

# Unlocking the Potential of Water Architecture in Urban Realm of Delhi, India

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## Abstract

*The paper aims to understand components of historic water architecture of Delhi since 12th C. AD and its impact on urban growth of Delhi. The expected outcome of the study is to bring to fore the illegibility of a robust system which shows the city has been historically water- conscious as opposed to water- scarce as of today. The study positions the role of historic water architecture in the city in terms of its spatiality, associations with community and possible way forward to strengthen the 'local' with respect to response of the built environment.*

*The capital city of India with expanding population puts pressure on water infrastructure. Delhi is rife with issues like scarcity, inequity, poor water quality and exploitation of ground water, making it one of the cities closer to running out of its ground water by 2020 (NITI Aayog, 2018). Delhi has been an imperial capital during a major part of its history. Historical studies have documented the various cities of Delhi. The historic water architecture of Delhi, wherein every historical layer added and enhanced the existing system. This system is currently not understood as a whole in the built environment. A cultural reading of this water-built network influences the way we understand, analyse and provide solutions for conflicts around water in built environment.*

*The nadis (tributaries of Yamuna) of the historic city of Delhi were strong determinants of the urban growth through the ages. The knowledge and wisdom of finding, tapping, harvesting, conveyance as well as managing water defined the subsequent cities of historic Delhi since 12th century AD. As Wescoat (2019) elucidates, the change of perception of nadi to nallah (drain) from the British period onwards indicates a paradigmatic shift towards urban water, which eventually left out the historic water architecture from conscious urban planning of the city. As the post-Independence planning of Delhi dealt with the dichotomies of order and disorder (Wengoborski & Singh, 2013), the historic water architecture; which constituted meaningful urban spaces as nodes of the nature-built-culture nexus; were not recognized as a part formal urban water system. A case in point is of Hauz Shamsi in Mehrauli, which was the water reservoir of early city Dihli-i-Kuhna (Kumar, 2007) which tapped the one of the nadis flowing from the Aravalli ridge. Along its whole network, many typologies of water structures came up, defining the water architecture as well as positioning the cultural water network in the core of the city planning.*

*The study uses archival research, mapping, layering and site studies to understand this complex part of Mehrauli comprising the Hauz Shamsi- Jharna 'cultural water network' (Shah, 2013). The emphasis is on turning the focus on water to understand the built environment instead of the other way round. The study endeavors to analyse lost linkages, impact of planning processes in post- Independence India and come up with way forward on integration and innovation of water architecture in Mehrauli.*

## Keywords

Water Architecture, Delhi, Water Heritage, Urban Heritage, Urban History, Water System

## 1. Delhi's Historic Water System

### 1.1. Introduction

A city is a manifestation of spatial and temporal dimensions of human interventions bounded by dynamic ecosystems. Delhi has evolved as a city over centuries. What we know of Delhi today has been formed and shaped by various significant events in the past reflecting amalgamation of cultures. In Delhi, the layers of history are evident with various historic water structures that dot the current landscape.

India's diversity in physiographic regions, climate, cultures and traditions are evident in vast pool of traditional knowledge systems. The traditional water systems are one of the important components of this larger knowledge system. Delhi's historic water system is characterized by its ecological layer; as well as various typologies of water structures that were added upon over a period of time.

Historically, the water system of Delhi was an integral part of the functioning of the city. The natural water system of Delhi consists of major physiographic features such as the river Yamuna, the alluvial basin, the seasonal and the perennial streams and the Aravalli ridge acting as the watershed. The water system is also characterized by the topography, the slope, the soil type and the vegetation.

The water was tapped through natural depressions and artificially made reservoirs and wells by the communities. This water system got added upon, over time, through cultural interactions, that brought in newer techniques of tapping and managing the water, giving rise to new architectural vocabulary of water structures.

The positioning of these water structures were based on the type of the structure (related to groundwater, surface water or rain water) required and its role in the larger system (channelizing, harvesting, conveying or storing water). These water structures also had cultural connotations owing to their patronage, associations with traditions and community.

Presently, this understanding of the system as a whole has diminished. The ridge is only seen in smaller sections, the water channels have not been understood and the catchment areas are being built upon. The water networks are now fragmented due to different administrative divisions. The city is grappling with water issues. The groundwater extraction is depleting the natural aquifers, which can be detrimental to the ecology of Delhi. It is dependent on other cities for water transfer. The government aims to provide water supply to each household and initiatives are being taken to harvest rainwater. However, understanding the water system is more than just harvesting rainwater. Unless the water system of Delhi is considered as a whole, the solutions would tend to be piece-meal approaches, which may not be effective in the long run.

