

The Stepwells of Delhi

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Though the topic of my presentation pertains to stepwells of Delhi as important component of the architectural heritage of the city, I shall begin with a short introduction to the architectural typology of this genre of monuments as it originated and evolved to attain a zenith in Western India, especially in Gujarat.

The term "stepwell" is commonly used by art-historians and architects to describe a typical water-related underground monument, which is composed of a circular water-well and a descending stairway leading down – in various storeys – from the ground-level of the earth to the underground water level. A stepwell is not the only type of water monument found in India. There are stepped temple ponds, as in Modhera in Gujarat or Roda in Rajasthan; large artificial tanks as in Sarkhej in Ahmedabad; ornamental pools as in the Red Fort in Delhi; ritual platforms on the banks of lakes as in Udaipur or on river banks as in Benaras; just to name a few. However, a stepwell is the most intricate, and from the architectural point of view, the most complex one.

Stepwells are unique to India. Most frequently they are found in Northern India, such as Gujarat and Rajasthan, but also in the Delhi region, in Uttar Pradesh and Madhya Pradesh, and less frequently, in southern India.

The oldest stepwells that are known are cut into the natural rock on a 1000 m high mountain range called Mt. Girnar near Junagarh in Gujarat. For more than 2000 years Mt Girnar – as many mountain peaks with extraordinary features – has been a sacred spot and important place of pilgrimage for the Buddhists and Jainas, as evidenced by the existence of a Rock Edict of Emperor Ashoka found on a large boulder at the Old Fort on Mt. Girnar, datable to about 250 BCE, and of caves also carved into the rocks belonging to a Buddhist monastery which is believed to have been active in the first few centuries BCE.

The first structural stepwells are from the 6th century onwards. The tradition continued unbroken for centuries till nearly today - having its zenith during the 11th and 12th centuries parallel to the highlights

of traditional architectural activities in India. The bulk of stepwells created under Islamic sponsorship are mostly found during the 15th and 18th centuries, again reflecting the various styles of the Sultanate architecture in Northern, Western and Central India. The most elaborate and beautiful stepwells ever built resemble monumental subterranean temples with hundreds of magnificent sculptures placed along the side-walls. The last traditional stepwell might be the one built in the royal gardens of Wankaner in about 1935.

The architectural work for accumulating, preserving and regulating water had to be done with very special technical know-how. Unlike a building, which rises in space above the ground, a stepwell is built underground – an 'inverted' building or a 'building in reverse', as it were. Therefore the side-walls of the descending stairway had to be fortified by various structural means. Stepwells, similar to pools, ponds, or tanks, encase water which is still, as opposed to the flowing water as in natural lakes or rivers. Because of the inherent properties of water, its force and fluidity, the construction of water monuments had to take these elements into consideration. Geomorphology, the flow of underground water, and hydrological conditions also determined the form, size, architectural plan and the various design components. The intricate understanding and technical expertise of water architecture in India, its details and method of construction, is age-old as is reflected in the numerous references in ancient texts.

Stepwells could be divided into four main types based on structural features of the ground plan: 1. with straight descending stairway, 2. with L-shaped stairway turning at a right angle which is necessary, if the required length of land for a straight stairway to reach the groundwater table is not available, 3. with circumambulatory passage around the well, often with rooms and chambers in various storeys below surface, and 4. with cross-shaped plan and four descending passages meeting in the central well which is enlarged to form a pond.

The descending stairway, starting from the entrance pavilion, could be a plain open passage or having numerous internal cross-constructions built as open pillared halls or pavilion-like constructions. These are built at regular intervals into the stairway to counter-balance the inward thrusts at the side-walls and to ensure structural stability. The length and breadth of the stairway, the depth of the well and the complexity of the supporting structures are determined by the soil conditions as well as the underground level of the water table of the area: the lower the groundwater level, the deeper the stepwell had to be dug.

In some cases the breadth of the stairway has a straight plan, but its section narrows down as one goes deeper into the earth. This is necessary to resist the pressures of the soil in soft and brittle surroundings, whereas in rock and stone formations this is not required. Sometimes laterally placed blocks of stairs are inserted into the flights of steps to serve as a device to reach lower levels in less space, thus reducing the length of the stairway.

Usually there is a small basin, at the end of the descending stairway, surrounded by a circumambulatory passage. In the storeys above this basin a low parapet wall consisting of a stone bench with sloping backrests and banisters enclose the open space allowing a view into the basin underneath. In this manner the 'inverted tower' is built up storey by storey from the ground level to the subterranean water table.

