

JOHAD WATER HARVESTING AND CONSERVATION SYSTEM OF SHEKHAWATI REGION IN INDIA: A HISTORICAL-CULTURAL STUDY

Har Lal Singh

Department of History, Indian Culture, University of Rajasthan, Jaipur, India

Received: 28 Apr 2018

Accepted: 05 May 2018

Published: 17 May 2018

ABSTRACT

Johad is a wonderful historical system of rainwater harvesting and conservation of Shekhawati region of Rajasthan state located in north-west of India. The people of the Rao-Raja's, Seth-Sahukara's, Samantas, landlords and general cast people hereby formed the people of this region, keeping in mind the scarcity of water in the area for their need and public welfare. This work was completed during the famed famine 'Chhapnia' of India.

Johad is a unique symbol of architecture that is recorded in every town and villages of the region. Its shape is square or rectangular. Artistic umbrellas built at the entrances and corners. Within it, there is a resounding form of Yagyavedi, which is called 'Part'. Its deepest place is called 'Beech ki Chalabi'.

With the flow of changing times due to administration and people's indifference, this water heritage is being destroyed. Which used to be the lifeline of people at any time? The unique paradigm of fair culture with the social harmony of the area, which is associated with the region. It this is not preserved, and then it will be destroyed as soon as it is destroyed, an important system of rainwater harvesting and social-cultural related to it. Presently, the lack of water has become a challenge for the whole world. I believe that if this heritage is preserved in a scientific way, then a large source of water can be recovered from the historical heritage and the culture associated with it can be preserved.

KEYWORDS: *Historical System, Region, General Cast People*

INTRODUCTION

Jaipur, the capital of the Indian state of Rajasthan, was a part of the Amer State. Which later became Jaipur itself in the state? Between the 15th to the 20th century was the largest sub-state in the north-west of Jaipur state which was known as Shekhawati. The word Shekhawati is made up of local language Shekha and Wati. Where Shekha's relationship is established with the Maharaja of Amarsar-Naan of the State of Jaipur, the word 'Wati' is made up of the word 'Watt'. Which means surrounded place? That is the place which has been ruled by the Maharaja Shekha and his descendants, is called Shekhawati.¹

LOCATION

Shekhawati area is located at 27° 20' and 28° 34' North and 74° 41' and 76° 6' East longitude.² Based on cultural parallels and impacts in this area, Sikar³, Jhunjhunu⁴ and Churu⁵ districts of Rajasthan state are included. Bikaner state in the north and west of Shekhawati, Jodhpur state in the south-west, the state of Jaipur in the south-east and Patiala and the

Loharu state were in the north-east.⁶



Figure 1

(Sources: Drawing numbers 1, 2 and 3 created by self and downloaded from number 4 multimedia)

JOHAD

The Jihad Shekhawati area has a unique and uniquely composition of rainwater harvesting architecture in the world. Which can be divided into four parts - Agore, Mandir, Chowpada and Gaughat? Somewhere the structure of the temple is not obtained. So somewhere between Chowpada, and Gaughat, the structure of another second Chowbhi is obtained. Johad, with the structure of the second Chowbhi, is found in the district of Jhunjhunu, in Alsisar and Malsisar.⁷

Agore

This is the largest and the widest part of the Johad area. Agore is the entire area of which every drop of rain runs to collect. That is, Agore is the part of the Johad, from where rainwater reaches Johad.⁸ The name of this area is known as Jalagam area in current water storage programs. In the tradition of Shekhawati, it is known as stepping (paayatan), pandhaal, taal etc. It can be said to spread Johan's foot.⁹

Mandir

Often there is a temple built in front of the entrance of every jihad or in front of the Gaughat. Which is the second part of the Johad? If there are sculptures in different types of deities, then there is a God pillar. Statues of Nandi, including Lord Shiva, Ganesha, Parvati, Hanuman etc., are worshiped mostly around Shivalinga in the idols. The Dev's column is a choker or octagonal sculpted stone shaped by Hanumanji's Ghot. In the upper part of which four different types of gods and animals are engraved. In Gods, the symbol of the bull in the Sun, Moon and the Ganesh and the animals is inscribed. Articles on many God pillars have also been found. These articles are historical sources of Johan's creator, time and religious beliefs and information on traditions. These temples are the security of Johad and the place of religious faith of the people. Whose religious greatness is still visible today? When people enter various occasions within Johan, they first offer Johad's water and flowers leave and bow down to the gods and goddesses and enjoy the dessert and food. These temples have contributed a lot to maintain Johan's cleanliness. Due to this temple being connected to religious beliefs, people do not allow Johan's water to be polluted. While entering, people enter their shoes and slippers outside the entrance door. In a way, these temples play the role of the security guard of Johad and environment. There are dome-shaped umbrellas on many of the temples of Shekhawati's water reservoir.¹⁰

Chowpada

It is the main part of Jihad, which is surrounded by a high wall from all sides. Although there are six types of ponds found in texts such as Jalashaya Nirupam of Vishvavallan Ullas¹¹, in Shekhawati, they get mostly square.