### 1.2 Understanding Delhi with respect to its Natural Resource Base

Delhi is situated in the part of Yamuna sub-basin, along the river Yamuna. The historic development of Delhi can be traced mainly in the portion bounded by the Aravalli ridge and the river.



Figure 1. Historic Development of Delhi. Source: Sketch of the Environs of Delhi, 1807, Antique Map, Survey of India.

The historic map- Sketch of the Environs of Delhi, 1807, by the Survey of India, shows that a branch of the river Yamuna used to follow the Aravalli spur in the northern ridge.

The *nallahs* or the streams join Yamuna and are either perennial or seasonal (Chopra, 1976). The natural depressions or the *talaabs* tapped the overflow of the water at the lowest point. The pre-historic and proto-historic details of development of Delhi have been established through archaeological excavations, inscriptions, trade-routes etc., and the research is still going on.

The historical evolution of Delhi, with respect to the water systems, have been broadly highlighted in the following time periods in this study:

1. Tomar and Rajput period (736 CE- 1192 CE)
2. Sultanate period (1192 CE-1526 CE)
3. Mughal period (1526 CE-1857 CE)
4. British period and Lutyen's Delhi (1857 CE- 1946 CE)
5. Post- Independence period (1947- present Delhi)

In all these time periods, the evolution of the city is seen through the development of different cities and settlements, and their relation to the water networks. With time newer technologies emerged which can be seen through the different types of water structure (Shah, 2013):

- Surface Water bodies: *johads, kunds, taals, hauz, jheels*
- Ground Water bodies: *kuan, baoli/bain, chah*
- Regulatory Mechanism: *bundh, bandh*
- Conveyance of Water: *nahar/ Canals*

## 2. Water System and its Units

The historical water system of Delhi depended on slope and gravity. The first line of *bundhs* was located on the foothills of the Ridge, each at a distance of 3 *kroh* between them (Cherian, 2004). The water streams were intercepted by these bundhs, with a water reservoir or *hauz* close to most of the bundhs to store water. This water in turn recharged the water table, which fed the *baolis* and the wells. A second line of *bundhs* is seen near the end of the undulating terrain. This enabled holding and storage of maximum water within the stretch of land supporting the historic settlements. The surface water bodies are generally located at the lowest point of the settlement. The water from the second line of *bundhs* was then diverted to the settlements for agriculture and other purposes. The known example of a *bandh* is Satpula, which acted as a dam. The wells were used as localized water structures.

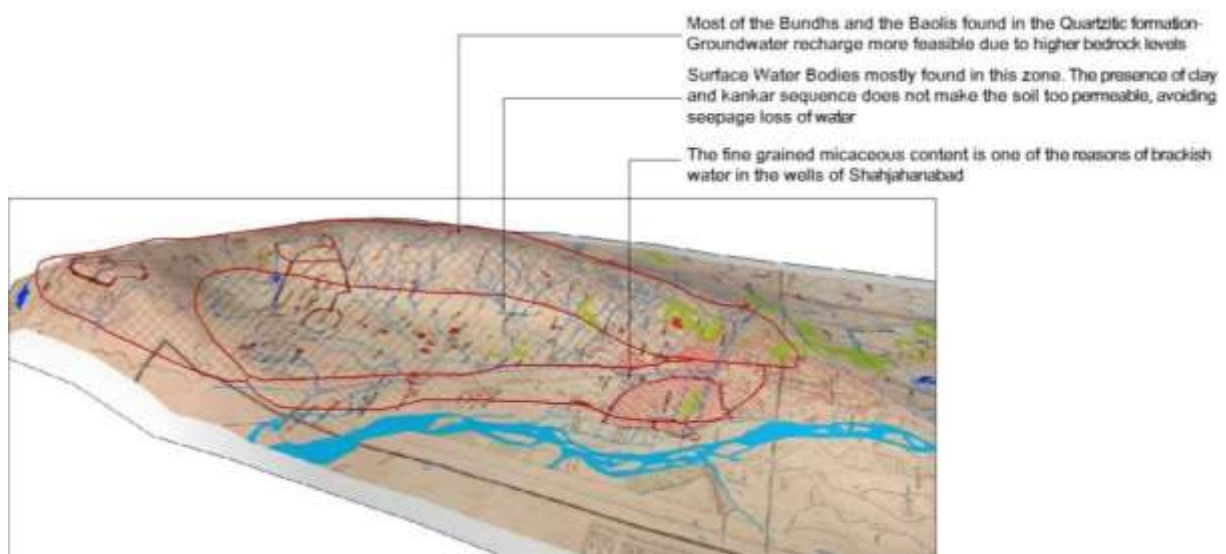


Figure 2. Water architecture of Delhi forming a network, responding to hydro-geology, topography and the historical settlements. Source: Author.

