CONSERVING NATURAL RESOURCES, EMPOWERING WOMEN

2019-2024

IMPLEMENTATION PARTNER

advit foundation

Advit Foundation is a not for profit development organization, working on Conservation of Environment Resources and Livelihood Enhancement. Advit Foundation has sought to conserve the environment and empower communities through its Water Centred Design for Life.

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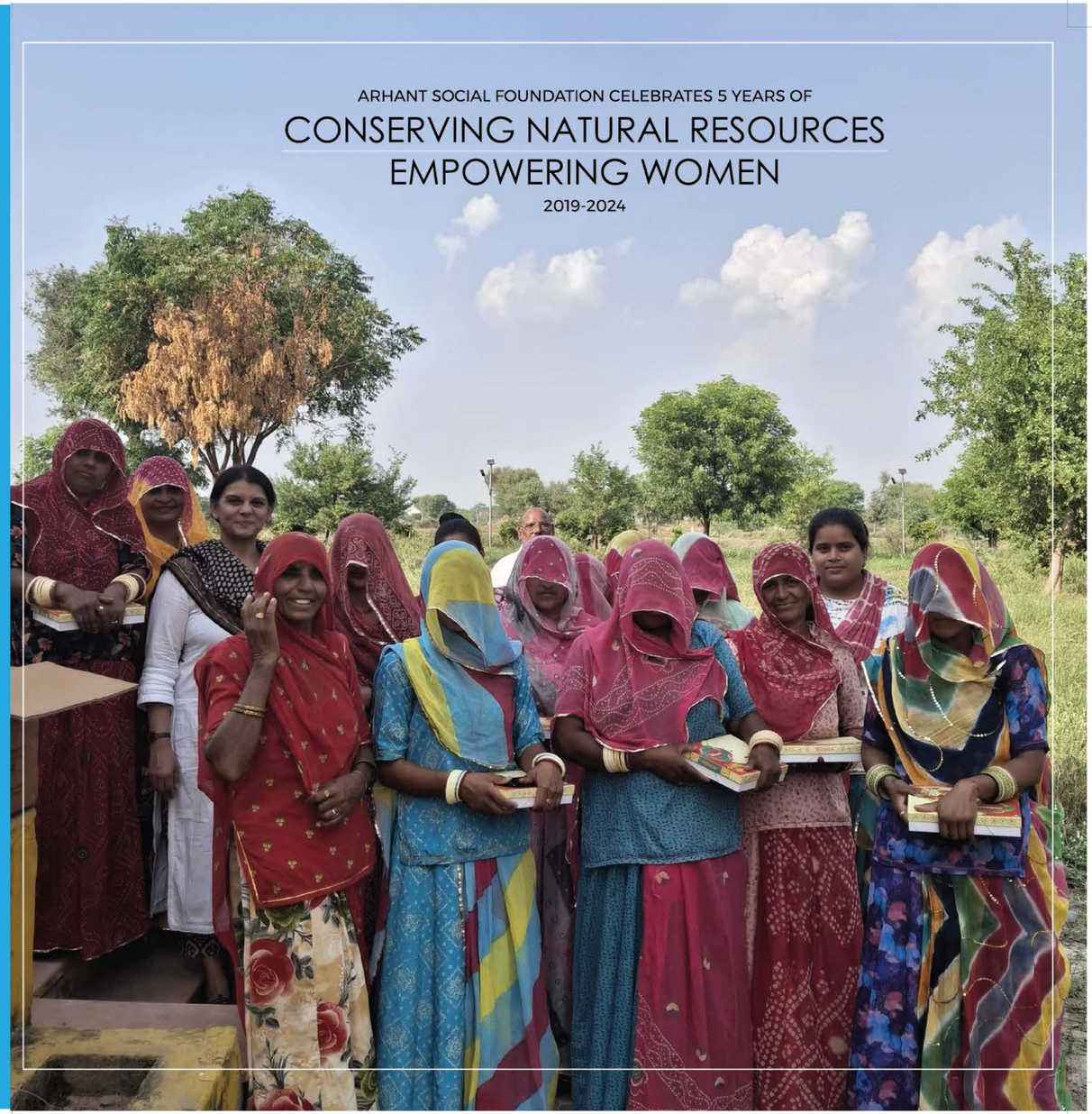
ARHANT SOCIAL FOUNDATION CELEBRATES 5 YEARS OF

CONSERVING NATURAL RESOURCES EMPOWERING WOMEN

2019-2024



The incredible journey of a community's resurgence, with water.

When water is restored to a land depleted of it, it brings back not just an essential resource, it becomes a social and economic transformative force in the community.

At the most basic level, it ensures dignity of life with readily available drinking water and better sanitation.

It recharges farming and livestock rearing, aiding prosperity, which leads to better living conditions for all, empowered women and better educated children.

And then, at times, it also sees the resurgence of lost crops. A momentous sign that hope has not just been restored, but is thriving.

Join us on this journey and see how we helped change lives, one drop at a time.

Village Kiratpura, Phagi

A child & maternal care centre, Anganwadi, for women empowerment

THE COMMITTED CHANGEMAKERS

Arhant Social Foundation & Advit Foundation

Arhant Social Foundation, as part of social responsibility is committed towards undertaking development work in India. More than 25,000 people in rural communities of Phagi block have been benefitted by the water based interventions that recharge 20 million litres of water annually. Further, specialised skill trainings imparted have helped both men and women, explore other sources of livelihood for enhanced economic and overall well-being.

Advit Foundation, as the implementation partner, has been working towards holistic village development and environmental resource conservation since 2004. A rapid appraisal and a baseline visit are conducted by Advit Foundation to identify areas where projects can be implemented.

