

Water is Life – Koproduktion All India Radio/ DW

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1) Quote Sanskrit with Sitar (With English voice over)

“This is the creation: We all are made up by five elements – earth, water, fire, air and sky – but from all these, water is the foremost.”

Water Sounds

2) Water – Voxpop (Hindi Engl., Voice over)

“ Water is the most important thing for us”

” Villagers depend completely on water for their daily needs. Lack of water means drought and famine, it destroys communities.

“For a desert man, water is the most important thing in life.”

” Water is our basic necessity”

MUSIC

Water is Life : The Challenge of Managing and conserving water in Rajasthan

A Co-production by All India Radio, and Deutsche Welle, Germany’s international broadcasting station.

MUSIC

Rajasthan is one of the largest Indian states. More than 54 Million people live here, five percent of the Indian population. Rajasthan is also one of the regions of the country most severely affected by water scarcity. The state consists of more than 15 million hectares of land, reaching from the semi-arid regions around Jaipur and Udaipur in the East to the hot Thar desert near the Pakistani border in the West. Three out of five years, the monsoon rains are not sufficient and people live with the constant threat of drought. And even if the monsoon comes, the rainfall is very irregular, and the distribution across the state erratic. Dr. Pratap Narain from the Central Arid Zone Research Institute in Jodhpur:

3) Voice Clip - Pratap Narain (Hindi with English Voice-Over)

“Water is especially important in this dry state, because of the scarcity of rainfall. The climate is very very hot, and because of that, water can evaporate very quickly. “

The rapidly increasing population is putting an additional strain on the already grave situation in Rajasthan. Like all over India, extensive use of ground water for households and irrigation for agriculture have caused a dramatic drop in the ground water table. In many areas, the water table goes down at an alarming rate, more than one meter per year, and ground water is not recharged by enough rainfall. Yet most farmers still rely on the water from the wells to irrigate their fields and water the livestock. Deep tube wells and electric pumps are increasingly being used, speeding up the use of more and more ground water, thus depleting this natural reservoir.

For centuries, people in Rajasthan had to survive with very little water. Especially in the desert areas of Rajasthan, every drop of rainwater was caught and used to the maximum, as Dr. Lalit Panwar from the ministry of tourism and culture explains:

4) Voice Clip – Lalit Panwar (HINDI with English Voice over)

“Water is the most important thing in the desert, every drop is saved like nectar. Not only that, we use the same water three times. For drinking, then the spillover is caught and used again for washing, and again this water is used for example for making cowdung cakes to burn.”

Many traditional methods to store water were invented over the centuries. All the water collecting structures were designed according to the geographical requirements of the particular region. Some water tanks for example, had particularly steep walls, to minimise evaporation. The Rajasthani people composed many songs about the importance of water. People who constructed the water tanks and ponds, were praised and considered heroes, as the song Pani Hari explains. It is sung by women carrying water home

MUSIC SONG “Pani Hari” fade up, leave, and then fade under

But with more and more water being pumped up from the ground, and the state providing more water taps, the traditional rain water harvesting structures became more and more neglected. Today, most of the ponds and even the historical water tanks in cities like Jodhpur, that were in use for hundreds of years, are in disrepair. The Jhalra Bauri tank in the center of Jodhpur for example, is now filled with brackish water covered by green algae and dirt. Madhonath, an 83 year old local priest explains:

5) Voice clip - Madhonat (Hindi with English Voice over)

“This tank was constructed in 1833. In the old days, this was a very busy place, many women used to come here, taking water up with the help of several water-wheels. Now people have stopped using it for decades, and nobody takes care of this bauri any longer.”

Music or Sound Transition

In the Alwar region, about 140 km north-east of Jaipur, the negligence of catching rainwater and maintaining water harvesting methods had disastrous effects. Due to the overuse, the groundwater level had dropped dramatically and the region was declared a “dark zone” by the mid 1980s. Many wells and the water of the Arwari river had dried up completely. Because of deforestation, soil erosion and overuse of ground water, agriculture was not bringing sufficient crops to feed the villages any more. The communities were breaking apart because many men migrated to the cities in search of work, leaving their families behind.