The author's study breaks down the various units of the system, which were not just water bodies but also strong socio-cultural nodes of the society.

#### *Nadi/ Darya/ Nallah*

The *nadis* flowed in the either sides of the ridge. The *nadis* flowing eastward joined the river Yamuna. The ones flowing westward, joined the Sahibi river (the present Najafgarh drain), which ultimately joined Yamuna.

#### *Ju/ Nahar/ Canal*

There are mentions of canal built during Khilji period (Siddiqui, 1986) . The Ju-I-Firozabad was laid by Feroze Shah Tughlaq. *nahars* were the name for canals during Mughal period. During Mughal time, these were of *kachcha* construction. In the British period, the Western Jamuna Canal was the modification of the old *nahar*, which was made *pucca*, with lining along the surface.

#### *Bundhs*

*Bundhs* are the first water structure units in the historic water system of Delhi. The *bundhs* acted as a regulatory mechanism. The remains of the earliest *bundhs* at present are those of Firoz Shah Tughlaq's time period, though the technology would have been present earlier as well.

The *bundh* had a tapering masonry structure with apertures known as *mori* (Cherian, 2004). The existing remains of bundhs indicate making of the *moris* in granite monolithic stone blocks, which could be regulated by stone or wooden plugs.

#### *Bandhs*

The existing historic example of a *bandh*, is the Satpula. It has an elaborate system of sluice gates, which were raised and lowered as per the required amount of water to be passed along it. It had seven major arched openings, through which the water flowed. This also gave it its name- Satpula. The arches in the lower section had deep grooves, along which the sluice shutters operated. The water was collected in a reservoir, which was then diverted to the settlements and the agricultural fields for irrigation. The area around this reservoir supported a lot of biodiversity. The water of the Satpula was also considered sacred.

#### *Johads*

*Johads* were the water bodies at a localised level in the settlement. They were located at the lowest points of the settlement, made as irregular shaped natural depressions, tapping surface run-off from the higher points of the settlement (Agarwal & Narain, 1999).

#### *Taalabs*

*Taalabs* were the natural water bodies at a localised level in the settlement. They were located at the lowest points of the settlement, made as irregular shaped natural depressions, tapping surface run-off from the higher points of the settlement.

#### *Kund*

Surajkund is the only known historic example of the type of *kund* in Delhi. Based on that, one can infer that it was a settlement level water structure, with larger volumes of water storage capacity. It had an impervious lining along its surface to prevent water losses through seepage. It was deep to prevent evaporation losses. The embankments and steps in it were added later. It was also associated to the Sun Temple historically.

#### *Tal*

Anangtal is the only known historic example of the type of *tal* in Delhi. Based on that, one can infer that it was a settlement level water structure, with larger volumes of water storage capacity. It had an impervious lining along its surface to prevent water losses through seepage. It was deep to prevent evaporation losses. Anangtal was also connected to religious activities of the Jogmaya Temple, in Lal Kot.

#### *Hauz*

*Hauz* are the water tanks at the settlement level. They have larger volumes and water from these is diverted to other water bodies. They had an impervious lining along its surface, to prevent water losses through seepage.

#### *Dighis*

*Dighis* were the water tanks constructed during the Mughal times, and were localized level structures. They were basically water tanks for public use.

#### *Baoli/ Bain*

*Baolis* are water structures at the settlement level. They consist of three major parts:

- The well shaft- which is deep enough to draw water from the aquifers
  - The reservoir- which is connected to the well and the water is collected by the people from here.
  - The steps and subterranean chambers - which provide access to the water (Lort, 1997).
- Some *baolis* also have chambers, which serve as places for retreat. This also created a microclimatic zone.