They are also found in circular shapes somewhere.¹² We can divide it into two parts from the perspective of architecture-

Outpost View Wall Construction Area

In this part, the wall, artistic entrances, and umbrellas are included. There are dome-shaped art umbrellas on their three entrances and four corners. Heavy entrances and umbrellas of the Shekhawati had only make them different in the world. The centers of tourist attraction are the same parts that hypnotize anyone with their unique architectural skills.¹³

The Paat Area Visible from Within

This part is filled with depth through the stairs from all sides. In this part, the Firnias and Chaubi are included. After entering the johad, the stairs are visible. With the help of these, Johad can easily be obtained at the time of water shortage. The maximum number of these firnias is eight. This is according to the depth of Johad. When the height of the firnias is high, they are then cut from the middle part and the size of the smaller stairs has been given. The area surrounded by all the firnias is called as Pat. Raindrops were measured at some time by seeing how many water firnias were submerged. These firnias are in the part pat of the jihad. At the time of heavy rain, when Johad was filled up, all the firnias were drowned in water.¹⁴ The deepest place is called the beech ki chalabi, which is usually 20 to 30 feet deeper than the water filler at the highest water level. Most of Shekhawati's Johad's Chaubi is only eight octagonal size. But somewhere, there is a staircase pillar on the Chaubi boundary. The domes shaped umbrellas built on this pillar extend towards their splendor. These types of jihad include Chokhani Johada of Mandawa and Johad of Ramgopalji Ganediwal of Fatehpur.¹⁵



Figure 2: Paat with Chaupada of Badrana Johad Laxmangarh

Gaughtat

Gaughtat is an important part of the Jihad, which is composed of a wall of each johad. Which demonstrates their creators' love for animals? It is the structure of the triangle, which is surrounded by huge walls from two sides. It is made of leaky dough for penetration. Its size has been determined keeping in mind the zodiac structure, age and the number of cattle in the related area. Where grazing animals in fields and agore lands, drinking their thirst by drinking water. The Khell is also built in the inner part of the many Gaughtats. In the valley of Moda Pahad in Jhunjhunu district, there is also a portrait of camel carriage in Gaughtat of Jeetmala Ji's Johod. Which makes it different from other johans.¹⁶



Figure 3: Gaughat of Jeetmalji's Johad Located in Jhunjhunu

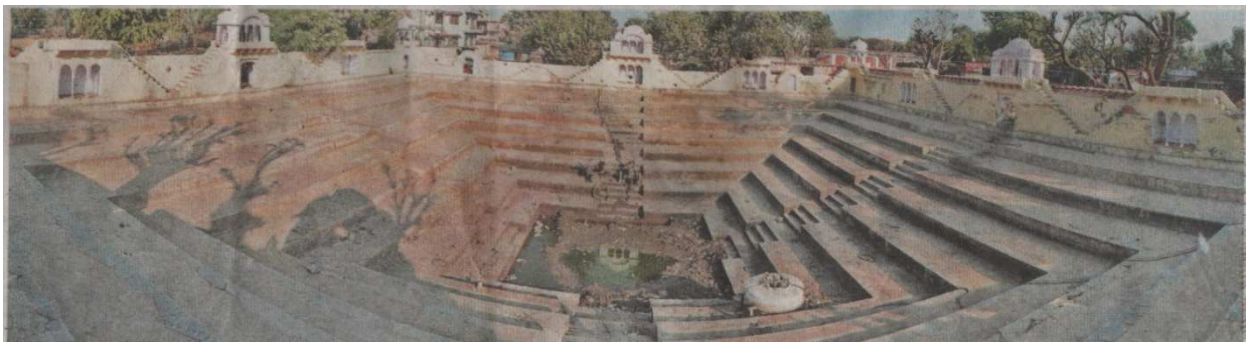


Figure 4: Paat with Firniya as & Beech Ki Chaubi of Located in Sikar Ganga Sagar's Johad
(Sources: Published in daily news paper of Dainik Bhaskar)



