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Implementation Partner



WATER CONSERVATION AND VILLAGE DEVELOPMENT PROJECT

Village Kiratpura, Jaipur district, Rajasthan

August, 2020

Submitted to
ARHANT SOCIAL FOUNDATION, INC.



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PROJECT ACHIEVEMENTS

Village Kiratpura of Phagi block, Jaipur district, Rajasthan, was selected as the project location for a holistic rural development initiative. Following are the interventions and achievements of the project:

Water security

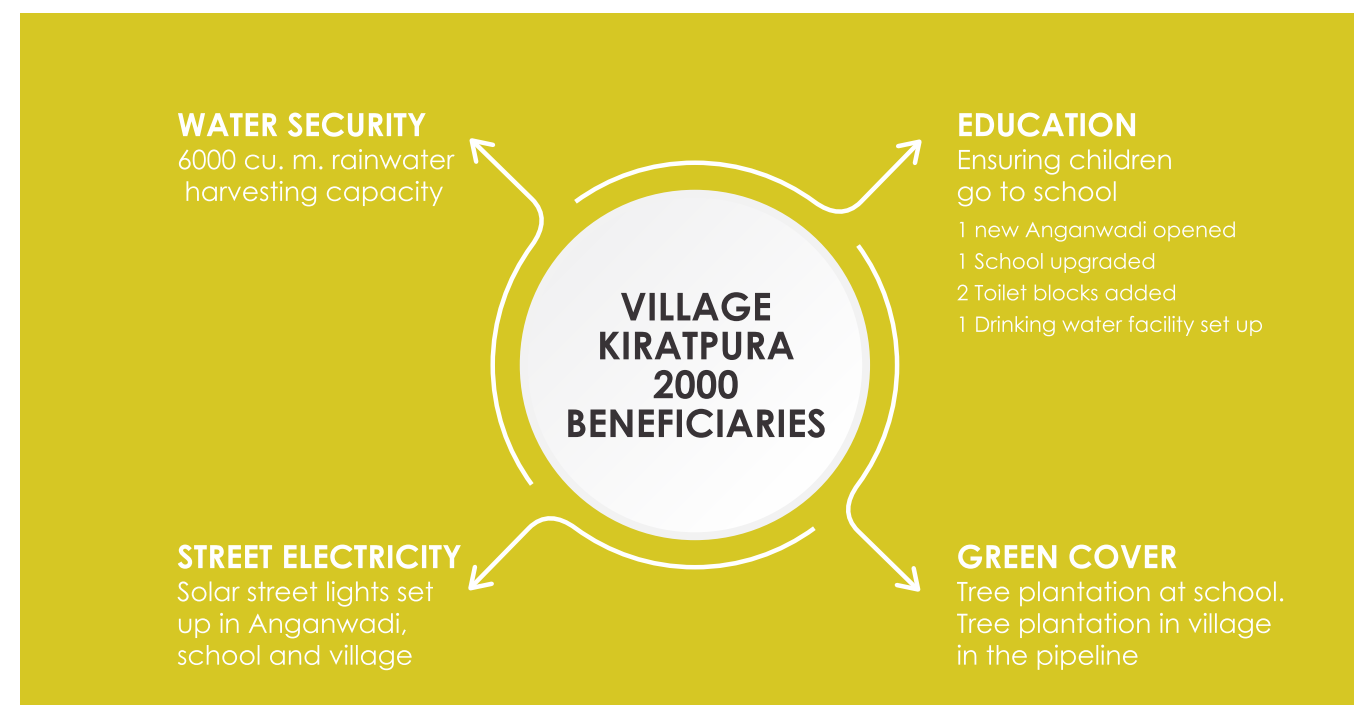
- Set up of a water recharge structure: A 6000 cu. m water recharge structure has been constructed in village Kiratpura of Phagi block, Jaipur district, Rajasthan

Education facility

- Set up a new rural child care centre (Anganwadi): A rural child care centre has been constructed using BaLA - Building as Learning Aid (BaLA) is an innovation that can help India's schools become more child friendly
- Upgradation of existing primary school building
- Two toilet blocks set up in the Anganwadi and school premises
- Drinking water facility has been setup in the same space

Village upgradation

- Street electrification: Solar street lights have been set up in the Anganwadi and school building area as well as inside the village
- Green space development: Neem trees have been planted in the school and Anganwadi premises. More such trees will be planted in various parts of the village along with the village sarpanch
- Overall village cleanliness drives are being undertaken



PROJECT BACKGROUND

Arhant Social Foundation, Inc. as part of social responsibility decided to look into development problems of India including water and livelihood and partnered with Advit Foundation to work towards village development.