### 3. Post-Independence Period- Implications of the Master Plans on the historic water architecture

In the Post-Independence period, the expansion of the urbanisable limits of the city led to breakage of the linkages among the *nallahs* at many points, and many of the historic water structures were neglected or filled up for building new settlements. The 1962 Master Plan recognized only three historical water bodies to be developed as recreational spots (Sahay, 1962). The ridge was reserved for development of regional parks and some parts were earmarked for stone quarrying.

In the Master Plan of Delhi 2001, it was mentioned that conservation and revitalization should occur alongwith environmental upgradation in old built-up areas. However, there was no emphasis on the cultural water networks. There was identification of ridge into four parts: Northern Ridge, Central Ridge, Southern Ridge, South- Central Ridge. It was mentioned that no further infringement of the ridge is permitted. The one-mile deep green belt proposed in the 1962 Master Plan had been built upon by unplanned development presently. Green belt width increased to 2km, considering the new urbanisable limits. The planning for open spaces like regional parks, district parks etc., was a positive point.

The Master Plan of Delhi 2021, emphasis on the protection of the river, the water networks and the water structures. However, the issues of encroachment and negligence of the water system have led to disappearance of many of the historical water bodies.

The recognition of the river and the floodplain as a separate zone ensures better protection. Its linkages with the water streams and *nallahs* should also be recognised. The water networks tend to get fragmented in administrative boundaries. The 2021 MPD recognised them as a whole. The catchment areas at micro levels, of the water network, need to be mapped. The covering of *nallahs* is a major issue, which requires framework for strict enforcement.

The MPD 2021 emphasised on the need for public participation in conservation and management of the water bodies. It considered the area near Najafgarh *jheel* and its surroundings and the ridge as potential water conservation area. More water conservation areas can be marked based on the studies of catchment areas of water networks and topography analysis. Reduction of groundwater is a major issue identified and augmentation of groundwater bodies requires conserving the surface water.

With time, the focus has been to protect the ridge as it is, in all the Master Plans. Its potential as the watershed should be emphasised on.

The open spaces in most of the areas have helped in protecting the remaining water networks to some extent. It is imperative to note that the public value of these open spaces (Raina, 2016) also offer opportunities for active urban realm in addition to being important visual amenities, which is worth exploring in the case of water architecture of Delhi.

#### 4. Potential in Urban Realm: Historic Water Network of Hauz Shamsi and Jharna, Mehrauli

The area has seen historical development from the pre- Sultanate period, Sultanate period, Mughal period, Colonial period, post-Independence uptill present.

The Hauz Shamsi and Jharna come under the Ward 8 of Mehrauli at present. The Hauz is centrally protected by the ASI, whereas Jharna comes under the State level protection of MCD.

In 1900's, Mehrauli was designated as a Lal Dora Urban village. It is one of the 111 traditional settlements, to have been urbanised in the recent times (Thakur, 1991).

The Hauz Shamsi is the first known water structure that occurs towards the origin of the Water Network of the Barapullah Nadi. Thus, it forms an important focus area of intervention in the conservation measures of the sub-system.

The Hauz, Jharna and their network is under major threat. The boundaries of the Hauz are shrinking rapidly over time. The *nadi* can be seen in parts, before it flows towards Mehrauli Archaeological Park, where it goes underground for most of the stretch. The diversion of the *nadi* is also seems affected by unplanned development to some extent.

Historic significance of the area is high. The Hauz is the earliest known example of the type of water structure, from the Sultanate period. Jharna was also developed in the Late Mughal period as a *chahar bagh* garden (Khot, n.d.). This water network was instrumental in the historical development of the area as well.

The linkages to the other historical structures, such as Jahaz Mahal, Auliya Mosque and other historic tombs is lost, along with the historic connection between the Hauz and Jharna itself. It is important to revive this connection, to facilitate urban regeneration of the area, and also protect the values and significance of these structures.

The area has a major problem of water supply. Also, the groundwater of the area has reduced alarmingly over the years. Revival of the water network can help in localized augmentation of the present water system.

##### 4.1 Water Architecture as 'Nature-Culture-Built' nexus in the Urban Realm

Decoding the hidden layers of the site to understand its potential:-

###### Layer of Natural Setting

The site is located on the quartzitic formation, along the South –central Aravalli ridge. The settlement of Mehrauli is situated along the linear ridge, running north to south. The area adjacent to Hauz Shamsi has low plains, below the undulating rocky surfaces of the ridge.