This book is our story of how our initiatives on water conservation and community development have helped transform and empower lives of communities, especially women, across Phagi block in Rajasthan.

Advit's Approach

Ensure water availability for:
- Drinking
- Sanitation
- Agriculture
- Livestock

TRANSFORMING PRACTICES

Improve soil moisture:
- Plant more trees
- Improved cropping pattern
- Better soil

Empowerment:
- Social
- Environment
- Financial

EMPOWERING COMMUNITIES

Enhance Livelihood:
- Impart skill training
- Empower community
- Increase self-reliance

Create well being:
- Improved living conditions
- Availability of critical natural resources

Climate proofing:
Sustainable life choices, waste less, plant native trees, clean up, speak up.

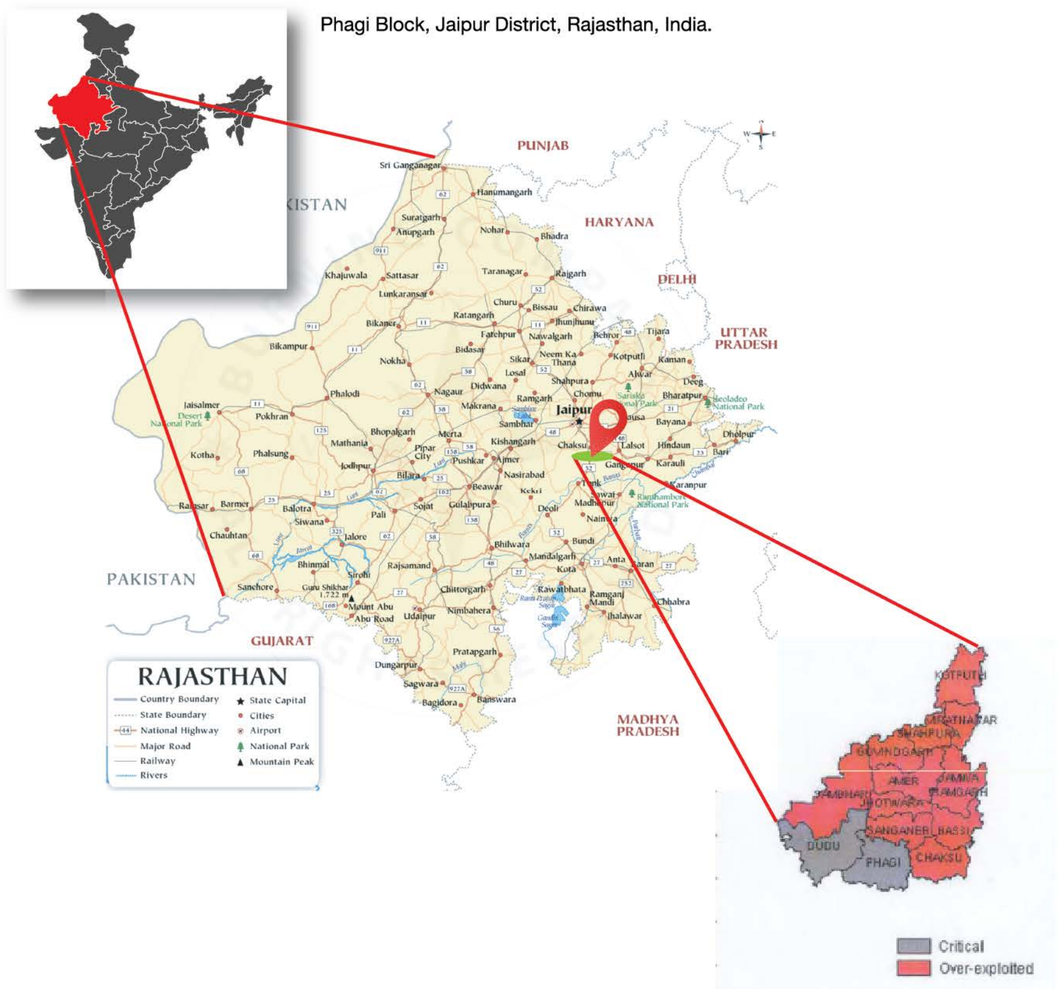
Make an impact!

Village Sawa ka Baas, Phagi

Where the story begins

"Rain is not only drop of water, it's the love of the sky for the earth. They never meet each other but the sky sends love this way.

Village Sawa ka Baas, Phagi



Water scenario, Phagi

Phagi, Rajasthan, a water-scarce semiarid region, faces critical challenges of deteriorating water availability, loss of tree cover, and fluoride contaminated groundwater, affecting livelihoods and the environment. Limited rainfall makes groundwater crucial with wells often running dry burdening women with water collection. The values of TDS, EC, nitrate and fluoride exceed the permissible limit prescribed by WHO for drinking purpose. Some sites were also contaminated with high values of chloride.

Water management in Phagi, Rajasthan, is crucial due to the region's arid climate, characterized by low rainfall and frequent droughts. With limited access to surface water and increasing groundwater depletion from agricultural use, effective management is essential to ensure water availability throughout the year. Rural communities in Phagi largely dependent on agriculture, need water management to support irrigation, livestock, and daily needs, which directly impact their livelihoods and food security. Moreover, climate change has intensified water scarcity, making it necessary for these communities to adopt practices like rainwater harvesting and groundwater recharge to build resilience.

The water scenario in Phagi, Rajasthan is facing challenges due to overexploitation of groundwater, high temperatures, and a dry climate:

Challenge	Explanation
Groundwater depletion	The indiscriminate use of groundwater has disrupted aquifers that have been in place for thousands of years.
High temperatures	Phagi experiences high temperatures and evaporation loss during the peak summers.
Dry climate	The dry climate in Phagi leads to high evapotranspiration losses.
Low water levels	Excessive pumping of groundwater is one of the major reasons for low water levels in the area.