Figure 5: Firniya and Umbrell with Pillar on Beech ki Chaubi

OBJECTIVE

After the Marwar state of Rajasthan, a semi-arid region of Rajasthan is Shekhawati. Due to low rainfall, water storage available in this area is less in proportion to the requirement in geological water and river drains. Therefore, here people have invented various methods of collecting and preserving each drop of water in the form of a rain water. Today it has been described as Kund, Lakes, wells, step wells, johad, pond, sir, and tank etc. The present research paper which is based on the system of water harvesting and conservation of the Johad of Shekhawati. I believe that Jihad can play a decisive role in solving this water problem of this region. Apart from this, the study of various inscriptions, statues, paintings and various styles of architecture on these zodiacs is possible to establish new dimensions in the history, art and cultural fields of this region. It has happened that I have tried to add new material mixed with jihads water in the ancient history of this region. Which will certainly prove to be a milestone in the presentation of new territories of the history and culture of this region?

BUILDING TIME & CREATOR OF THE JOHAD

Most of Johad of Shekhawati was built during the infamous Chhapniya famine of Vikram Samvat 1956 in 1899.¹⁷ Rao-Raja of Shekhawati, Seth-Sahukar, Samant, Thakur etc. made them. With the objective of the famine of the people suffering from famine and for the purpose of public welfare, the construction of this type of water reservoir was important in two ways-

First, keeping in mind the need of ordinary people, grains were given instead of their day-to-day labor. So that they could take care of their family. *Second*, this water reservoir built by the people's labor has presented a new system of rainwater harvesting and conservation to the world.

JOHAD'S RAIN WATER COLLECTION METHODS AND CONTRIBUTION

The production of Johads of Shekhawati resulted in two major results. First, a new technique for saving rainwater was born to fight famine. Second- Find an innovative platform to keep the history, art, and culture of the region alive.

Method of Collecting Rain Water in Johad's Pat

This method can be divided into two parts-

Agore Area

It is a land situated in a rugged area, which was left in the form of Gauchar by the Rao kings, Seth Sahukars, and Thakurs of some time zones. The biggest feature of this land is that due to its central part being sloping, the water around it collects in its central part. This is the reason that the jihads was built in the middle of this agore area so that the rainwater could easily come in the johan's paat. Drains were also made from high land for this. Pickett drains have also been built on Agore land in Johad of Anataranji, situated in a rugged Ramgarh-Shekhawati. In which the chambers are built after an interval in order to prevent rugged silt and soil from entering the johad. This method of gathering water in Jodh Pat is rare elsewhere.



Figure 6: Drains Built in Agore Area of Johad of Anant Ramji of Ramgarh-Shekhawati

Johan's Walled Area

To make the rain water brought through the drains from the Agore region to the jihad pool, the holes in the wall of Jihad remained. The size of these holes was determined keeping in mind the depth and the depth of the Agor and Johad and the perimeter area. Several Johad has been split by putting the stopper in the middle of the hole. When the silt came out with water, it could be stopped outside. This system has been used in the pond of Harinarayanji located in Ponkh.¹⁸

Johan's Contribution as a Guide and Creator of Lifestyle

This section contains details of architecture, history and traditions established by the people of Shekhawati during Jawhar construction. Which taught the people here to live life? This is where most of the social, religious traditions of the region have been born.

History Building

The historical excursions of Shekhawati are numerous. Here, an example is being told that the people of the region have shed blood for their close relatives for the construction of jihad. It happened that there was a fierce famine in Vikrami Samvat 1653 during the reign of Raja Raisal of Khandela. For the welfare of the people suffering from this famine, Raja Raisal's son Bhojraj was making a jihad in Hod village. Suffering people were being given Bhagar (Buckwheat) of their labor. The public was getting big relief from famine. But it did not like to give Kalyandas the son of Bhojraj's elder brother Lakhan. Kalyanadas stopped giving this food in the absence of his uncle. When Bhojraj came to know about this, he became very angry and killed Kalyan Das. This incident caused anger in the brothers of Kalyan Das. In this situation, Lakhan explained to his sons that Kalyanadas has dissolved the tradition of his grandfather (King Raisal). Whose punishment he got so it is not okay to hate your uncle.¹⁹ This type of example is rare in the creation of the water heritage in any country of the world.

Cultural Development

The Shekhawati area has its own independent traditions. These have created and developed different cultures of this region. The fairs and celebratory festivals celebrating in the Shekhawati region's culture play a major role. In these fairs, the festivals of Gangaur, Teej, Gogaji, Sheetla Mata and Gopashtami seem to be on the edge of some of Shekhawati's jihad. Competition to focus on horse racing on the occasion of the fair, camel race and gun floating on the water of Johad, was once the center of special attraction. During this time a large crowd of the area gathered to see these

activities. Shekhawati's largest animal fair, located in Badrana Jihad in Nawalgarh, is in the fairs. For organizing animal fairs, Jihads have been ranked best. In addition to the purchase and sale of animals on fair occasions, animal dance, pagdi bandhai, and mustache competitions have been organized as part of cultural activities.