6) Voice clip - Rajendra Singh (Hindi with english Voice over)

“In 1985, this area was declared a dark zone in critical condition, with no more drinking water available. The situation was very bad. And then one day, an old man from the village told me: do something about it, you are young, you are educated, you should do something to change this! ”

Rajendra Singh, formed the NGO Tarun Bharat Sangh which became instrumental in changing the situation in the Alwar region. The idea was to restore traditional water management structures, the so-called Johads, to catch the rainwater in the short monsoon season. Johads are simple mud and rubble barriers built across the contour of a slope to arrest rain water. These large pondlike structures are walled in from three sides, catching the run-off water from the fourth. The water lasts for several months after the rainy season and is used for drinking, irrigation and watering animals. At the same time, the soil moisture increases, recharging the ground water levels.

Dhana, the village elder from Bhavthakolyalan village:

7) Voice CLIP - Villager Dhana (HINDI with English Voice Over)

“At first we didn’t know what kind of person Rajendra Singh was and what he and the NGO people wanted, when he explained about the Johads and conserving trees. But then when we saw that the first Johad project was really successful, we started believing in his ideas.”

More and more villagers started constructing new Johads. After all, their families had been constructing these watershed structures for centuries and they relied on the traditional techniques the old people were still familiar with. Slowly, the situation changed, as Prabhat from Tarun Bharat Sangh explains:

8) Voice Clip- Prabhat (ENGLISH)

“The situation was transformed over a period of ten years. We constructed thousands of waterharvesting structures which had accumulative impact of improving the watertable in this area and the situation is much better now. Even in a year of drought, you may not see any water on the surface, but there is enough subsurface water and people have been able to take a good wheat crop.”

In fact, the result was a miracle compared to the deplorable conditions 15 years ago. Even now, in the third consecutive year of drought, while most places in Rajasthan are bone-dry, the trees and shrubs make the valley look a lush green. While elsewhere, any kind of water will have dried up by February, there is still water in the Johads in Alwar

until April or May, just before the Monsoon starts in July. The official government now lists the Alwar region as a white zone, with no water problems. The agriculture is much more lucrative than before, people have even started to take a second crop in spring. And village life has changed a lot.

9) Voice clip – Dhana (Hindi with English Voice Over)

"Our community is much stronger now. We don't depend on the government, we do everything amongst ourselves. And if repair work needs to be done on the Johads, we do everything with our own hands and don't wait for anyone else to do it."

While the whole community life improved, it's the women who have benefited most. Before, it took them several hours every day to carry the water home from the few wells that still had water, and they also had to walk many kilometers to find water for their animals. Now, the women spend much less time carrying water, instead, they have started taking a more active role in the community. In some villages, the newly formed women's group have for example banned alcohol. And the villagers have enough money to send their children to school now, which is a big improvement in a state with one of the highest illiteracy rates in the India.

10) VOICE CLIP - Woman Kanjori (Hindi with English Voice Over) :

"Before our children could not go to school. Now we earn more money and we can afford it - now we can send them to get a good education."

MUSIC

In the Rajghar region, some 40 km south of Alwar, another traditional water management method has recently been revived: The so-called anicuts or check-dams. The area has been suffering from severe soil erosion for decades. Each year, the monsoon rains were washing away more of the nutrient-rich top soil, leaving the land barren. The ground water table in some of the villages had dropped to more than 60 meters. Earlier, the villagers in this region had only used village ponds to store

rainwater. But the small ponds dried up quickly as the ground water level sank, and they could not prevent soil erosion.

11) Voice clip –Umesh Gupta (HINDI with English Voice over)

“Because of the Arauli Hills in this area, there was a lot of rainwater running off, taking the nutrient top soil with it and causing erosion. And people did not store enough rain for years with little rain. So we discussed these problems with the people, formed an action committee and tried to find a solution by using the villager’s experience. ”

Over the last three years Umesh Gupta and his colleagues from the NGO Jan Seva Nidhi helped the people to construct 400 check-dams, which had not been used in this region of Rajasthan before.

SFX Water, fade in and under

These dams, called “anicut” are a combination of traditional and modern methods of controlling large amounts of rainwater by slowing down the runaway flow. The checkdams are about two meters high. Once the anicuts are filled, the spillover water is running over a concrete step into adjoining damstructures, ensuring maximum use of the rainwater. Traditional anicuts used to be built from clay and stones, but the concrete structures will help to make these modern anicuts more permanent.