The soil type in the area is Kohi, which is coarse grained sand associated with the ridge. This enables water to percolate through soil, which is tapped in the bedrock level.

The hydrology is governed by the *nadi*, originating from the ridge , streams of which flew across the undulating landform.



### Sultanate Period (736 A.D. -1525 A.D.)

Before the Sultanate period, the Puranic layer is evident by the existence of the Jogmaya Temple, associated with Hindu Mythology.

Mehrauli was earlier known as Mihirawali (Begde, 1978) and was founded by the King Mihir Bhoja (836-885 A.D.) of the Gurjar-Pratihara Dynasty.

Until 1296, the area was part of the Imperial Capitals of the Hindus (Lal Kot, Quila Rai Pithora) and the Sultanate (Dilli-i-kuhna). The Sohan Burj, one of the gates of the ramparts of the citadel of Lal Kot and the extended Qila Rai Pithora, lies in the detailed study area.

Ilutmish built the Hauz Shamsi in 1229 AD, to divert 2-3 streams of the *nadi* flowing from the ridge (Alam, 2020). The overflow of the water flowed to the low-lying area like a *jharna*. In 1311 A.D., the pavilion was added to the *hauz*. It was near an Idgah, and measured approximately 2 miles x 1 mile (Hasan, 1997). According to Ibn Batuta, apart from drinking water, the water was also used for cultivation of seasonal fruits. The *hauz* was surrounded by orchards.

The *hauz* also has an associational significance as legends say that Ilutmish decided to build the reservoir, after seeing a dream of the Prophet riding a winged horse '*buraq*' (Seale, 2016) and later finding a hoof print on the site of the *hauz*.

After the capital shifted to Siri, the area was referred to as a part of the Purana Shahar, where aabadi continued to settle and thrive. Many of the significant buildings came up in the Lodi Period, in the detailed study area, including Jahaz Mahal.

Other significant structures in Mehrauli include Gandhak ki Baoli, Qutubuddin Bakhtiyar Kaki ki Dargah and its Baoli, buildings of the Qutub Complex, Balban's Tomb, Rajon ki Bain was built in Mehrauli during the Sultanate Period (Peck, 2005).

### Early Mughal, High Mughal, Late Mughal Period (1526- 1857 A.D.)

Several walled mosques like Jamali Kamali, Madhi Masjid etc. in the Mehrauli area show that settlements grew and continued even during the Mughal Period. Mughal tombs of Chaumuchi Khan, Adham Khan, Quli Khan etc. were important buildings of Mughal period (Stephen, 1876) (Hasan, 1997). Trade route connected Mehrauli to Shahjahanabad, which was the new Imperial city in 1639 A.D.

In the detailed study area, the significant development was use of the area as the Mughal retreat in Late Mughal Period. The low-lying area across the Hauz Shamsi which collected its overflow, was converted into Mughal Garden called Jharna. The pavilions and the water tanks were made by Nawab Ghiyasuddin in 1700 AD. It had a Chahar Bagh Layout. Akbar Shah II built the pavilion on the side. Bahadur Shah II added the central pavilion (Baradari). The well-known Phool Walon ki Sair, or the procession of the flower-sellers, led by *shehnai* players and dancers begins from this Jharna (Khot, n.d.).

During this period, when Delhi became part of the British territory, the Mehrauli area became a refuge for the late Mughal rulers. The Zafar Mahal was the palace of the last Mughals, which had larger footprint than what remains today. A part of its recreational complex was near the Hauz Shamsi. Apart from these, many *havelis* for the nobles, *sarais*, shop houses, mosques came up (Nanda, et al., 1999).

### British Period (1858-1947 A.D.)

Mehrauli became the *tehsil* headquarters after the mutiny. Many official buildings, residences for officials like Dilkusha came up during this period, with hybrid of late Mughal and British architectural vocabulary. During India's independence period, the area saw a lot of upheaval, due to migration during the Partition period (Hearn, 1906). The introduction of centralised water supply system changed the perception towards the water architecture of Delhi.

### Post- Independence Period – till Present

The detailed study area, which was a part of the Lal Dora village, has now been urbanized. With time encroachments around the Hauz have reduced its boundaries at an alarming rate. The area surrounding Jharna is encroached upon by multiple families. The connection between the Hauz and Jharna are lost. The nadi is seen as a narrow stream near the Hauz and the Jharna, and is contaminated.

