advit foundation
www.advit.org

WATER PROJECT

Kolar District, Karnataka

Sustainability partner: advit foundation
www.advit.org

Submitted to: Pernod Ricard India
CHARITABLE FOUNDATION

Project Completion Report

January, 2019

Village Kunibande and Village Kadripura, Kolar District, Karnataka

Glimpses of project site

Contents

1. NEED FOR INTERVENTION – KOLAR DISTRICT

Kolar is one of the 30 districts in Karnataka state of India. It lies South-East of the state, bordering Andhra Pradesh and Tamil Nadu. It's a land locked district with mostly rocky terrain. The district is drought prone and falls in the Eastern Dry-agro Climatic Zone characterized by typical monsoon tropical weather, with hot summers and mild winters.

Even though Kolar district has the maximum number of irrigation tanks (2,980 tanks) in Karnataka, they are not used for agricultural purposes because of their unreliability to supply water throughout the year. Irrigation and drinking water needs are mostly met from ground water through bore wells and open wells. The depth of irrigation bore wells range from 100 - 400 meters below ground level and the typical yield is 0.5 to 20 m^3/hr. The long-term post monsoon ground water levels at almost half the places have shown a receding trend ranging from 0.31-0.7 m/year.

The net ground water available per year in the district is 29,144 hectare-meter (ham) but the current usage is 52,635 ham and that is why there is an overdraft of 23,491 ham. Hence, the entire district falls under over exploited category. There is an immediate need for construction of sub surface dams, check dams, percolation tanks, point recharge structures etc. Ground water recharge has a special significance for the all-round development of this water-starved district.

2. PROJECT ACHIEVEMENT

- Rain water storage capacity of 15,500 cu m has been created from 2 structures spread over 2 villages.
- Direct beneficiaries are around 1,800. Indirect beneficiaries are around 7,000 since the nearby 4 villages are also impacted.

Village	Storage capacity (cu m)	Total area under agriculture (hectare)	Village beneficiaries	Households
Kunibande	9,000	120	510	86
Kunibande	6,500	45	1,343	292

- Improved water availability for drinking, sanitation, agriculture and livestock.
- Increase in green cover due to improved soil moisture.

3. PROJECT BACKGROUND

Pernod Ricard India Charitable Foundation, as part of their Corporate Social Responsibility, had decided to focus on integrated water shed management programs to help alleviate water scarcity issues in rural areas. As part of this initiative, Advit Foundation was identified as the implementation partner in the year 2015. Since then 10 rain water harvesting structures have been built with a combined holding capacity of 60,000 cu m in Phagi block, Rajasthan. 10,000 cu m in Amravati block, Maharashtra and 10,000 cu m in Medak block, Telangana. The locations of the water structures were based on the topography and village maps to ensure that the rain water runoff gets accumulated in these structures and not get lost because of runoff or evaporation loss.

To ensure sustainability, communities were part of the entire decision-making process and the village panchayat gives a commitment of maintenance of these structures. State funds are also available for maintenance of such village level water conservation structures which can be availed by the village Panchayat.

As part of replicating the development models achieved in Phagi, Rajasthan; Advit decided to explore more geographical locations for water projects. In the detailed study conducted it was found that Kolar district in Karnataka is one such location where extremely low ground water levels were observed. Kolar district receives an annual average rainfall of 748 mm. South-West monsoon contributes to 55% of rainfall between June-September. North-East monsoon contributes to 30% of the rainfall between October-December. The remaining 15% rainfall is contributed by Pre-monsoon. September and October are the wettest months with an average of 100 mm of rainfall per month.