The dams in the Rajghar region have already helped to raise the water table in the area a few meters in the last three years. However, the full effect of the anicuts is not visible yet. Since the construction was finished, the monsoon rains were far too little, the water in the anicuts dried up quickly and thistles are growing inside the dams most of the year. 80 year old Hari Kishanmina from Aloii village:

12)Voice Clip - Hari Kishanmina (Hindi with English Voice Over)

“When I was young, I used to bring my cattle here for grazing, the wells were full of water. Now because we had too little rains for years, you can see it is very dry. But now

we have prepared these anicuts for the rains. All we lack now is good rains, we pray to God that the next monsoon will be good."

MUSIC "Song for rain - clouds open", up and under

While the semi-arid areas in eastern Rajasthan mostly depend on the annual monsoon rains, almost 2 million hectares of land in the desert areas in the Northwest have been benefiting from water brought by the Indira Gandhi Canal from Himalayan rivers. Even though the canal water has turned large arid areas green, it has also caused many ecological problems including waterlogging and turning overirrigated lands saline. Construction started more than three decades ago, and today the canal is one of the largest irrigation systems of the world. MA Khan from the Central Arid Zone Research Institute in Jodhpur:

13) Voice Clip - MA Khan (HINDI with Engl. Voice-Over)

"Ten percent of the population of Rajasthan benefit from the water from the Indira Gandhi Canal system. It is used for irrigation of fields. The city of Jodhpur and several other cities get drinking water from the canal. And it is also brought to small villages by tankers."

More than 5 million people in Rajasthan, mostly in urban areas, are depending on the canal for drinking water. And their number is increasing. In the Churu district in Northern Rajasthan, the ground water is highly saline and in many places also contains a large number of fluorides, which makes it dangerous for human consumption. That is why one of the biggest rural water projects in Asia was started here in 1994. With financial and technical aid from the German Development Bank, more than 150 engineers are currently constructing hundreds of kilometers of underground pipelines in an area of more than 20.000 square kilometers. Once the project is finished, two treatment plants, several pumpstations and dozens of elevated water reservoirs will provide safe drinking water to almost 2 million people in the region. More than 100 villages are already receiving the Himalayan water.

SFX Water Tap, Water splashing in pot

A woman is filling her earthen water pot at a tap in Baai, a village with about 2000 inhabitants north of Churu. There are several of these standposts in the village now, each one shared by about 30 families. Every village has to take on responsibilities for their water supply, like paying the water bill on time and maintaining the sanitation facilities. Since Radio and TV are not readily available in this region, and most people are illiterate, puppetshows proved to be an effective and entertaining way to get messages about hygiene, saving water and other issues related to the project across to the villagers.

MUSIC from the Puppeteers

A song about the benefits of clean water. Everyone is compelled by the great spectacle put up by the puppet players. The village hall of Baai is packed with about 150 people of all ages. Talking to a little boy, one of the puppets is explaining the importance of personal hygiene, like washing your hands before meals and taking a daily bath.

SFX Puppet show with child, audience

The puppeteers are part of the field teams of the Community Participation Unit, which helps implementing the water project in the communities. CPU Director Gautham Sadhu.

14) Voice Clip Gautham Sadhu (Hindi with English Voice Over)

"We have a team of 70 people, and they are going out to more than 300 villages. The field teams are explaining about the water project, and the puppets are maybe the most important agents to convey the messages. These puppets are part of Rajasthani culture, and they are really popular, sometimes more than 5000 people come to the shows. In the beginning, we sent the puppeteers to the villages, now the people ask us to send the show!"

The CPU field teams go to the villages several months before the taps are to be installed. They explain the project and ask the villagers to set up Village Water Committees. These committees decide on where the standposts are going to be, and once the taps are there, they make sure that all families pay their share of the water bill. Pilania is the head of the Village Water committee in Baai.

15) Voice Clip Pilania: (Hindi with English voice overs)

“There is only one water measuring meter for the village. By the 5th of the month, we get the water bill for the village. Then we call the subcommittees who are responsible for the 33 tabs in our village, and we divide up the bill. By the 20th of the month, everyone has to pay their share, and then go to the office in Taranagar to pay the village bill.”