Shekhawati's fairs have a close relationship with festivals here. The joy and glee of these festivals can be seen on the edge of the jihad. On the occasion of Teej Mela, the immersion of dolls by the girls is a special tradition located on Johad. Apart from this, there is also a tradition of immortalization of statues of goddesses on these zones. Among them, on the occasion of Gangaur, Durgashtami and Ganesh Chaturthi, the tradition of immersion after the worship of various goddesses, including Gangaur Isher is a tradition of immersion.²⁰ In the construction of Shekhawati culture, a special Kartik Snan tradition of johans is also a big contribution. Kartik Snan is a mass bath in Johad in Kartik month by women. Due to the religious significance of this bath, the women of the region continue to fast for a month for the well-being of their families. In the third afternoon of the night, women go to Jihad singing hymns and collectively bath them there. Before the sunrise, they return home and they come home and worship the Khejari tree after listening to the Kartik Snan story.²¹



Figure 7: Badrana Johad in Nawalgarh, Performing Camel Dancing in Cattle Fair

Architecture Development

The contribution of Shekhawati's Jihad in architectural creation and development is unforgettable. However, various parts of Johan's architecture have been mentioned earlier. Here only their significant contribution is being made. The entire structure of Jihad is unique. Although the domed umbrellas existed before their creation. But they were used only in the temples and monuments. It is worth mentioning here that Shekhawati has the credit for using refined and artistic umbrellas on the entrances and corners of the Johad. Shekhawati's own invention is also the creation of a separate Ghat for cattle and animals, including the Feraniis in Paat. Such structures are unavailable elsewhere.²²

CURRENT JOHADS PROBLEMS AND SUGGESTION IN THE SOLUTION

There are currently many problems of Johads. Here the details of their major problems are being presented. Which are as follows?

Johan's biggest problem is its Agore area. At any time, the ruler of Shekhawati and the manufacturer of Jihad had left thousands of acres of land for the Gauchar in Agare area. But now most of the land has become a victim of encroachment. If, in fact, Johad's are to be saved, then the land of the Agore area will be first free from encroachment. Although this task is not easy, but we have to get started.

The second major problem of the Johads is illegal construction in the Agore area. Due to which rain water does not reach within Jihad. To bring water within Johad, this illegal construction must be removed. Although for some years the Shekhawati area has very little rainfall and there is no systematic plan to save the water as it is getting. Because of the illegal construction and construction of railway tracks, bridges, roads, etc. in the Agro area, rain water cannot enter them. During the rainy season, many jihad even collects extra water in the agro area even after filling it. While many jihads remain dry. If these zones are connected with the pipeline, then a large part of the water can be saved from being wasted.

Most jihad's are filled with a lot of dirt, which is a stigma on their brightness. Under NREGA or Jal Swavalamban campaign, cleaning and safety wall can be constructed around them. Apart from this, the dirty water of the town or town is being poured. It is destroying the original form of jihads to solve this problem, local government, semi-government and private institutions can be constituted to ensure their supervision. If these institutions are set up by the Rajasthan government in bringing legislation to the legislature, I feel that it will be possible to solve many problems related to jihad.

UTILITY AND APPLICATION

The biggest utility and application of the research paper presented is that this innovative historical rainwater harvesting and conservation system of Shekhawati area can be adopted as an alternative to resolving existing water crisis present at international level. I believe that in addition to solutions for the water crisis through intensive research on this system, new areas of history, art, literature, technology and local culture can benefit from every corner of the world.

REFERENCES

1. Arya, H. S. (2013). *Shekhawati ka rajnaitik evam samaskritik itihās (In Hindi)*, Jaipur, Panchsheel prakashna, pp. 1-7
2. Singh Narayan, *Shekhawati Ka Bhoogol*, p. 8
3. View, <http://sikar.rajasthan.gov.in/content/raj/sikar/en/about-sikar/location-area.html>
4. View, <http://www.jhunjhunu.rajasthan.gov.in/content/raj/jhunjhunu/en/about-jhunjhunu/location-area.html>
5. *Impact Area*
6. Sharma K.G. and Meena M.L. (2011) *Archaeological pre and proto history of Shekhawati region*, Unpublished research book, pp. 1-2
7. *On the basis of direct visit and experience during the research visit.*
8. Purohit P (2008). *Aaj bhi prasangik hai paramparagat jal strot*, Maharaja Man Singh pustak prakash shodh Kendra, Meharangarh museum trust, durg, Jodhpur, p. 51
9. Jethu B (2015). *Hamari Jal Paramparayein (in hindi)*. Pulkit Prakashan. Baanwalon Ka Darwaza, Chaura Rasta, Jaipur . 82 p.
10. *On the basis of direct visit and experience during the research visit.*
11. Vishvavallan Ullas, *Jalashaya Nirupam-2*, Shloka 1-10