The need for having this additional subterranean basin is to regulate the accessibility to the water. The water in the well, which is only used for drinking purposes and determined the social use as well as the health and well-being of the communities living in the vicinity, had to be kept unpolluted and clean. The well itself was accessible only from the ground-level for hauling up the water with buckets. The water in the small basin at the end of the descending stairway, at the lowest level underground, was fed by the well through a small opening, which allowed the water to flow from the well into this small basin, but not vice versa.

Often beautifully embellished with sculptures, ornamental niches, balconies, chambers, relief work, stepwells are a form of ecologically sensitive architecture. Due to the strong evaporation in the dry summer season, open water bodies dry up during the summer, whereas the water in a stepwell with its deep and narrow stairway is hardly exposed to the sun, and therefore it retained a certain water level throughout the year.

Stepwells were built for numerous purposes, as they combine secular and religious as well as social functions: first and foremost, they were public properties that served the civic need of water for the community and while fulfilling this function, they also acted as places for social interaction.

In the Hindu context, the stepwells have adopted the function of sacred shrines having images of deities and niches for offerings. In this context it might be interesting to note, that already the ancient *shilpa shastra* texts allude to the water-well in a stepwell as “*garbha griha*” meaning the *sanctorum sanctorum*. In the Islamic context too, one finds often a mosque next to a stepwell which served as source of water for ablutions before prayers.

It is noteworthy that often women of royal, aristocratic or eminent families, or the main lady of the harem, both in the Hindu and Islamic contexts, were the patrons who got stepwells commissioned as an act of charity, social commitment and personal merit.

If the stepwells of Gujarat have as one main characteristic feature the overwhelming figurative embellishment, it is noteworthy that the aesthetics of the Islamic stepwells as found in Delhi are marked by simplicity of form and quiet dignity.

The stepwells of Delhi

After this brief introduction into the structural features, and historic, social and religious significance of this unique and magnificent type of water architecture, I am now coming to the stepwells of in Delhi.

The earliest stepwell in Gujarat goes back to the sixth-seventh century, but the tradition has continued till the 20th century. On the other hand, the surviving stepwells of Delhi, as far this could be ascertained from the existing monuments, date back not earlier than the thirteenth century. As in other dry and arid regions, there are quite a few and varied examples of this brilliant water architecture found in Delhi. As evident from the available material, the city and region of Delhi must have been densely dotted with wells, stepwells, ponds, man-made lakes and water reservoirs, wonderfully conceptualised sluices such as Satpulia and similar water structures, in line with the civic needs of a capital city of a major empire.

Probably the earliest such monument is the Suraj Kund in the southern outskirts of Delhi, which is fairly in good condition of preservation. The expansive oval pond is believed to have been constructed in the 10th century by Tomar king Surajpal, and its steps were repaired by Firuz Shah Tughluq in the 14th century. Anang Tal, said to have been built in AD 1060, belonging by Anang Pal of the same Tomar dynasty in his capital region of Lalkot, in the outskirts of today's Mehrauli. This tank must have been very large, as the excavations reveal. Some steps leading down to the water level are still extant. This tank must have cleverly used the system of water harvesting, as the water catchment area appeared to have a dam across a ravine which collected and preserved the rain water. Sluices regulated the flow of water to the fields for irrigation.

Gandhak ki Baoli

Gandhak ki Baoli, belonging to the period of Iltutmish (1210-1236) of the 13th century, is situated in Mehrauli, to the south of Adham Khan's Tomb. Surprisingly, this impressive

stepwell has no internal constructions to strengthen the sidewalls that they may not cave in it due to the forces of the earth at the sidewalls, as a stepwell of this depth of Gandhak ki Baoli would normally need to have. It has 5 storeys underground. The architects of this stepwells ingeniously managed the construction in this depth by planning the descending stairway with a tapering section. This stairway is about forty metres long and twelve metres wide. Before the well is a basin, which even today is filled with water.

Baoli of Nizamuddin

Because of its historical and religious connotations, the Baoli of Nizamuddin is one of the most important stepwells of Delhi. As you all know, it is being documented and renovated under the aegis of The Aga Khan Foundation.

The famous religious leader Nizam ud-Din Auliya, a talented disciple of the eminent saint of the Chishtiya tradition Shaikh Farid, came to Delhi in 1265 as his successor and he made the village in the Delhi area his home. Though this village was insignificant in the beginning, it became a thriving place because of the presence of the well-respected saint. Many buildings came up in and around this religious establishment in the outskirts of the then capital city of Delhi, which was located to its south. The saint himself built a *baoli* now located just at the entrance of the religious complex.