Advit Foundation, which has been working towards holistic village development and environmental resources conservation since the last 15 years in India, designed a development and conservation plan in and around the water deficit areas of Rajasthan. A rapid appraisal as well as a baseline visit was conducted by Advit Foundation to identify blocks where the intervention can be made.

This project undertakes holistic development of Village Kiratpura in Phagi block of Rajasthan to improve the living conditions of rural communities. Prior to project implementation the trustees of Arhant Social Foundation, Inc. visited the site and met with the village representatives.



REASONS FOR INTERVENTION

About the Location

The target area of this project is Phagi block, Jaipur District which has been categorized as water critical by the Central Ground Water Board. The ground water is not just inadequate, but the little available water is also highly saline and is high in fluoride leading to health complications. Poor availability of water also affected the agricultural and livestock output thereby directly affecting the livelihood of the people.

The detailed study conducted by Advit Foundation revealed that the entire area including the belt of selected villages is possibly the driest part of Jaipur district. The area is suffering from a disproportionately poor availability of water, loss of tree cover and very high fluoride content (80%). The situation has worsened over time due to a rapid increase in use-related parameters.

The primary source for groundwater recharge is the scanty and uncertain rainfall, confined to just two months of the year. The area can be categorized as semi-arid, which implies that the area is suffering from recurrent water scarcity.

The area receives around 450-500 mm of rainfall annually and is very erratic. However, it was observed that if designed properly and at the right location, rain water harvesting structures could replenish the water table and revive the surrounding wells with clean water.

This initiative was taken up with an objective of enhancing the livelihood of the community at Phagi block by improving the water scenario in the region through rain water harvesting. Availability of water ensures improvement in soil moisture thereby agriculture, water for cattle, wells get recharged thereby making water available for drinking and sanitation purposes; thereby making resources available for daily life.



PROJECT APPROACH

The entire project is undertaken with handholding with the village panchayat and the local community members. Post completion the project is handed over to the village panchayat for future maintenance.

Anganwadi: Primary child care centres in rural areas play a key role in addressing the physical and mental growth needs of kids below 5 years. Brain develops rapidly at these young ages and it's extremely crucial to provide them with the right education, nutrition etc. Anganwadis are expected to bridge this gap but village Kiratpura did not have enough resources to cater to the entire village. Based on the request of the sarpanch, a new Anganwadi location was identified and a new building has been set up. This premises caters to more than 50 families and their kids. It also has a drinking water facility and separate toilet blocks for boys and girls.

The building has been made using BaLA approach – Building as Learning Aid.

Street electrification: Access to clean, affordable and sustainable energy is crucial for overall development of any region. Village Kiratpura like most of the villages does not have street lights and even access to electricity is limited to few hours of the day. Solar lights address these challenges. The locations were identified in consultation with the local community. A few solar lights were set up at the school/Anganwadi premises. More such lights are expected to be setup in the village.

Green space development: Increase in green cover is crucial for maintaining the local climatic conditions. Plantation drive has been undertaken in the school and Anganwadi premises. More such plantation will happen in the village Kiratpura.

Water recharge structure: The first step was to mobilize the community. This was achieved by seeking participation from the community and the Panchayat. They were informed of the details of the project and its envisaged impact. Water user groups were formed to ensure sustainable water use and ensure maintenance of the structure.

A baseline study was undertaken of the target areas which includes study of the land topography, land use identified, surrounding wells and land under agriculture marked and monitoring indicators prepared. Subsequently, the site was finalized along with the village governing body and Advit. Measurements were done at the identified sites. The contractors were identified by a participatory approach in the presence of the village sarpanch and work was initiated in May 2020.

The designs for the water structures and the cement overflows were finalized and the construction was completed by July 2020. The monsoon arrived late in the region in July end 2020. The structure is partially filled and will be under observation for the entire year.

Water quality testing with well marking: Water quantity and quality is documented and observed by undertaking marking of wells near the water structure.

