

Sambhaav Trust Annual Report 2024-25

Introduction

In 2024-25, Sambhaav Trust continued its commitment to ecological restoration, water conservation, and strengthening sustainable livelihoods across Rajasthan, India. The organisation executed four key programs, each tailored to address environmental challenges, increase livelihood, and community empowerment in arid and semi-arid landscapes. These initiatives emphasised participatory approaches, blending indigenous knowledge with practical interventions to foster resilience against climate variability and resource scarcity.

The programmes included:

1. Strengthening agricultural and pastoral livelihoods of Bhil families in Jaisalmer and Barmer districts, supported by American Jewish World Service (AJWS).
2. Ecological restoration and education in schools of Eastern and Central Rajasthan, supported by Asha for Education.
3. Establishing models of agroecological food production systems with small farmers in the Thar Desert and Aravalli eco-regions, supported by Bharat Agroecology Fund (Bharat Agroecology Fund).
4. Documentation of groundwater systems in the Thar Desert, supported by the Endangered Material Knowledge Programme (EMKP) of the British Museum.

These efforts encompassed on-ground construction and restoration, comprehensive documentation of processes and knowledge, and outreach through community engagement, training, and education. Collectively, they impacted thousands of individuals, restored extensive land and water resources, generated significant economic benefits, and strengthened local capacities for enduring sustainability.

Programme 1: Strengthening Agricultural and Pastoral Livelihoods of Bhil Families in Jaisalmer and Barmer Districts, Rajasthan (Supported by AJWS)

Project Description

This year, the programme aimed to empower 106 economically poor and socially backward Bhil Adivasi (Scheduled Tribe) families in 12 villages (18 hamlets) of

Jaisalmer and Barmer districts by developing community-managed rainwater harvesting and groundwater recharge systems known as khadeens and beris. The project focused on building 30 assets over 1,703 bigha of land, promoting community contributions and sustainable practices to lift families out of poverty across generations.

Activities Taken Up

A. On-Ground Activities

- Conducted socio-economic-geographic surveys to identify suitable lands and families.
- Held extensive discussions with families to promote community-based action and secure 25% cost contributions; this mobilisation phase lasted up to 5 months before on-ground work began in June 2024.
- Constructed 24 embankments for 24 khadeens and 6 beri systems (including bunds and recharge pipes) using earthmovers, tractors, and manual labour in collaboration with communities.



Women drawing drinking water from a beri in Barmer

- Built 14 pucca nallahs (conduits for timely water removal) and 7 pucca chadars (overflows) to safeguard embankments.



Water overflowing from a khadeen from the chaddar, protecting its embankment

- Made dhora chapai (covering embankments with thorny shrubs) on 15 khadeens to strengthen them via wind-driven sand accumulation naturally.



Chapai helps strengthen and protect the embankment in Jaisalmer

- Monitored khadeen conditions during rainfall and provided ongoing technical support for maintenance, sowing, and cultivation (16 of the 30 systems supported new crops in 2024-25).



The embankments were monitored by the team post a heavy downfall in Jaisalmer

B. Documentation Activities

- Recorded survey data, construction process (especially the beri making process), and yields.



Documenting the process of making of a beri in Barmer

C. Outreach Activities

- Engaged families through motivation sessions and discussions to build community ownership.
- Inducted and mentored one new local team member to expand organisational capacity.
- Facilitated knowledge sharing, leading to the establishment of new work examples in villages like Pohda, Nabiya, Mohammed Ka Gaon, Nimba, Mangliyawas, Khimsar, Dedha, and Hathla.

Outcomes and Impacts

- Constructed 30 khadeens and beris benefiting 106 families (540 members) and restoring 1,703 bigha of otherwise barren land for agriculture (6.25 bigha = 1 Hectare) in 12 villages (18 hamlets).



A water filled khadeen post rain

- Mobilised INR 8.79 lakh amongst 106 farmer families, which covered about 25% of the total cost.



Making of an embankment in Jaisalmer

- Directly benefited 1,387 livestock (goat, sheep and cattle) from the families by providing access to food and water and indirectly 30,000-35,000 livestock in the 12 villages with drinking water from June to September.
- Generated INR 47.33 lakh in combined income during 2024-25 (INR 44,650 per family).
- Combined income of Rs. INR 107.63 lakh/year (@Rs. 101,537/- per family) from agriculture and livestock rearing ensured from next year (2025-26) onwards, hence permanently removing the concerned families from economic and social poverty.



Harvest in a khadeen in Jaisalmer

- Expanded Sambhaav's geographical and social outreach through new villages and team development, fostering scalable community-led initiatives.

Programme 2: Ecological Restoration and Education in Schools of Eastern and Central Rajasthan (Supported by Asha for Education)

Project Description

This year, the programme aimed to address water scarcity in government schools across rural areas in Central and Eastern Rajasthan, combining ecological restoration with educational initiatives.

Activities Taken Up

A. On-Ground Activities

- Implemented rainwater harvesting from rooftops in 16 schools, creating storage capacity for 14.17 lakh litres.



Repairing an existing tanka in a school in Jaipur

- Conducted groundwater recharge works at 4 schools, enabling the recharge of 8.03 lakh litres annually.