The water conservation initiatives by Advit serves as the foundation by improving water availability, enhancing soil moisture, and recharging groundwater, creating favourable conditions for enhanced livelihood. Skill training programmes built on this by equipping community members with the knowledge needed to maintain these water resources, adopt sustainable practices, and develop livelihood opportunities.


How it begins
Village Kiratpura, Phagi

BRINGING ABOUT THE TRANSFORMATION

Far reaching transformations began by going back to the basics with site visit and identification of suitable locations and type of activities/ structures for augmentation of natural resources (village ponds, wells etc.).

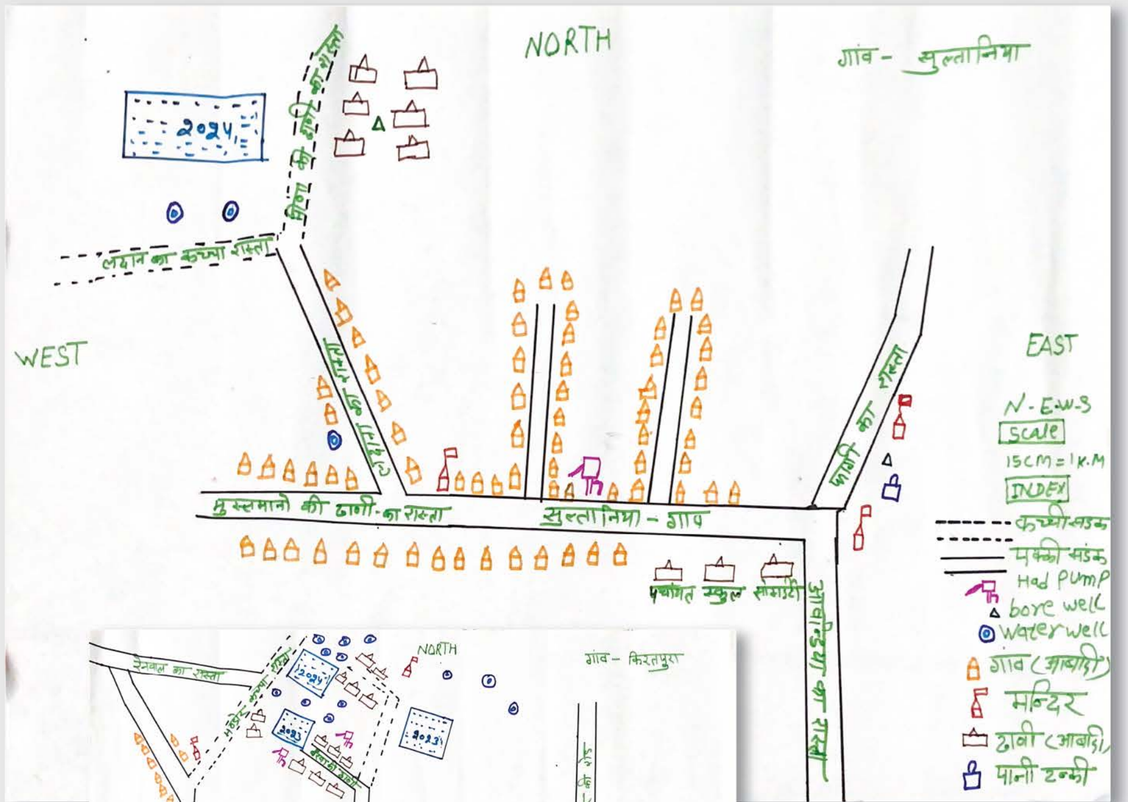
PROJECT APPROACH AND METHODOLOGY

The methodology used to develop the detailed village wise micro-watershed plans is described below:

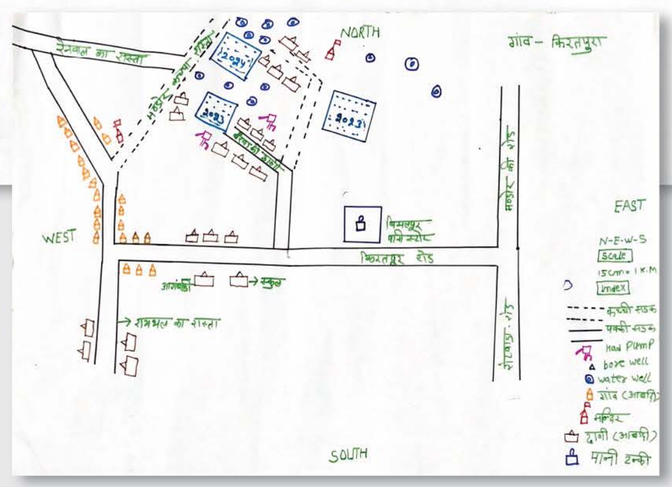
1. **Detailed base line survey focusing water resources in the project villages:**
   a. Field visit and collection of information focusing existing water resource scenario in the respective project village with various tools (survey formats, focus group discussions, and site visits).
2. **Identification of viable project activities for the augmentation of water resources:**
   a. Discussion with village communities to gather their views about the possible interventions in the micro-watersheds.
   b. Site visit and identification of suitable locations and type of activities/ structures for augmentation of natural resources (village ponds, wells etc.).
   c. Site visit and identification of suitable locations for recharges or dilution of saline groundwater sources to be utilized for irrigation purposes.
3. **Carry-out level surveys and measurements for identified project activities:**
   a. Carry-out field engineering level survey with the help of Dumpy/ Auto Level for measurement and demarcation of micro-water shed areas in each project village.
4. **Preparation of Micro-watershed Plan & maps for each village:**
   a. Preparation of Micro-watershed plans based on field survey and discussions with communities.
   b. Preparation of GIS based thematic maps after collection, geo-referencing and digitization, superimposition and analysis of available village maps and Satellite imagery along with field surveys.
   c. Demarcation of participatory project activities identified during the study on prepared micro-watershed plans.
   d. Preparation of technical design and estimate report supported with drawings for identified project activities.