PROJECT IMPACT

Beneficiary from village school and Anganwadi set up is as below:

Number of children attending school	Number of children attending Anganwadi	Toilet facility users	Drinking water facility users
200-250	About 20-50 children will start attending from this year	250+ school + Anganwadi kids	300+ school, Anganwadi & village community members

More kids are expected to attend school and the drop out ratio is expected to reduce.

The impact of the water structures is measured by analyzing the areas of land brought under irrigation, cropping pattern, number of wells recharged and also quality of water in the wells. The quality and quantity of water in wells is monitored pre-rains and post rains and inferenced by the end of the year.

PROJECT MONITORING

The wells around the structure have been marked and periodic measurements of water level in these wells is taking place for a better understanding of the impact. This is part of the detailed monitoring framework that has been developed.

As part of the monitoring framework, wells around each water harvesting structure have been marked with a unique ID and have been measured prior to the monsoon. The measurements have been tabulated.



Marking of wells

Following are the data collected from wells in the vicinity:

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(mbgil)*	Water level as on 28-05-2020
Kiratpura	KKP/W01	200	501.28	15.6	3	Yes	~10-20	9
	KKP/W02	200	501.28	8	3	No	~10-20	8
	KKP/W03	150	501.28	12.9	3	Yes	~10-20	7.8
	KKP/W04	100	501.28	6.2	3	No	~10-20	6.2
	KKP/B01	200	501.28				~10-20	

Water quality report before intervention

		Fluoride	Residual chlorine	Nitrate	Iron	Ammonia	PH	Turbidity	Hardness
Village	Well Code	(<1.5mg/l)	<0.5mg/l	<45mg/l	<0.3mg/l	<2mg/l	6.5-8.5		<500mg/l
Kiratpura	KKP/W01	3	<0.2	<10	<0.3	<2	9	20	640
	KKP/W02	3	<0.2	45	0.3	<2	8	<10	280
	KKP/W03	3	<0.2	<10	<0.3	<2	8	<10	360
	KKP/W04	3	<0.2	<10	<0.3	<2	8	<10	200
	KKP/B01	3	<0.2	45	0.3	<2	9	<10	180

Fluoride levels are very high in the ground water, making it non potable. Post construction of the water recharge structure the fluoride levels are expected to come down. Data sampling will be done again post monsoon.

PROJECT SUSTAINABILITY

Water structure: Water user groups have been created which comprises of village community members. They have been taught to manage the water structure. Sarpanch has agreed to use existing government rural employability schemes to maintain the water structure.

Anganwadi and school: Anganwadi and school will formally be handed over to the sarpanch and the headmaster. They will be responsible for the upkeep and maintenance of the place.

Green cover: Local community members have taken ownership of the plantations. They have agreed to water and maintain the plants.

Solar street lights: These are automated systems. The lights switch on automatically every night post sun set. Our local field coordinators have been trained to trouble shoot any issues arising from the solar street light. They are capable of managing the operation and maintenance of these solar street lights for the next three years.

