition of Gujarat.

Scope

The study will include the qualitative analysis of the built environment and further will relate to the experiential factors that create the space.

The study will include:

- Phenomenology of spaces associated with step-wells.
- Climatological implications in the design.
- Representation of the derivation and evolution of spaces.
- A collaboration of the experiences further resulting into the types of spaces.

Limitations

The study has been limited to experiential factors in the structure to streamline the topic of study.

The study will not include:

- Construction techniques and details used in the structures.
- Historical aspects of the spaces being dealt.

- Technical aspects of light, temperature and terms associated with them.

METHODOLOGY FOR RESEARCH

Literature Review: The literature review includes identification of the critical stretch for the detailed study, collected through various publications. It includes the study of basic concepts and similar case studies from various internet sources, books, working papers, published & unpublished works.

Figure 5.1.1. Surya Kund at Sun Temple Mother Complex

Primary Sources: The primary source of study includes spatial organization at site level– survey and documentation of plans, elevation and features of these impounded water structures with respect to form, shape, access, geometry and architectural features.

Secondary Sources: Along with the literature review, other need is to collect data on different structures for different zones over a period of time. This would help in assessing the difference in values over the period of time for the zones with different objectives . This will include the basic plans, sections and other relevant data along with pictorial and graphical data which will be most suitable to highlight the objectives.

***Secondly*, carrying out discussion with the people regarding**

- The current scenario of the structures.
- Relationship between the masses and the built environment.

CHAPTERS OF STUDY

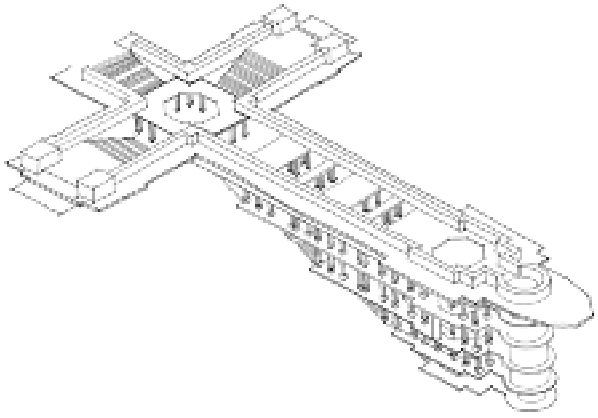

Figure 6.1.1 Isometric View of Rudabai Stepwell at Adalaj, Gujarat

Fig.6.1.2 /6.1.3 Rudabai Stepwell at Adalaj, Gujarat

***Rudabai ni vav*, Adalaj:** *Rudabai ni vav* is located at a village "Adalaj", close to Ahmadabad city and in Gandhinagar District in Gujarat thus also known by the name of Adalaj ni Vav. It was built in1499 by the Queen Rudabai wife of the Vaghela chief, Veer Singh. This is a complex system of spaces which starts with three set of steps leading to a square platform with an octagonal opening above, an interlinked five stories deep system of steps and landings with openings in the ceiling and columns defining spaces further leading to the step-well. The overall impression is one of massive scale and splendour. The essential part however is the perceptive integration of the various linear and planer elements, as a part of an overall design of the complex where direct sunlight cannot touch the surface of the steps or the landings resulting in a lower temperature inside the step-well making it an ideal space for social interactions and a relaxing space for various travelers and caravans in harsh weather. Adalaj step-well is another beautiful example of Indo-saracenic architecture with a fusion of Islamic patterns blending with the mythological scenes of Hindu and Jain symbolism.

***Dada harir ni Vav*, Ahmadabad:** Dada Harir step-well was built in 1485 by *Dhai* Harir, a household lady of Mahmud Bagedaas per an Persian inscription on the step-well which clearly shows the awareness of water conservation in the history. It is built in Solanki architecture style where spacious floors with air and light vents account for the fact that these step-wells were not just water storage structures but also served people to congregate. Three sets of staircases lead to the bottom of the well from the first floor. The main series of steps lead you to the lowest level where light through the octagonal openings falls on the intricately carved stone walls

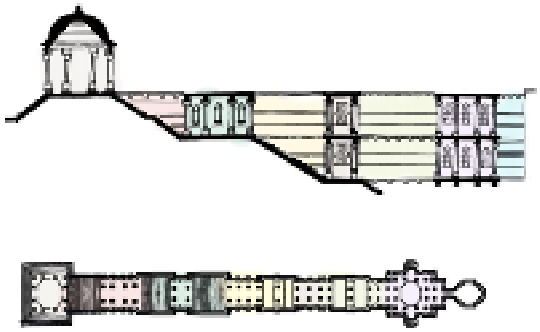

Fig. 6.2.1 Plan and Section of Dada Harir Stepwell, Gujarat

Fig.6.2.2 Circular Well at Dada Harir Stepwell, Gujarat

Fig.6.2.3/4/5 Intricate carvings at Dada Harir Stepwell, Gujarat

Fig.6.3.1 Rani ki Vav Stepwell, Patan Gujarat

and one can see upwards for a spectacular view of the replication of the octagonal opening where sunlight falls on the intricately carved floral sculptures on the stone walls which is an absolute delight.