Community-led approaches drive sustainable rural development.

VILLAGE MAPS

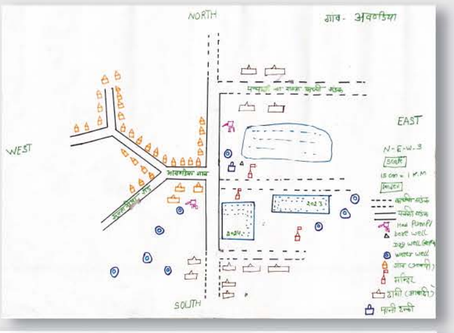


Village Sultaniya

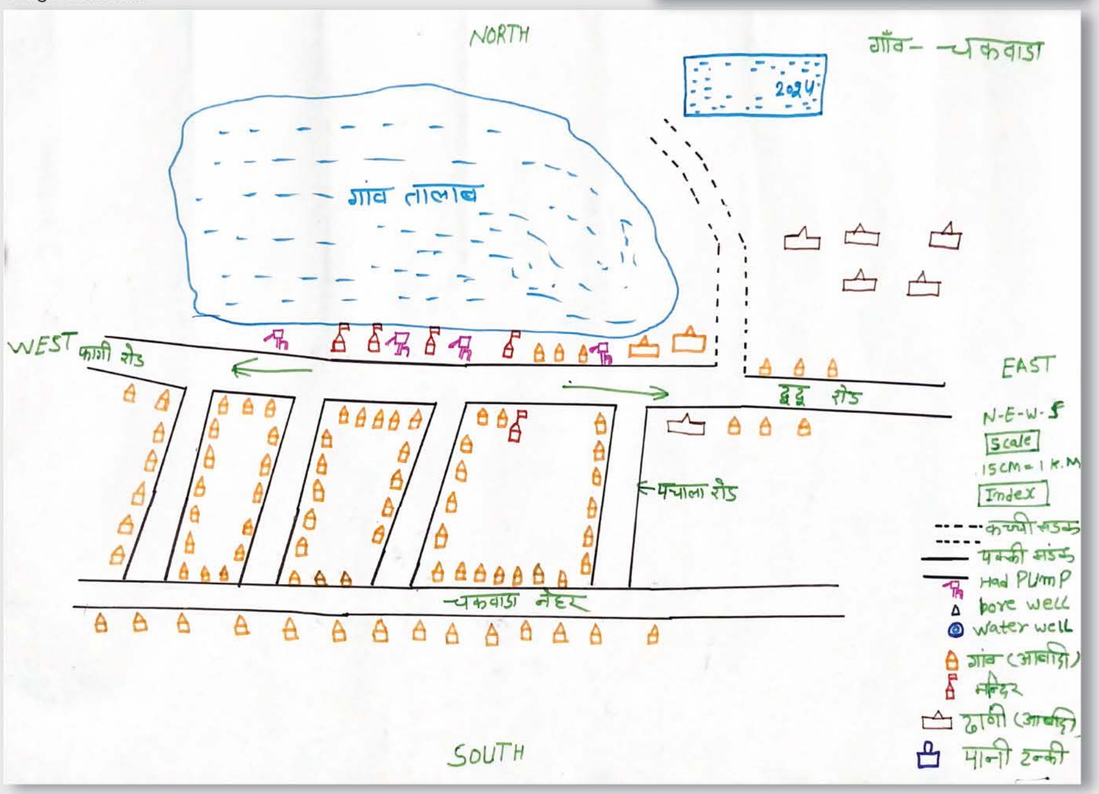


Village Kiratpura

Village Awandiya



Village Chakwara



FIELD SURVEY

Field Survey was planned to collect primary data necessary for assessing the characteristics of groundwater and land-use pattern and planning & designing of field activities. The data and the tools used in field survey included the following:

Field Level Survey - To demarcate the micro-watersheds within the project village's ridge information is very important. To identify the ridge line, field level survey with the help of Auto Level was conducted in each village.

GPS Survey - To update the information on villages / site location, water bodies and other topographical features a field survey of the project area was carried out with the help of GPS (Global positioning system). The GIS coordinates of the potential sites was obtained with the help of GPS. GPS is an instrument, which takes the GIS co ordinate readings of any location using satellite where it is positioned. The data/ information collected were downloaded in the computer through GIS software to demarcate the location of each individual potential site on the micro watershed plan.

Soil and Groundwater Quality Testing - There is an erratic, unusual and unpredictable variation in quality content in groundwater and soil in both vertical and horizontal directions. That situation has been further worsened recently due to frequent occurrences of drought in the region. No ready information is available on this context. Hence soil and groundwater quality data available from secondary sources has been collected to demarcate quality contours for future planning interventions in drinking water, irrigation and crop selection inside the project villages.