SITE GLIMPSES

WATER STRUCTURE



Before construction



Impact of first rain

WATER MONITORING

Water sample collection from the wells in the vicinity of the water structure



Testing of water samples by our field coordinator



EDUCATION FACILITY

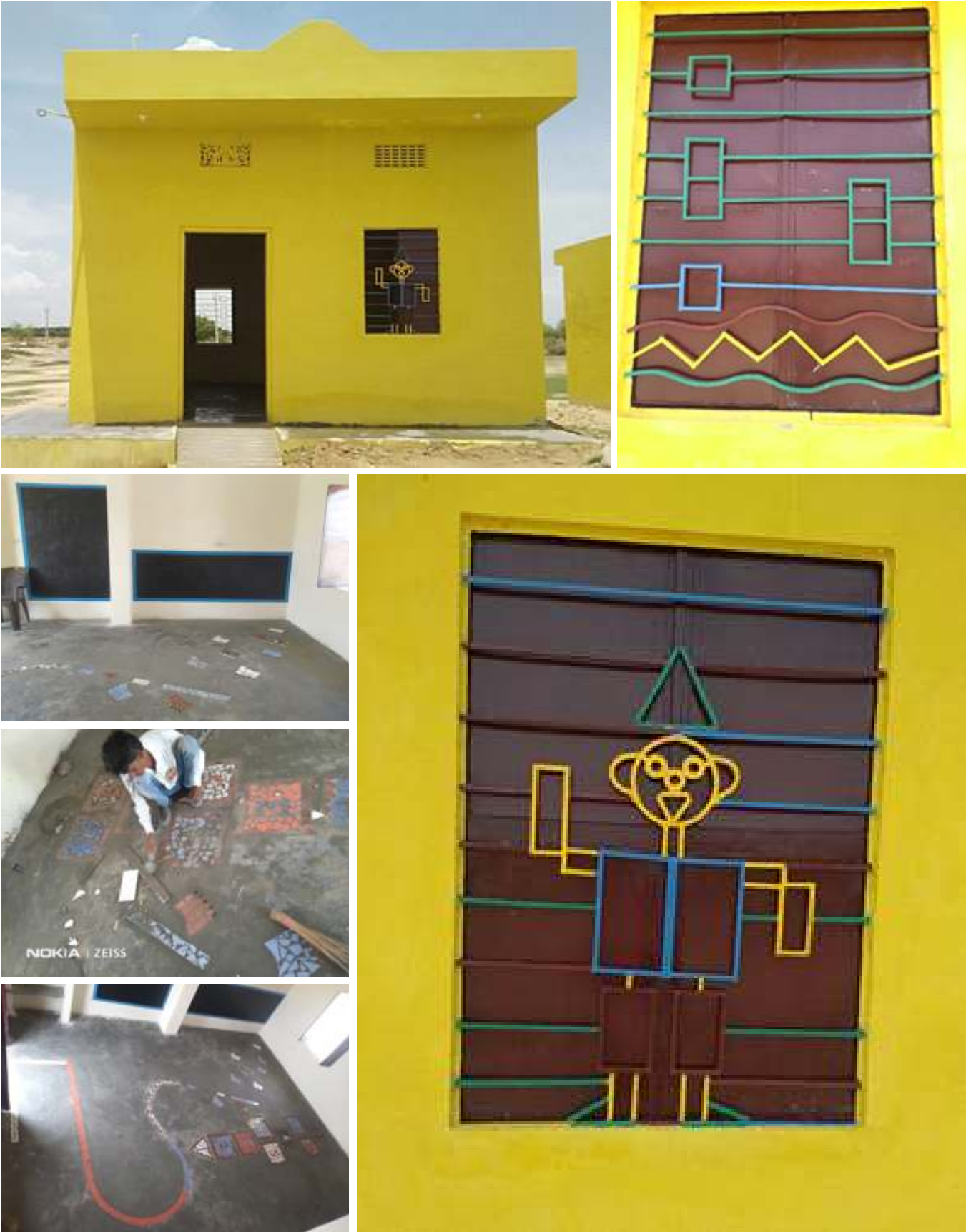
Anganwadi construction with drinking water and toilet facility