12. Sarraf Johad located in Mandawa.
13. On the basis of direct visit and experience during the research visit.
14. Pareek, Rajkumar (1997) Shekhawati Ke Sadabahar Johade, Sujas Annual (In Hindi), pp. 26-29
15. On the basis of direct visit and experience during the research visit. As before. based on the study of inscriptions found on johad's.
16. On the basis of direct visit and experience during the research visit.
17. Al-Satari, Y. A., et al. "The Impact of Water Harvesting Techniques on Barley Productivity under Rangelands Conditions in Jordan." *International Journal of Agricultural Science and Research*, 3 (4) (2013): 65-70.
18. Rathore, M. S. (2004). Udaipurwati digdarshan, (In Hindi) Gudha-Gaurji (Jhunjhunu). Udaipurwati vikash smarika prakashna samiti, pp. 45-46
19. Singh Harlal, Gupta Manju (2018). Shekhawati anchal ke mele va tyohar (Jal dharohar ke etihask-sanskritik adhyayan ke vishesh sandarbh me) Vol.3, Issue.III. Available: <http://www.jmsjournals.in/PreviousIssue.aspx>
20. Singh Harlal, Gupta Manju (2018). Shekhawati ke jal mandiron ki snan paramparayein : Ek Itihask-sanskritik adhyayan. Vol.3, Issue. II. Available: <http://researchinspiration.com/latestIssue.aspx>
21. On the basis of direct visit and experience during the research visit.

¹ Arya, H. S. (2013). Shekhawati ka rajnaitik evam samaskritik itihask (In Hindi), Jaipur, Panchsheel prakashna, pp. 1-7

² Singh Narayan, Shekhawati Ka Bhoogol, p. 8

³ View, <http://sakar.rajasthan.gov.in/content/raj/sakar/en/about-sakar/location-area.html>

⁴ View, <http://www.jhunjhunu.rajasthan.gov.in/content/raj/jhunjhunu/en/about-jhunjhunu/location-area.html>

⁵ Impact Area

⁶ Sharma K.G. and Meena M.L. (2011) Archaeological pre and proto history of Shekhawati region, Unpublished research book, pp. 1-2

⁷ On the basis of direct visit and experience during the research visit.

⁸ Purohit P (2008). Aaj bhi prasangik hai paramparagat jal strot, Maharaja Man Singh pustak prakash shodh Kendra, Meharangarh museum trust, durg, Jodhpur, p. 51

⁹ Jethu B (2015). Hamari Jal Paramparayein (in hindi). Pulkit Prakashan. Baanwalon Ka Darwaza, Chaura Rasta, Jaipur . 82 p.

¹⁰ On the basis of direct visit and experience during the research visit.

¹¹ Vishvavallan Ullas, Jalashaya Nirupam-2, Shloka 1-10

¹² Sarraf Johad located in Mandawa.

¹³ On the basis of direct visit and experience during the research visit.

¹⁴ Pareek, Rajkumar (1997) Shekhawati Ke Sadabahar Johade, Sujas Annual (In Hindi), pp. 26-29

¹⁵ On the basis of direct visit and experience during the research visit.

¹⁶ As before.

¹⁷ Based on the study of inscriptions found on johad's.

¹⁸ On the basis of direct visit and experience during the research visit.

¹⁹ Rathore, M. S. (2004). Udaipurwati digdarshan, (In Hindi) Gudha-Gaurji (Jhunjhunu). Udaipurwati vikash smarika prakashna samiti, pp. 45-46

²⁰ Singh Harlal, Gupta Manju (2018). Shekhawati anchal ke mele va tyohar (Jal dharohar ke etihask-sanskritik adhyayan ke vishesh sandarbh me) Vol.3, Issue.III. Available: <http://www.jmsjournals.in/PreviousIssue.aspx>

²¹ Singh Harlal, Gupta Manju (2018). Shekhawati ke jal mandiron ki snan paramparayein : Ek Itihasik-sanskritik adhyayan. Vol.3, Issue.II. Available: <http://researchinspiration.com/latestIssue.aspx>

²² On the basis of direct visit and experience during the research visit.