DATA ANALYSIS

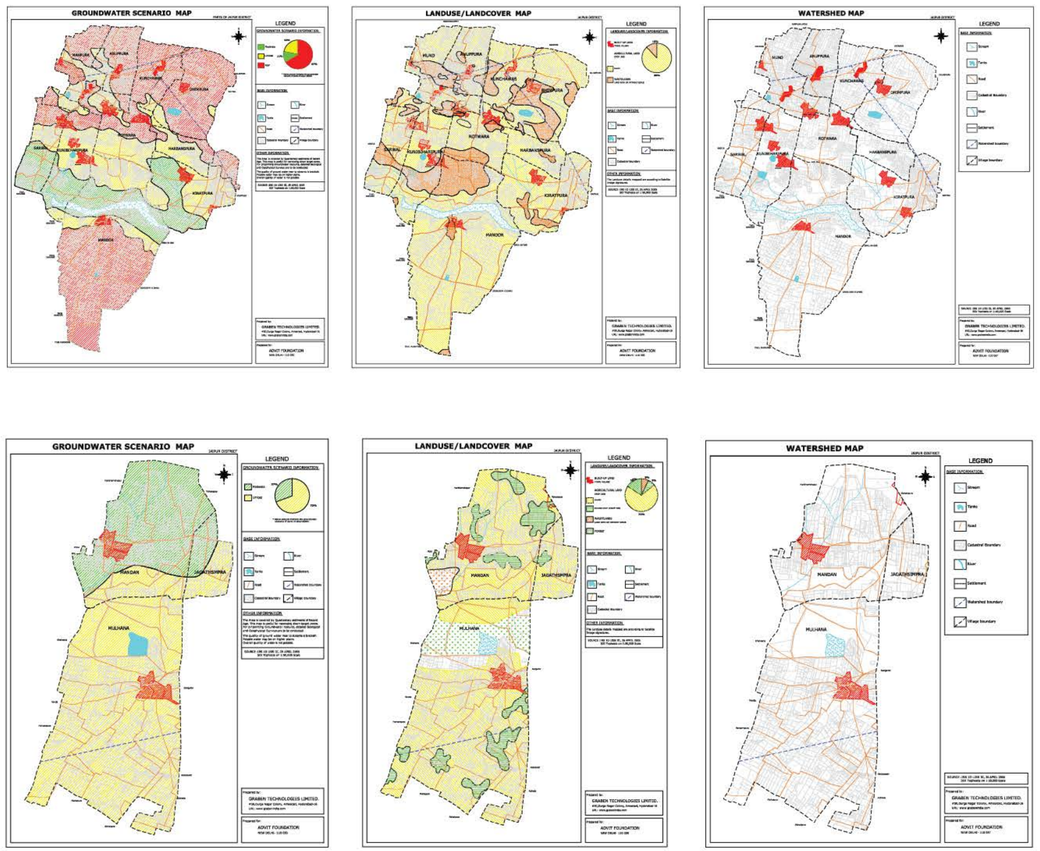
All information collected from various sources was analyzed for accuracy using a computer based model. The analyzed data was arranged village-wise to form the digital database of the project area. The collected maps were scanned, geo-referenced and digitized & updated using GPS data.

Data Analysis - The processed and analyzed data arranged village wise was used to represent existing scenario of the project villages. This can be used as a bench mark for the activities proposed for future interventions in the project villages.

Structural Design and Drawings - The information/ data utilised as input parameters was extracted from the digital database developed for each village. Mathematical Calculation with design formulas were carried out to generate accurate specifications of the proposed activities/ structures. Computer aided drawings were generated based on the designed dimensions. Cost was calculated with the designed dimensions and the relevant and local available material rates for each activity/ structure individually.

Thematic Mapping - All the maps were digitized in GIS environment through appropriate geo-referencing with the help of available tools and technology. This information in different layers were superimposed and analyzed to generate thematic (Micro-watershed) maps of the project village.

PREPARATION OF WATERSHED MAPS



As part of the process, village maps are superimposed with landuse maps and groundwater maps to prepare watershed maps.

MONITORING & MEASUREMENT

A monitoring framework has been developed. As a part of the framework, wells around each harvesting structure have been marked with a unique ID and have been measured. These wells are monitored periodically to undersatnd the impact better. the measurements have been tabulated. The measured data is compared with the data in the central ground water report.

S.No	Village	Well code	Approximate distance of the well from water structure (m)	Annual average rainfall (mm)*	Well depth (m)	Well diameter (m)	Irrigation pump usage	Average water level in Phagi block (mbgl)*	Water level (mbgl) 28.12.2016	Volume of water (x 1000L) 28.12.2016	Remarks
1.	Sawa Ka Baas	SKB/W01	50	501.28	26.4	4.0	Yes	~10.20	5.9	254	Water over drawn for irrigation
2.		SKB/W02	50	501.28	18.8	4.0	Yes	~10.20	4.5	176	
3.		SKB/W03	50	501.28	17.4	2.8	Yes	~10.20	7.0	63	
4.		SKB/W04	150	501.28	13.4	3.7	Yes	~10.20	1.8	122	
5.		SKB/W05	700	501.28	21.0	4.3	Yes	~10.20	4.5	8	
6.		SKB/W06	750	501.28	11.3	4.9	No	~10.20	8.8	131	
7.	Gavariyon Ki Dhani	GKD/W01	150	501.28	14.6	4.5	Yes	~10.20	20.5	93	Water over drawn for irrigation
8.		GKD/W02	300	501.28	16.8	4.0	Yes	~10.20	15.8	12	
9.	Musalmano Ki Dhani	MXD/W01	200	501.28	17.7	4.0	Yes	~10.20	7.2	130	
10.		MXD/W02	200	501.28	19.5	3.4	Yes	~10.20	13.3	55	
11.		MXD/W03	150	501.28	19.5	2.4	Yes	~10.20	9.8	46	
12.	Sultania	SUL/W01	50	501.28	15.5	2.1	Yes	~10.20	7.9	26	
13.		SUL/W02	250	501.28	9.1	2.4	No	~10.20	7.9	6	
14.		SUL/W03	250	501.28	12.5	3.3	No	~10.20	10.1	21	