SOLAR ELECTRIFICATION OF ANGANWADI



BaLA INTEGRATED DESIGN

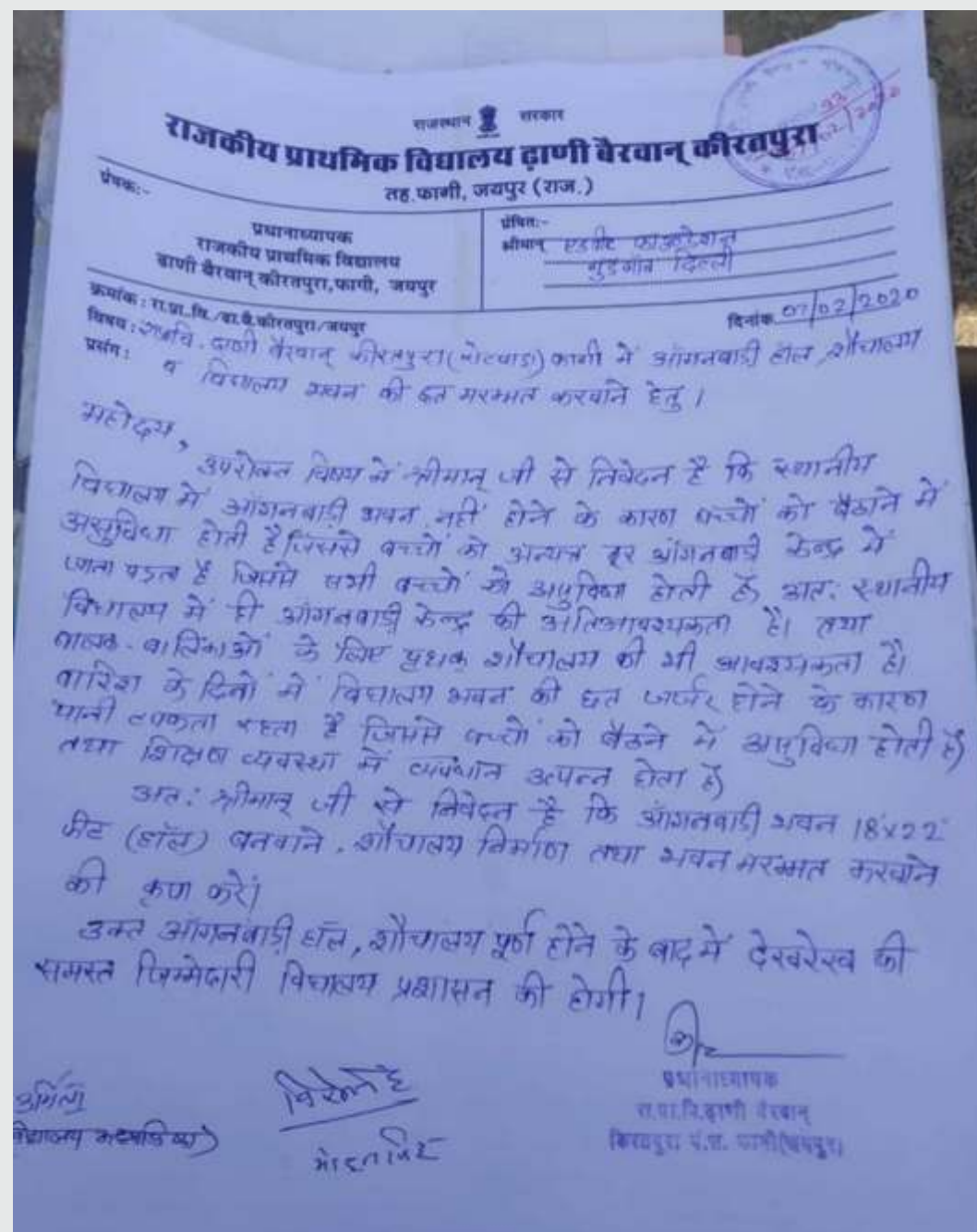


PLANTATION IN THE VILLAGE



ANNEXURES

LETTER OF SUPPORT FROM SARPANCH



ADVIT FOUNDATION – BRIEF PROFILE

Advit Foundation (www.advit.org) 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 where people can manage behaviour and ecosystems to live sustainably.

Advit set up the Solar Information Centre at The National Institute of Solar Energy Gwal pahari under Ministry of New and Renewable Energy, Govt. of India. Advit is a training partner with the Skill Council for Green Jobs and NSDC, Govt. of India for Solar Electronics and runs a solar training centre with HARTRON. Advit was the state nodal partner managing the Rajiv Gandhi Renewable Energy Park in Gurgaon for Haryana Government from 2009 - 2015.

Our environmental resources are not infinite. Therefore, at Advit Foundation, our endeavour is to explore endless possibilities and solutions for their conservation. Our initiatives are focused on conservation of water and access to clean energy, overall socio economic development of the poor, skill upgradation and entrepreneurship trainings and holistic village development. This is achieved unleashing traditional knowledge, identification of new technology and improved communication tools to undertake environment awareness and conservation initiatives.

Advit team closely works on skill up-gradation for climate change adaptation with communities as well as farm-based livelihood organisations. Advit has set up a rural skill training centre, Aarohan, in village Pachala in Phagi block in Jaipur District of Rajasthan where more than 100 women are trained every month. In a country like India where poverty, lack of nutrients, post-harvest losses, and gender inequality still prevails in the agricultural sector, it is important to address the issues with a promising approach and technology to create an economically aligned community. Advit operates through the following programme areas.