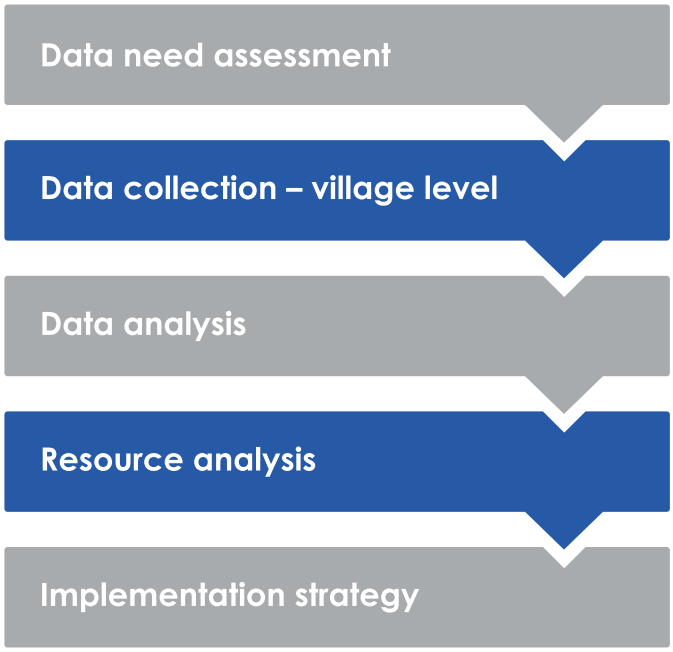
4. PROJECT APPROACH

Initial baseline study was conducted, and with the help of local village panchayat representatives, two sites were identified. Village Kunibande in Amblikal panchayat was chosen as one of the project sites because of their drinking and irrigation related water problem and a significant ST population. Village Kadripura was chosen as the other project site because of the presence of large lower income group population living in the vicinity facing water problem.

Following has been the project implementation approach

Site Identification

- Site identification along with local panchayat representatives was undertaken.
- A step by step approach was adopted to assess the situation on ground and develop the design of the project.



Approvals

- Sanction letters were taken from the local panchayat authorities.
- The local community was involved in all the decision-making processes to build ownership and to ensure long term sustainability of the project.

Design

- Based on analysis of the captured data, the location and design of the structures was finalized with active participation from the communities.

Implementation

- Digging was undertaken in both the villages using local resources and local contractors.
- Trainings to community on creation of mud embankment was undertaken to ensure sustainability.

Hand over

- The structures were taken over by the panchayat after the first rains.
- Both the panchayats issued a completion letter for the project.

Glimpses of water harvesting structure construction

5. PROJECT IMPACT

The two water structures combined are expected to directly impact a population of 1,800 living around the structures in 2 villages and around 7,000 indirectly. Since the structures are percolation tanks, water stored in the structures might get recharged into the ground within few weeks of the rains, in the first year. Because of silt accumulation, stagnation of water can be observed in the subsequent years.

South-West monsoon in Kolar district has received a deficit rainfall of 33% this year, hence both the structures are only partially filled.

Storage capacity: The combined storage capacity is 15,500 cu m. 2,40,00,000 litres of water will get recharged in the first year. 1,80,00,000 litres and 1,20,00,000 litres of water will get recharged in the second and third year respectively.

Impact on cropping pattern: The water retention in the ponds will bring about increased soil moisture when the rain water gets stored. This would in turn improve the crop quality and quantity. However, the challenge would be not to increase the number of crops, instead look at the kinds of crops that are being sown to ensure that water does not get depleted. Additionally, there will be an increase in forest cover due to the improved soil condition which could improve the rainfall in subsequent years.

Community empowerment: Community groups in each of the villages have been trained to maintain these structures. In case of any upcoming government schemes, the groups will be able to avail grants to meet the cost of maintenance of these structures from these schemes in due course of time.

Recharge of bore wells and open wells: In village Kunibande, 70% of bore wells were defunct and in village Kadripura, 50% of bore wells had either failed or become defunct. Discussions with the villagers have revealed that bore wells and open wells in the vicinity have been recharged because of the structure. Around 30 bore wells within 100 m radius of the structures will get recharged in the first year and bore wells within 200 m radius will get recharged in the subsequent year. This will ensure defunct bore wells to become functional and also provide availability of water throughout the year.