Paying for it makes people conscious about the water. People watch out that their neighbours are not using more than the about 40 liters estimated per person per day, otherwise the whole village will have to pay more. Apart from the taps, the installation of sanitation units, consisting of a toilet and a simple bathroom for each compound, is another important part of the project. It's the women who benefit most from it. Before, they did not have a private place to take a daily bath, and the bad hygienic conditions caused many diseases. Nirmala is a member of the local water committee:

16) VOICE CLIP Village Women (Hindi with English Voice Over)

“ There were a lot of disease, especially the children had a lot of diarrhoea before, dysentery and fevers, all caused by the bad water we used to have. Now we have this nice filtered water which is clean. And it also saves us a lot of time, since we don't have to carry the water so far any more. We have also created women groups to keep the taps and sanitation stations clean.”

The water project is changing life in the communities as whole, also improving the status of women. They have started taking a more active role in village life, not only by maintaining the sanitation units. Many women's groups and savings-clubs were initiated, giving women a forum to discuss personal and community matters. Birgitt Merkelbach is a German consultant working with the CPU team.

17) Voice Clip Birgitt Merkelbach (ENGLISH)

“Under this present system you would hardly see women outside their houses, , especially higher caste women like Rajput and Brahmin, and Muslims, they observe strict Purdah system. So now they have the possibility to go into these regular women’s groups meetings, savings groups meetings. They meet, sit together, they discuss their own issues and they develop action plans what they want to achieve. And the resistance on the men side is now going down, and they even appreciate the work women are doing in the project and for the communities.”

MUSIC women singing (Pani Hari, different Version)

Wherever drinking water becomes easily available, like in the Churu region, there’s the danger that people will stop maintaining their old kundhs, the covered water tanks for rainwater-collection. Why should they repair the old tanks when water is available 24 hours from the tap? But the old structures should not be neglected. In the future, it will be crucial to use Rajasthan’s traditional water harvesting structures along with other sources. The Indira Gandhi canal cannot solve all water problems in Rajasthan. Even if 10 or 15 percent of the population can benefit from the Himalayan waters, huge areas need other solutions. The Government, too, has realised the importance of harvesting rainwater to be able to provide water to the dry country. M.A.Khan.

18) Voice Clip : Hydrologist M.A. Khan (Hindi with English Voice over)

“The government is taking this seriously, that is why the Rajiv Ghandi national drinking water mission was started. Under this we try and restore the traditional structures and we are also improving the designs and techniques of traditional water harvesting structures like Nadis and Khadins. With the modern designs, there are minimum losses while harvesting rain water. “

The improved technology is already being used in all new government buildings in Rajasthan. Even the new assembly hall of the State Parliament in Jaipur was constructed with a modern roof-water collection tank.

Yet even though some steps into the right direction are already being taken, providing water to the growing population of Rajasthan continues to pose one of the most difficult challenges of the future. To meet this challenge, the combined efforts from the government, NGOs and the awareness and co-operation of the people will be needed, says Professor Mohnot. He's the director of the environmental NGO "School of Desert Sciences" in Jodhpur.

19) Voice Clip Professor Mohnot (ENGLISH)

"I think if we don't take drastic steps to manage the water system. If we keep the traditional water bodies in operation and conserve every drop of rainwater and do not allow the rainwater to go waste then only the demands, particularly the increasing demands of an increasing population can be met. If this is not done, I am sure it's going to be another war, a war for water."

Just like their forefathers did, people in Rajasthan will have to employ effective methods to manage the scarce water properly. Combining ancient traditional wisdom and modern technology of rainwater collection like roof tanks and watershed management, like anicuts and johads, will help provide water for a rapidly growing population. And what was true for centuries will remain crucial for future generations as well: The importance of conserving water carefully, because every drop is precious.

MUSIC instrumental up, fade under final announcement

You were listening to: Water is life. The Challenge of Managing and conserving water in Rajasthan. A co-production by All India Radio Jaipur and Deutsche Welle, Germany's international broadcasting station. The programme was written and compiled by Sushma Rajeev, Mukul Dangi, Rakeesh Jain and Anke Rasper.

MUSIC instrumental crossfade into Puppet - Music, up till end