CONSERVATION

The water conservation initiative ensures water availability for drinking, sanitation, agriculture and livestock. As the water scenario improves in the region, the scope and the need for other development activities emerge. The success indicators measured are Developed degraded lands, Overall socio-economic development of the poor, Mitigating drought conditions, employment generation and poverty alleviation.

EMPOWERMENT

The programme is a strategic intervention to address some of the key issues in India's renewable energy development plans which stress upon promotion of the use of renewable energy/ clean energy and development of associated service delivery mechanisms in the country. The program will enable a strong, diverse, and well trained solar workforce. This program ensures that solar instructors are well connected to solar employers, and vocational and engineering students are trained to help increase solar adoption and improve solar installation.

LIVELIHOOD ENHANCEMENT

New skills are introduced and existing ones are upgraded among the community. Advit team closely works on skill upgradation for climate change adaptation with communities as well as farm-based livelihood

organisations. In a country like India where poverty, lack of nutrients, post-harvest losses, and gender inequality still prevails in the agricultural sector, it is important to address the issues with a promising approach and technology to create an economically aligned community. Advit's rural skill upgradation centre, Aarohan, is located in village Pachala in Phagi block of Jaipur district in Rajasthan.

ENVIRONMENT AWARENESS

The initiative undertakes Environment awareness, action and health and safety programmes among school children, community members and industrial shop floor workers. The efforts are to guide how natural environments function, and particularly, how human beings can manage behavior and ecosystems to live sustainably. The programme also designs and undertakes planning and impact assessment of development projects.

A FEW GLIMPSES OF ORGANIZATION'S WORK

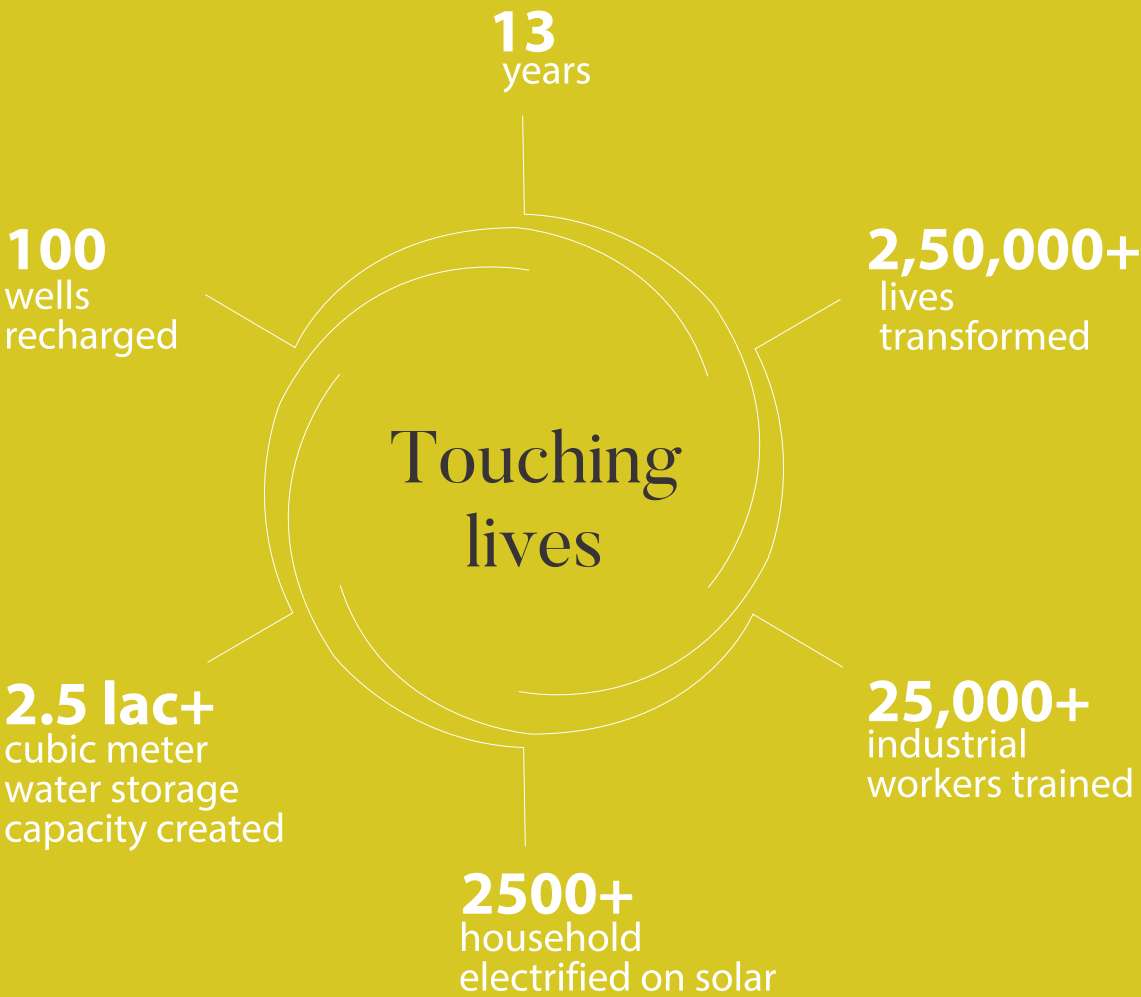
- Design and construction of micro watersheds/ water conservation models. Have undertaken more than 18 water conservation structures in more than 25 villages in Phagi, Mandore, Rothwara, Dudu blocks in Rajasthan and Amravati (Maharashtra), Medak (Telengana), Kolar (Karnataka)
- Undertaking Solar Electrical Training with certification from NSDC and Green Council for Skill Jobs. Trained more than 2000 candidates since 2013
- B.Voc Training partner with TISS for undertaking Solar Electrical Training
- Set-up Aarohan – rural self-employment training centre, at village Pachala in Phagi, Rajasthan
- Electrified more than 2500 households in the rural parts of Rajasthan and Haryana using solar home lighting systems
- Undertaking Safe Chemical Handling trainings for workers of apparel, metal, leather and accessories industries all over India
- Implemented Occupational health and safety trainings for 25 Carpet weaving industries in Panipat, Haryana
- Runs an environment education and school upgradation programme - Prakriti Eco School programme
- Undertaken solar electrification of forest guard cabins at Pench and Bandhavgarh forest reserves in Madhya Pradesh
- Undertook revival of handloom clusters in Kerala post Floods in 2018
- Distribution of 100 energy efficient cooking stoves in Phagi, Rajasthan
- Facilitated set up of community toilets in 5 villages in Phagi, Rajasthan
- Facilitated set up of largescale drinking water system in Behror, Haryana