In the vicinity of the detailed study area, Vasant Kunj residential area has been developed, comprising of housing complexes.

Master Plan of Delhi- 1962, had provisions which have shaped the present- day Mehrauli. However, it did not emphasise on its cultural heritage with respect to its urban development.

### Community Profile

Most of the buildings around the Hauz and the Jharna are multi-storeyed residential buildings. Commercial activities are along the main spine, which include shops, informal sector, and small scale industries like manufacturing of metal tools, workshops etc.

Most of the people living there are the ones who migrated to the area after Partition. Increasingly, new multi- storied residences coming up along the boundary of the site, have new tenants on rent.

In February 2021, the perception of some residents of the area interviewed through random selection indicated that mostly they were aware of historicity of the *hauz*, partly because of the presence of Jahaz Mahal near it. But mostly its viewed as a dumping ground now.

## 5. Major Conflicts in the Detailed Study Area

As observed on the site during detailed study, following were the issues observed which can be addressed to enhance the potential of Hauz Shamsi- Jharna precinct as an active cultural public realm: -

### Multiplicity in ownership pattern

It is observed that the major components of the detailed study area are under different ownership patterns, which poses challenges of seamless coordination among various bodies

- ASI- Hauz Shamsi and Jahaz Mahal
- MCD- Jharna, Park in front of Jahaz Mahal
- DDA- Park and vacant land
- Waqf Board- Mosque, cemetery
- Encroachment on the land around Jharna

### Loss of linkage of the water network to the built environment:

There is a loss of physical connection between Hauz and Jharna due to encroachment. There is also a loss of visual and physical linkages with Jahaz Mahal, Auliya Mosque, ruins of mosques and tombs (Shah, 2017).

### Lack of proper infrastructure:

The storm water drainage diverted to the *nallah*, leading to pollution. There is a lot of garbage disposal in all the mentioned water bodies. The location of electrical transformer and tempo parking near Hauz Shamsi can be revisited.

## 7. Unlocking the potential of Hauz Shamsi and Jharna cultural water network

The following description is from the translated travel memoirs of Moroccan explorer and scholar Ibn Battuta, who had come to India in 1330 AD circa (Smith, 2002).

*“Outside Delhi is the large reservoir named after the Sultan Shams al- Din Lalmish, from which the inhabitants of the city draw their drinking water. It lies close to the musalla. Its contents are collected from rain water and it is about two miles in length by half that breadth. Its western side, in the direction of the musalla, is constructed with stones, and disposed like a series of terraces one above the other, and beneath each terrace are steps leading down to the water. Beside each terrace there is a stone pavilion containing seats for those who have come out to visit the place and to enjoy its attractions. In the centre of the tank, there is a great pavilion built of dressed stones, two stories high. When the reservoir is filled with water, it can be reached only in boats. But when the water is low, people go into it. Inside it is a mosque, and most times it is occupied by poor brethren devoted to the service of God and placing their trust in Him (i.e., dependent upon charity). When the water dries up at the sides of this reservoir, they sow sugarcane, gherkins, cucumbers and green and yellow lemons there; the latter are very sweet but of small size.”*

It is interesting to note that while generally description of Hauz Shamsi focusses on the built, the setting and the popular legend associated with the *hauz*; the aforementioned description additionally situates the *hauz* as a place along with various associations of community, religion and livelihood, apart from the built context. There is a sense of orientation of the *hauz* on site with respect to other major landmarks, which further throws light on interconnected networks. This broad overview depicts the difference in the perception towards water architecture.