Pipes were connected to the existing terraces to redirect the rainwater in Jaipur

- Established kitchen gardens in 4 schools to supply fruits and vegetables for midday meals during 2 months of winter.

B. Documentation Activities

- Compiled data on water needs, restoration impacts, and garden yields for reporting and future planning.

C. Outreach Activities

- Organised 20 exposure visits involving 1,002 school children, 155 staff, and 46 parents across 20 schools.



Exposure visit for school kids from Alwar

- Facilitated awareness sessions on ecological restoration and water conservation.

Outcomes and Impacts

- Benefited 5,279 school children and 313 staff across 26 schools by meeting 100% of drinking water needs and 20% of domestic water requirements.
- Supplied fruits and vegetables for midday meals in 4 schools for 2 winter months, enhancing nutrition.
- Enhanced awareness of water conservation among over 1,200 participants, fostering long-term behavioural changes.
- Contributed to groundwater recharge and ecological health in water-stressed blocks.

Programme 3: Establishing Models of Agroecological Food Production Systems with Small Farmers in the Thar Desert and Aravalli Eco-Regions, Rajasthan (Supported by BAF)

Project Description

This initiative developed agroecological models tailored to the Thar Desert and Aravalli eco-regions, promoting sustainable farming practices among small farmers. In the Thar, it covered 21 villages, 218 families, and 1,621 acres (648.5 Hectares) with crops such as Guar, Bajra, Til, Moth, and Moong. In the Aravalli, it involved 11 villages, 56 families, and 62.5 acres (25 Ha) with crops including Makka, Bajra, Guar, Til, vegetables, and fruit plants. The program emphasised natural inputs, seed banks, and bio-resource centres to enhance soil health, biodiversity, and livelihoods.

Activities Taken Up

A. On-Ground Activities

1. In the Thar Desert:

- 21 villages, 218 families, 1621 acres (648.5 Ha) covering crops - Guar, Bajra, Til, Moth and Moong
- 14 Kg desi/open-pollinated Bajra, 9 Kg desi/open-pollinated Til sourced from Krishi VK Jaisalmer and Bikaner, distributed to 14 farmers

- Seed bank of Moong, Moth, Til, Bajra at the end of Kharif 2024



Seeds collected by the seed bank in Jaisalmer

- Total 486 plants of 7 varieties planted on bunds of khadeens of 54 farmers - Neem, Khejri, Ber, Jaal, Kummat, Gondi and Senjna



Saplings from the nursery in Jaisalmer

- Some practices followed include: burning of camel bones and weeds, using Gugal plants for better flowering and pest/disease control, using ash, using manure from sheep, goats, cows, and hand-weeding. Additionally, sprinkling Bajra attracts birds for pest control in Moong and Moth.

2. In the Aravalli regions:

- 11 villages, 56 families, 62.5 acres (25 Ha) covering crops - Makka, Bajra, Guar, Til, Vegetables, Fruit plants
- Seed procured and distributed - Desi Makka - 8 farmers, 100 Kg; Desi Guar - 8 farmers, 100 Kg. Seed bank of these at the end of Kharif 2024



Desi Makka seed from the seed bank

- 600 saplings of 16 varieties distributed to 55 farmers - Neem, Karanj, Anar, Amrud, Balam Khira, Goolar, Peepal, Arjun, Sitaphal, Nimbu, Karaunda, Badam, Badh, Aam, Katthal, Sheesham
- 5 bio-resource centres setup - Ghevar, Nandu (2), Rupbas (2)
- 5 compost pits prepared - Nandu (2), Ghevar (1), Devri (1), Guada (1) - 90-day cycle - 1 vermicompost system setup - Ladia Ka Guada; 3 more in progress
- 15 farmers in 7 villages made natural pest repellants and growth promoters (Jeevamrutham)
- All 56 families applied cattle manure.

B. Documentation Activities

- Completed baseline survey of 20 villages and 200 farmers
- Documented farming practices, crop yields, and bio-resources.

C. Outreach Activities

1. In the Thar Desert:

- 5 big meetings at Ekalpar & Dablapar villages with representatives from KVK Jaisalmer, SKRAU Bikaner, BSF Jaisalmer and farmers from 40 villages.



KVK Sammelan in Jaisalmer

- 60+ meetings with small groups of farmers across 30+ villages in Jaisalmer

2. In the Aravalli regions:

- 4 trainings - 120 farmers - Ghevar, Nandu, Rupbas, Losal Brahmanan - Resource persons from the Agriculture Department, Alwar
- 4 exposure visits - 45 farmers — Hazarilal Meena practising for 5 years in Aandhi over 12 bigha, Jaipur district; Jyotalal Sharma practising for 3 years over 10 bigha in Bhajupura (Bassi block), Jaipur district

Outcomes and Impacts

- Engaged 274 families across 32 villages, covering 1,683.5 acres (673.5 Ha) with diverse crops, promoting chemical-free farming.
- Enhanced biodiversity and soil health through tree planting, natural inputs, and composting, reducing dependency on external fertilisers and pesticides.
- Created seed banks ensuring access to desi varieties, supporting resilient agriculture.
- Built farmer capacities through training and visits, fostering agroecological adoption and potential income increases via improved yields and reduced costs.
- Established 5 bio-resource centres as community hubs for sustainable practices, contributing to long-term ecological restoration in desert and hilly terrains.