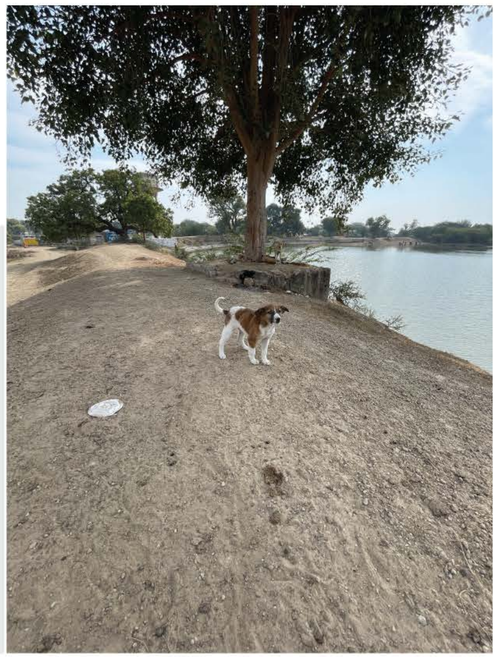
The following maps show the location of the wells.

The following maps show the location of the wells.

What we achieved

Our Achievements

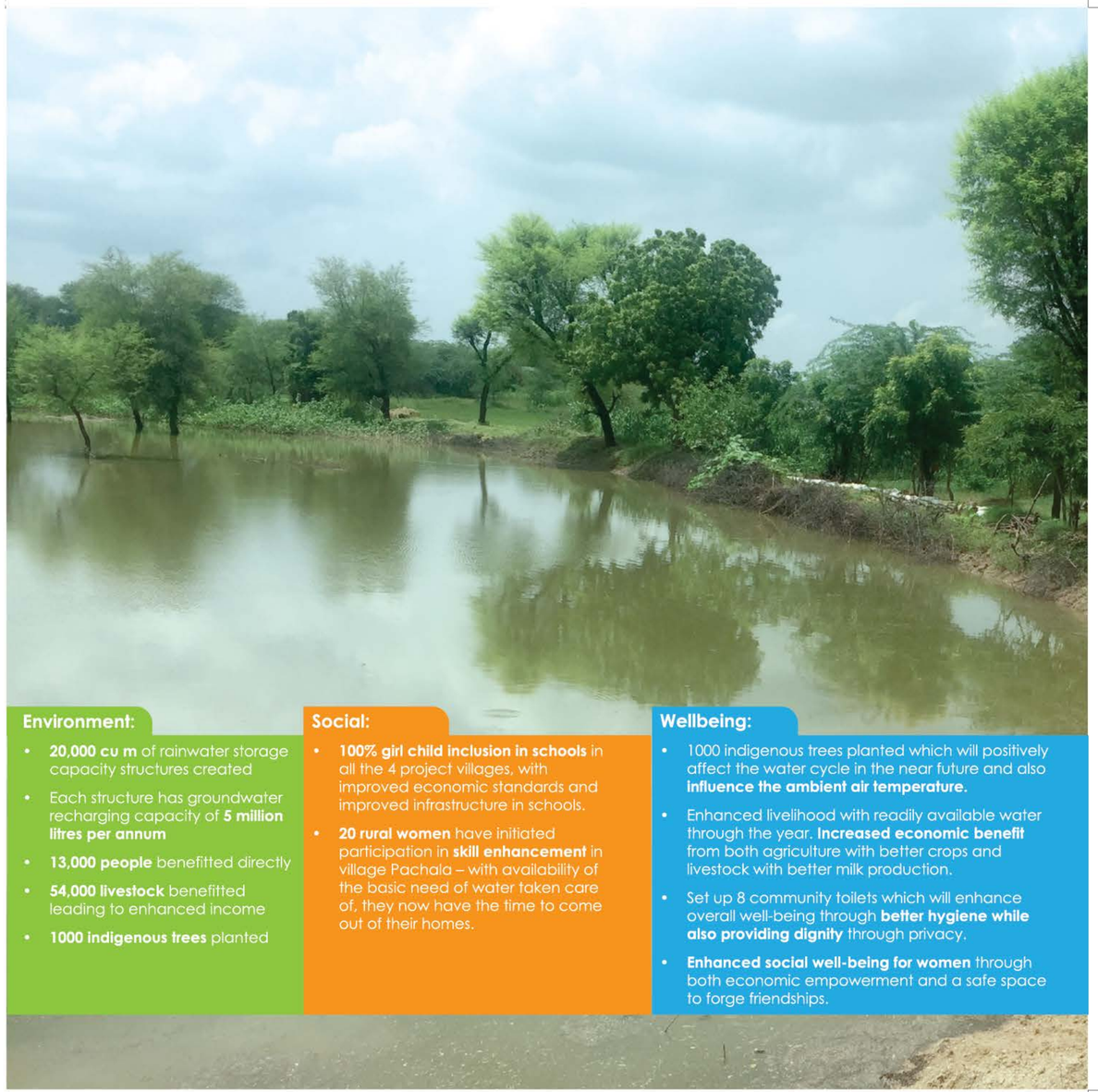
- Water conservation has led to social and economic transformation in the rural community
- **Increase in income from cropping** The crops that were grown 20 years back have made a return in the last 5 years
- Village-level intervention for **water conservation has transformed to a farmer-level** in form of farm ponds
- **Ensured water availability** for agriculture, drinking, sanitation, and livestock
- **Increase in school attendance**
- **Improved sanitary facilities** – toilets in every house and school with water availability



Our strategic objectives

- Ground Water Recharge
- Sanitation Facilities
- Livelihood Enhancement
- Multiplying Effect

Our most successful approaches will be replicated and scaled up by relevant stakeholders. We will have established a community of active supporters.