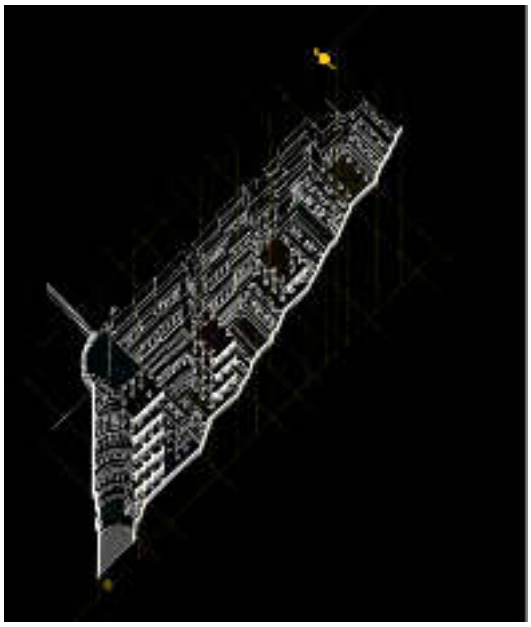

Fig. 6.3.2 Sectional View of *Rani ki Vav* Stepwell, Patan, Gujarat

***Rani ki Vav*, Patan:** *Rani ki vav* is situated in the town of Patan in Gujarat on the banks of *Saraswati* river. Its construction is attributed to Udayamati, the queen of 11th-century Chaulukya king Bhima I. It is one of the largest and most impressive step-well built in the Maru-Gurjara architectural style, reflecting mastery of excellent details and proportions. A step-well faces east with multiple set of steps leading you the circular part of the well. The multi-storey pillars pavilion measures 64m in length, 20 m in width and 27m deep and is also considered to be the queen among the step-wells of India. Archaeological Survey of India restored this site in 1980s and this step-well since 2014 has been listed as one of UNESCO's World Heritage Sites. The step-wells showcases human creative genius in its variety of religious and mythological sculptures and reliefs. Multiple levels with elegance of proportions frame an intriguing space, both functional and aesthetic.

INFERENCES: These magnificent structures were much more than utilitarian reservoirs and were designed to function as cultural to functional and recreational spaces. They also functioned as Hindu temples that featured column-supported shade pavilions and elaborate stone carvings. Islamic versions had more-sedate adornment and often incorporated arched side-niches. They were the sites for drinking, washing, and bathing for the people as well as for colorful festivals and sacred rituals, forming an essential part of the western Indian community.

These Step-wells designed to serve the needs of human activity creating a relationship between human senses and the building to transform emotion and perception also served as cool sanctuaries for caravans, pilgrims, and common travelers during the heat of the day or for an overnight stay. The architecture of step-wells comprehensively demonstrates the assimilation of human activities with adapted site context. Phenomenological abstraction strategies in the design presents a unique experience which is enriched by the amalgamation of space, light and form. The dynamics of human perception, of the individual and the community, should influence design form and function.

Due to the topography and climate a variety of water conservation methods evolved in different regions giving rise to various building typologies to save water which culminated an interface between spaces, architectural elements, and water. Architecture influences the locale through incorporating human activity, site context, space, and exploration of material. Phenomenological concept schemes in architecture intend to develop a special experience of space, light and form. Architecture is designed to cater the needs of human activity; therefore, creates a relationship between human senses and the built to transform emotion and perception.

REFERENCES

Bonfring International Journal of Industrial Engineering and Management Science", Vol. 5, No. 2, June 2015

Chitrolekha International Magazine on Art and Design", Vol. 5, No. 2, 2015

Concept of Spaces in traditional Indian Architecture", Pandya Yatin.

Cosmology of Subterranean Architecture as seen in Adalaj", Shuichi Takezawa.

Elements of space making", Pandya Yatin.

http://www.gujarattourism.com/destination/details/6/32

http://www.walkthroughindia.com/walkthroughs/10-ancient-popular-step-wells-india/

The Step-wells of Gujarat: In Art-historical Perspective", Jain Jutta, Neubauer.

Theory of Phenomenology: Analyzing Substance, Application, and Influence!

Water-Related Architecture as an Identity Anchor of Chanderi, Madhya Pradesh, India", K. Shubhangi and D. Shireesh

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