As I had mentioned earlier, it is a tradition of water architecture that these are an integral part of a religious establishment. The *baoli* served multiple purposes, one is the basic need of water for the inhabitants of the locality, and secondly, it catered to the religious need of ablutions before worshipping in the saint's tomb or the mosque. This *baoli* is an impressive structure, measuring internally 125 ft by 53 ft enclosed with stone walls on the south, east and west, while on the north is the main entrance and the stairway leading down to the water. The date of construction has not been recorded, but circumstantial evidence would suggest that the saint built it around the early years of his arrival sometime in 1257 AD.

Stepwells of Tughluqabad

With Ghiyath al-din Tughluq taking over the region of Delhi in 1320, a new period of governance as well as distinct architectural activity started. Though the Tughluqs were ruling only for less than a century from 1320 to about 1414, the determination to make the

conquered territory their own homeland through their distinct and individual style of building construction is enormous. One of his first ventures was to conceive and construct Tughluqabad, located on a strategic rock formation to the southwest of the earlier capitals of Qila Rai Pithora and Siri. With this a new strong impetus and period of architectural experimentation was initiated which resulted in several magnificent buildings. Tughluqabad was quite a mature attempt at town-planning, having a distinct complex of power with the citadel and palaces for himself and the harem. The township was organised in a geometric grid-work of streets, quarters for the guilds and civic needs, such as bazaars, mosques, and the like. For reasons of self sufficiency, Tughluqabad fort had a number of stepwells and stepped ponds of impressive architectural structure, within the royal enclosure as well as in the citizens' area. Noteworthy is the use of water channels and decorative pools within the harem's chambers in the private enclosure.

Baoli of Firuz Shah Kotla, the palace complex of Firuz Shah, in the new township built by him, 1354 AD

Firuz Shah, the third ruler of the Tughluq dynasty, and nephew of Ghiyath al-din Tughluq, ascended the throne when Muhammad Shah Tughluq died. Firuz Shah was more a visionary and philanthropist than a cunning expansionist ruler who built a new capital for himself on the river Yamuna just north of the old capital known as Purana Qila.

The palace complex, known as Firuz Shah Kotla, has a stepwell built in 1354 of unique architectural formation. It has apartments on two levels placed around the large central well-shaft. The antecedents to this type of stepwell are found in Gujarat, for example Ra Khengar Vav near Junagarh in Saurashtra, which has an underground circumambulatory passage around the well-shaft with openings. Similar structures are found in Mandwa and in Mehmudabad in Gujarat. Quite a rare example of this type is the stepwell in the royal gardens of Wankaner, which was used as cool and comfortable summer retreat made fully in white marble. It has rooms and chambers built around the well in two underground levels, a balcony projecting into the water. A fountain made as sculpture of Shiva from whose matted hair river Ganges flows out, circulates the water for pleasure and heightened cooling effect.

Rajon ki Baoli of a later period, probably 15th-16th century

Because of its massive structure placed in a huge complex with other buildings, Rajon ki Baoli located in Mehrauli is an extraordinary monument. 66 steps in a rather broad descending stairway lead down to the basin in the fourth level underground. The walls in the lowest visible storey are decorated with deeply recessed arches. On the top there is a circumambulatory arcade with strong piers and colonnades. The same arcade is also found on the second level on the south. The well is to the south, behind a strong cross-construction. The mosque, probably built in 1512 at Rajon ki baoli is attached to the stepwell, and is probably contemporary to the stepwell. The mosque is three bays deep and measures 15,7 m by 4, 85 m. Each of the three compartments is entered through an archway. The roof is accessible from a steep flight of steps at either end. At the south east corner of the courtyard is a gateway. The *chhatri* in the same compound as the mosque has an inscription on a red sandstone slab above the *chajja* on the south side dating it to 1506 AD.

Agrasen ki Baoli, ca 1506 AD

Described as the “finest stepwell of Delhi”, *Agrasen ki baoli*, hidden between high-rise buildings near Connaught Place on Hailey Road, is truly an impressive and magnificent monument. The complex structure, datable to about 1506 AD, has a 60 m long and thirteen meters broad descending stairway in four levels and more than 100 steps. The well and the basin are separated by an internal wall. The tower-like internal structure built above the basin is quite rare and unique, because it is not open to the sky – as would usually be the case – but is covered by a massive and solid dome. Another feature to support the firmness of the rather lengthy sidewall is the tapered section of the stairway. The side-walls are strengthened by internal constructions in the form of blind arches, very similar to such motifs in contemporary mosque architecture. At the third underground level there are chambers being accessed from the descending stairway. Adjacent to the entrance, at the south-western corner, there is a mosque, very similar to other stepwells built with Islamic patronage such as Dada Harir stepwell in Ahmedabad.