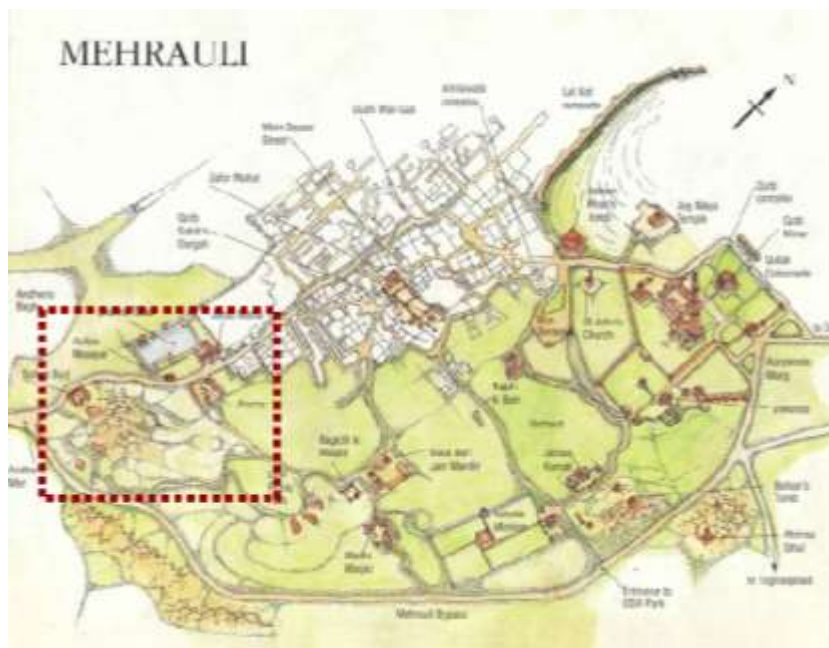


Figure 3. Built heritage of Mehrauli, with the location of Hauz Shamsi and Jharna highlighted. Source: Report on Conservation Management and Maintenance plan for Jharna, Mehrauli, Delhi by Ujjwala Khot, for

Department of Architectural Restoration and Conservation, Department of Housing Development and Management Lund University, Sweden and SIDA, pp-12.

Similarly, if one studies how the *hauz* is represented in maps- antique and present, old paintings, photographs, poetries, travelogues and other such sources, various threads emerge which highlight how the water structure is situated culturally and what is its role in the community as well as the context.



**Figure 4. The Mehrauli Jharna during the Monsoon, Delhi, India 1815**  
. Source: Museum of Islamic Art, Doha, Qatar. Retrieved from  
<https://twitter.com/DalrympleWill/status/1206161027726893057/photo/1/>

The 1815 AD painting in Figure 4 depicts Jharna during the monsoons. The connections from Hauz Shamsi is evident. A close examination of the painting indicates the landscape, setting, vegetation, fauna, community, activities, how spaces have been occupied, a glimpse of the social context and so on.

The following steps can help in developing the potential of this cultural water network as an active urban realm, hinged on the nature-culture-built nexus



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Inventorying, Documentation and Research

Inventorying, mapping, documentation of:

- The route of the Nallah
- Hidden or buried water structures like wells
- Mapping of Aquifer data
- Recording the species of trees, shrubs etc.
- Mapping and inventorying associated built structures, tombs etc.

Research has to be further taken up on:

- Linkages between *nallah*, Hauz and Jharna
- Original extent of the Hauz and its catchment
- Layers of historic intervention in the Hauz.
- Garden layout, tree species in the area historically

Delineating Zone of Protection of the Water Network

- To be done on the basis of research on extent of the Hauz and material evidence.
- Zone of Protection to include catchment area of the Nallah and the linkages between various units

Augmentation and treatment of the Water Network through localised methods

Integration of water harvesting through:

- Rooftop Harvesting
- Waste water treatment
- Surface run-off from roads, open spaces and paver areas
- Different techniques like bio- remediation, DEWATS, Root Zone treatment etc. are options for this. Appropriate method to be developed through technical expertise.
- The sludge which is the by-product of the treatment, can be used as manure for the surrounding green areas.
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Landscape and Ecological Regeneration with focus on Cultural water network

- Revival and replantation of orchards in the area, which can benefit the community and generate livelihoods and revenue.
- Integration of the network with the green spaces around can be seamless.
- Upgradation of infrastructure
- Involvement of the community in management and upkeep of the area
- Structural conservation of the water structures

## 8. Summary

The focus on the cultural study of water architecture of Delhi can help in unlocking its potential in urban realm of Delhi. The aim is to deeply study the situatedness of water architecture in terms of the culture, in addition to the site, the temporality and the built. It is an attempt to look at the city's water system as a whole and the specific case examples forming a sub-network of their own. To discern and examine the inter-relatedness of these aspects, the nuances need to be studied through multiple sources. As already demonstrated broadly in the overview of Hauz Shamsi, sources such as old maps, text, descriptions, myths, legends from various time periods are important to clearly understand various associations. The aspects of continuity and discontinuity and its impact on linkages to the cultural water network through various time periods are important to find the gaps. The community perception is an important thread to come up with stronger interventions. The attempt will be to weave the inferences from different stand-points and narratives for better understanding of cultural situatedness of water architecture of Delhi.

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