Programme 4: Documentation of Groundwater Systems of the Thar Desert (Supported by EMKP, British Museum)

Project Description

The final year of the programme aimed to complete the fieldwork and compilation work for the various assets of the British Museum's open-access archive, as well as to conduct documentation and outreach activities.

Activities Taken Up

A. Documentation Activities

- Conducted fieldwork in the remaining part of the Jaisalmer and Barmer districts



Inside of a well in Jaisalmer

- Collected primary data using various means of documentation
- Analysed data multidimensionally
- Documented wells that are being constructed through Sambhaav's other programmes.

B. Documentation Activities

- Compilation of data collected across 1.5 years of the programme.

C. Outreach Activities

- A photo essay in the OHAI website

PHOTO ESSAY

The forgotten well-makers of Jaisalmer

Palek Babel

Aabha Chhajjer and Sambhaav Trust

This photo essay documents the endangered art and practice of making hand-made deep artesian wells and shallow percolation wells in the Thar desert, Jaisalmer district, Rajasthan. This is part of an ongoing research project by Sambhaav Trust, Palek Babel, and Aabha Chhajjer. Researchers documented the narratives of individuals who used, repaired, or possessed knowledge about making the wells over two years. Ecological, socio-cultural, and economic factors influence the making and use of these wells. Their craft is passed down through oral traditions.

Hand-dug artesian wells, which reach depths of 150 to 400 feet, draw water from confined aquifers locally known as pataali paani. These wells showcase the ingenuity of communities in the Thar Desert, in the Jaisalmer district. Unfortunately, no new wells have been constructed in nearly fifty years, leading to the craft of well-making becoming increasingly obscure.

Constructed with dry stone masonry, stones were transported via camelback over distances exceeding 50 kilometres. The making and use of these wells are influenced by ecological, socio-cultural, and economic factors, with stories of their makers and the craft passed down through oral traditions.



"Jeevan tala ra irath - girth hai, aur kua hamari naak hai"

In the desert, life centres around wells. Tanay Rao Singh Ji represents the last of the pastoralists who use animal power to draw water. He often refers to the wells as the nose, symbolising their importance and pride in the community. These anecdotes are commonly shared when people discuss wells in the region.



"dehri ma darkhat hui, toh koi tirsho ni jave"

It is said if you see tree cover within a dehri, no one will go back thirsty. Artesian wells are usually sited within depressions called dehri which communities have over time discovered as a source of potable groundwater in the core desert area.

- An article was published in the Landscape and Architecture Journal.

archaeology and cultural landscapes |

Rupal Rathore, Architect
| hello@thenativeplatform.com

DESERT
LIFELINES
JAISALMER



The study based on the principles of cognitive archaeology uncovers arid region of Jaisalmer's traditional water systems, highlighting community resilience and adaptation in such environments over centuries.



ABOVE | Architect Palek Babel on a field visit in Jaisalmer
PHOTO CREDIT | Aabha Chhajjer
FACING PAGE | Village locals drawing water from a relatively new well in Bamner

The Jaisalmer District in western Rajasthan sprawls across 58.5 sq km of the Thar Desert and has sustained life over centuries with less than 170 millimeters of average annual rainfall. In this region, survival was never accidental. The District's 639 towns and villages have fostered generations of builders, pastoralists, and patrons who developed a nuanced understanding of the topography and groundwater behavior, giving rise to a layered and interconnected system of harvesting surface and groundwater featuring the *kua*, *beri*, *baori*, *kund*, *nadi*, and *talaab*.^[1] These structures are more than architectural artifacts—they are maps of ecological intelligence, serving as material archives of how to live with limited resources.

Architect Palek Babel's collaborative research, funded by the British Museum's Endangered Material Knowledge Programme^[2], offers a timely study of these systems, not simply viewed as historic technologies but as living traditions on the brink of disappearance. Her fieldwork spans selected areas across the District, drawing from interviews with retired well diggers and their successors, as well as site mappings and archival materials. The result is a granular record of how geology, memory, and tradition come together in the making and maintenance of water systems in the desert ecosystem.

"The desert is often perceived as an unlivable landscape—endless dunes, very little rainfall, and brackish water in most areas," says Babel. "However, Jaisalmer has not only survived but thrived under these conditions, which is evident in the rich art, architecture, and culture it has supported throughout the centuries."

- The collected data will be presented in an open-source archive for further use and research.

Outcomes and Impacts

- Built a comprehensive database of oral histories, measurements, models, and archives, preserving unrestricted community knowledge for future generations.
- Documented knowledge from 120 villages, enriching understanding of traditional well-making (from the past to the present) and its endangerment.
- Produced educational materials bridging indigenous and scientific knowledge.
- Strengthened community ties through immersion, fostering trust and inclusive representation.
- Laid foundation for scholarship on desert water systems, highlighting cultural resilience and offering models for sustainable management amid modern challenges.