Environment:

- **20,000 cu m** of rainwater storage capacity structures created
- Each structure has groundwater recharging capacity of **5 million litres per annum**
- **13,000 people** benefitted directly
- **54,000 livestock** benefitted leading to enhanced income
- **1000 indigenous trees** planted

Social:

- **100% girl child inclusion in schools** in all the 4 project villages, with improved economic standards and improved infrastructure in schools.
- **20 rural women** have initiated participation in **skill enhancement** in village Pachala – with availability of the basic need of water taken care of, they now have the time to come out of their homes.

Wellbeing:

- 1000 indigenous trees planted which will positively affect the water cycle in the near future and also **influence the ambient air temperature.**
- Enhanced livelihood with readily available water through the year. **Increased economic benefit** from both agriculture with better crops and livestock with better milk production.
- Set up 8 community toilets which will enhance overall well-being through **better hygiene while also providing dignity** through privacy.
- **Enhanced social well-being for women** through both economic empowerment and a safe space to forge friendships.

VILLAGE KIRATPURA

Site

Before Rains


VILLAGE KIRATPURA
After Rains
Village Kiratpura
Latitude: 26.708035"N
Longitude: 75.560888"E
Structure capacity: 5000 cu m
Population impacted: 2900
Livestock impacted: 500

VILLAGE SULTANIYA

Site

Before Rains


VILLAGE SULTANIYA
After Rains
Village Sultania
Latitude: 26.648965°N
Longitude: 75.555648°E
Structure capacity: 5000 cu m
Population impacted: 3000
Livestock impacted: 300

VILLAGE AWANDIYA

Site Before Rains

VILLAGE AWANDIYA

VILLAGE KIRATPURA 2

Site Before Rains


VILLAGE KIRATPURA 2
Village Kiratpura
Latitude: 26.708035°N
Longitude: 75.560888°E
Structure capacity: 5000 cu m
Population impacted: 3900
Livestock impacted: 700
After Rains

VILLAGE AWANDIYA 2024

Before Rains

After Rains

Village Awandiya
Latitude: 26.648476
Longitude:75.531365
Structure capacity: 5000 cu m
Population impacted: 2000
Livestock impacted: 800

VILLAGE CHAKWARA 2024

Before Rains

After Rains

Village Chakwara
Latitude: 26.3555.0"N
Longitude: 75.2940.3"E
Structure capacity: 5000 cu m
Population impacted: 5000
Livestock impacted: 1200

VILLAGE KIRATPURA 2024

Before Rains

After Rains

Village Kiratpura
Latitude: 26.708035"N
Longitude: 75.560888"E
Structure capacity: 5000 cu m
Population impacted: 1500
Livestock impacted: 1200

VILLAGE SULTANIYA 2024

Before Rains

After Rains

Village Sultaniya
Latitude: 26.648965°N
Longitude: 75.555648°E
Structure capacity: 5000 cu m
Population impacted: 1500
Livestock impacted: 900

Environment Impact

Water conservation

20,000 cu m of rainwater storage capacity structures created

Each structure has groundwater recharging capacity of 5 million litres per annum

3,000 people benefitted directly

>2,000 livestock benefitted leading to enhanced income

Farm ponds

25 % of farmers have made farm ponds now

Environment Impact

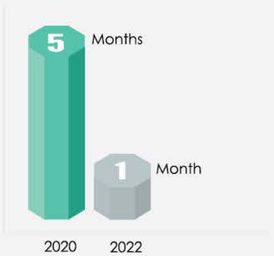
Ensured Water Availability

More than 10 groundwater wells are recharged around each water harvesting structure built in each of the 4 project sites

There is rainwater stored in each of the structures for more than 7 months every year

Each structure irrigates agriculture land spread over more than 20-50 acres

Of the 4 structures built from one structure drinking water tankers are filled and supplied in neighbouring 4 villages benefitting a population of almost 4,000



Faster recharging of wells

Each well is recharged faster around each water structure.
What took 5-6 months earlier gets recharged in 1 month now.

1 well feeds 30 people

Environment Impact

Multiplying Impact

We planted more than 2,000 indigenous trees which in the coming years would impact the water cycle and also influence the ambient air temperature. As the number of trees increase every year, the project could contribute towards carbon sequestration as well.

We cooperated with more companies on new ideas, designed more impactful projects and strategies to measure impact and monitoring methods, and identify innovations.

Environment Impact

1000 trees planted

Environment Impact

7 Villages

Recharging capacity of
5 million litres
of water every year
per structure

Population
impacted: about
9,000 - 15,000

Total Recharging
capacity of
200 lakh litres
of water every year

Total water
storage capacity :
20,000 cum

4 water structures have been constructed
with a total water capacity of 5 million litres
of rainwater recharged per structure per annum

Wellbeing Impact

8 Community toilets set up

Energy efficient choolahs introduced and distributed

Financial inclusion - Bank accounts opened for vilagers

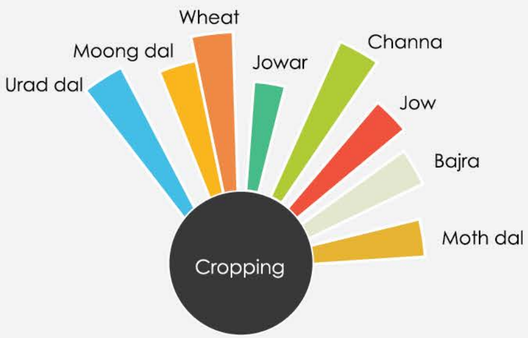
Wellbeing Impact

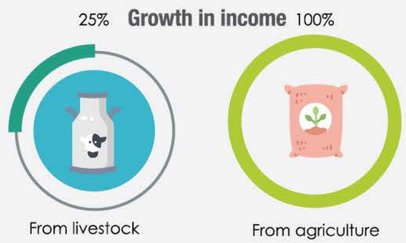
LIVELIHOOD ENHANCEMENT

(AGRICULTURE & LIVESTOCK)

The cropping has made a drastic improvement. The farmers now are sowing crops that they used to sow 20 years ago. They then stopped due to lack of water. But, now with the water returning through the water structures constructed the crops have made a return.