- Facilitate industries to comply with environment standards - Undertake energy efficiency trainings, audits and other resource conservation methods for various industrial processes
- Implemented roof top rain water harvesting for buildings. Designed and constructed 3 large models for institutions in Gurgaon
- Prepared guide book on Energy efficiency and Carbon responsibility for apparel industries – Knowledge book. Supported by GIZ
- Implemented a Village Development Programme for NABARD at village Meoka, Haryana

AWARDS

- Advit Foundation is empaneled with TISS CSR Hub
- Advit Foundation is empaneled with NGO darpan and the National CSR Hub of the Indian Institute of Corporate Affairs, MCA
- Empaneled with Skill Council for Green Jobs
- Awarded the first CII beyond the Fence Project award for an industry in Rajasthan in 2009
- Awarded the Impact Award for Skill Development at the Impact Conclave by Sambodhi in partnership with Bill and Melinda gates Foundation, SIDBI, YES Bank in 2016
- Managing Partner - Haryana Renewable Energy Development Agency (HAREDA) from 2009-2015
- Managing Partner – Centre of Excellence on Solar Electronics at National Institute of Solar Energy, MNRE, Govt. of India
- Training Partner – Green Skill Sector Council and NSDC, GoI for Solar Electronics
- Training Partner - HARTRON (Haryana State Electronics Development Corporation Ltd.) for Solar
- Training Partner – TISS Mumbai B.Voc on Solar Electrical

CONSERVING ENVIRONMENT
& EMPOWERING LIVES



We thank the director of Arhant Social Foundation, Inc., Mr Prabhat K Jain for supporting the development activities in India. The foundation is set up to administer funds for educational, scientific and charitable purposes registered as a nonstock corporation under the provisions of Virginia Non stock Corporation Act of the Code of Virginia (1950).