Cropping per acre





Wellbeing Impact

Empowering women,
Transforming communities

Skill Development and Women Empowerment

~200 rural women have initiated participation in skill enhancement in village Pachala – with availability of basic needs of water and firewood, women agree to come out of their homes

There is increase in economic benefit from livestock -
~each household has greater milk sale to the village dairy.
Major credit goes to the built water structures in these villages.

Training and skill development opportunities for rural women is pivotal to their active engagement. It not only upholds commitment to gender equality and women empowerment, but it makes for better sustainability outcome.

Skill Development

Livelihood trainings at
Arhant social foundation
2024, Phagi, Jaipur

Stitching &Tailoring

Skill development in handicrafts enables women to generate additional income. This shift helps reduce pressure on natural resources as communities transition away from resource extractive livelihoods.

Skill Development

Livelihood trainings at
Arhant social foundation
2024, Phagi, Jaipur

Crochet

Skill Development

Livelihood trainings at
Arhant social foundation
2024, Phagi, Jaipur

Beauty Parlor

Empowering women,
Transforming communities

Skill Development

Livelihood trainings at
Arhant social foundation
2024, Phagi, Jaipur

Papier Mache

Skill Development

Livelihood trainings at
Arhant social foundation
2024, Phagi, Jaipur

Farm Based

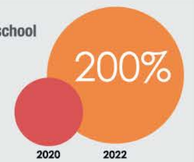
Social Impact

EMPOWERMENT IN EDUCATION

100% girl child inclusion in school in all the 4 project villages – with improved economic standards and improved infrastructure in schools, girls are now enrolling in schools.

Number of children enrolled in school

Girls are now going to school and not rearing animals at home



School Attendance

While water conservation efforts alone may not guarantee universal school enrolment for girls, it undoubdtly is a significant contributing factor towards improving access to education and creating an enabling environment for girls enrolment and retention in schools in rural India.

Social Impact - Community Mobilisation

Recharging water, recharged the lives of women in profound ways. Women now had to walk lesser to get water. With more time on their hands, they found not only economic empowerment through Aarohan Skill Centre but also the time to forge lasting friendships.

A place to be friends!

Social Impact

Arohan, Advit's skill training centre, village Pachala, Phagi

SOME GLIMPSES

Mr. Prabhat Jain and family visiting Phagi, 2020

The village Anganwadi Project, Villag Kiratpura, Phagi - from construction to completion and use

The village Anganwadi Project - Made using
BaLA design process - "Building as Learning Aid"

Solar electrification process complete

Arhant social foundation visit,
January 2024, Phagi, Jaipur

Arhant social foundation visit,
January 2024, Phagi, Jaipur

What they say

Mohan Singh ji,
Village Kiratpura – Ex Sarpanch

"There is water now all through the year. We have water for our cattle too, so we sell milk. The crops have also increased. We can grow more than 2 crops in a year. We thank Advit foundation for working with us since the last more than 20 years. I have been associated with them since the beginning."

Kailash Singh,
Village Kiratpura

"We thank for the Aaganwadi in our village. All children go to school. There are toilets too in the school and aaganwadi. Lots of trees have been planted in our village. We feel so much cooler in their shade. The summers are very bad in our village".

Sushila devi,
Village Pachala

"We go to work at Aarohan. We have water in our village wells and no longer have to walk long distances to collect drinking water. I am 65yrs old. And learning papier mache and beauty training."

Jitender Singh,
Village Pachala

"I used to do water testing from groundwater wells for Advit, now I look at trainings at Aarohan. There are more resources in our village now – more water, more firewood and now I am hoping we can get more work in the village too."

" Life is like water, if you block one side, it takes another turn to continue its journey "

Arhant Foundation, Gratitude for Your Generous Support!

On behalf of Advit foundation, I extend our heartfelt gratitude for your generous support. Your contribution has been pivotal in enabling us to make significant strides in water conservation, and livelihood enhancement.

Your partnership has empowered us to create sustainable water solutions, enhance community livelihoods, and establish knowledge sharing and community partnership. The transformation we are witnessing within the villages in Phagi block is a testament to the power of collaboration and shared purpose.

Through your support, we have constructed 10 rainwater harvesting structures with groundwater recharging capacity of 500 lac litres per annum, provided skill training to more than 200 rural women, undertook tree plantation drives across 4 villages, constructed community toilets as well as aganwadi benefiting more than a hundred children. These efforts are not just addressing immediate needs but are paving the way for long-term sustainability, resilience, and growth.

Together, we have not only addressed water and skill empowerment but have also fostered hope and a vision for a brighter, more sustainable future for the community. Your commitment to making a difference inspires us to continue our work with greater dedication and enthusiasm.

We look forward to nurturing this partnership and working together on impactful initiatives that create lasting change. Once again, thank you for believing in our mission and supporting our journey towards transformation.

Warm regards,

Charu

Charu Jain
Manging trustee, Advit foundation

ऋग्वेद १.२३.१९ । Rigveda 1.23.19

अप्स्वन्तरमृतमप्सु भेषजम् ।

There is nectar in water; there is medicine in water.