Impact on agriculture: The excavated soil was dispersed in almost 20 hectares of non-cultivable land and 30 hectares of less fertile agricultural lands. The non-cultivable land has become cultivable after the monsoon rains. 80% of the agricultural lands in both the villages are cultivated only during rainfall once a year because of lack of water in bore wells. Finger millet and ground nut is widely grown in rain fed fields and rice, vegetables and greens are grown in fields cultivated with bore wells. Increase in soil moisture and increase in water level in bore wells will increase the productivity in the area. The livestock population will also increase because of water availability throughout the year.

6. PROJECT SUSTAINABILITY

The village panchayat and the local community has been actively involved in every step of the project. This has been done to build in a sense of ownership in the initiative. Trainings have been undertaken for the community on maintenance of the mud embankments. This capacity building has been done to ensure long term sustainability of the project. The communities have the capacity to maintain the structures by utilizing the Government schemes available.

7. GLIMPSES OF THE PROJECT SITES

Pre-construction site

Village Kunibande

Village Kadripura

During construction

Village Kunibande

Village Kadripura

Completed structures

Village Kunibande

Village Kadripura

7. FINANCIAL REPORT

Project Name: Water Conservation Project in Kolar District, Karnataka – 2018-19
Supported by: Pernod Ricard India Charitable Foundation

S.No.	Activity	Approved Budget	Actual
1.	**Water conservation structure – 2 structures**		
	Water shed set up cost (Two @ Rs. 18,00,000 per site)	36,00,000	37,00,000
	Mounting of signage boards		
	SUB-TOTAL (A)	**36,00,000**	**37,00,000**
2.	**Field implementation cost**		
	Field engineer cost – (Two @ Rs. 40,000 per site)	80,000	80,000
	Field coordinators – (Two @ Rs.35,000 per person)	70,000	70,000
	Baseline survey to identify locations	1,50,000	1,50,000
	Travel and transportation of material from land clearing (Two @ Rs. 2,00,000 per site)	4,00,000	4,00,000
	Maintenance cost after first rains, incidentals (Two @ Rs. 1,00,000 per site)	2,00,000	1,50,000
	SUB-TOTAL (B)	**9,00,000**	**8,50,000**
3.	**Project documentation cost**		
	Data collection, monitoring and impact assessment (prior to implementation and post implementation) (Two @ Rs. 1,00,000 per site)	2,00,000	2,00,000
	Documentation, frame work preparation and reporting	2,00,000	2,00,000
	Field survey for undertaking project expansion and government sanctions	1,00,000	1,00,000
	SUB TOTAL (C)	**5,00,000**	**5,00,000**
	TOTAL (A+B+C)	**50,00,000**	**50,00,000**
4.	**Project implementation cost (15% of total)**	**7,50,000**	**7,00,000**
	TOTAL	**57,50,000**	**57,50,000**
5.	**Travel cost**		
	Local conveyance, travel, boarding and lodging (Delhi/Bangalore/Kolar)	2,50,000	2,50,000
	SUB-TOTAL (D)	**2,50,000**	**2,50,000**
	GRAND TOTAL (TOTAL + SUBTOTAL D)	**60,00,000**	**60,00,000**

ANNEXURE – I

Village Kunibande panchayat consent letter

AMBLIKAL GRAMA PANCHAYATH OFFICE

Amblikal , Mulbagal Taluk, Kolar District

Ref : C.R.NO 01.18-19 Date : 31/05/2018

To,
Advit Foundation
New Delhi.

Respected Sir

Sub : Regarding Development of Doddakere Kere of Kunibande and ~~Ojinakere of Bevahalli Village,~~

With regards to the above subject, we are hereby bringing your kind self that, we don't have any objection regarding the development of following tanks which comes under our Amblikal Grama Panchayath,Mubagal Taluk, Kolar District under your esteemed organization

S.No	Tank Name	Village
1	Doddakere	Kunibande
~~2~~	~~Ojinakere~~	~~Bevahalli~~

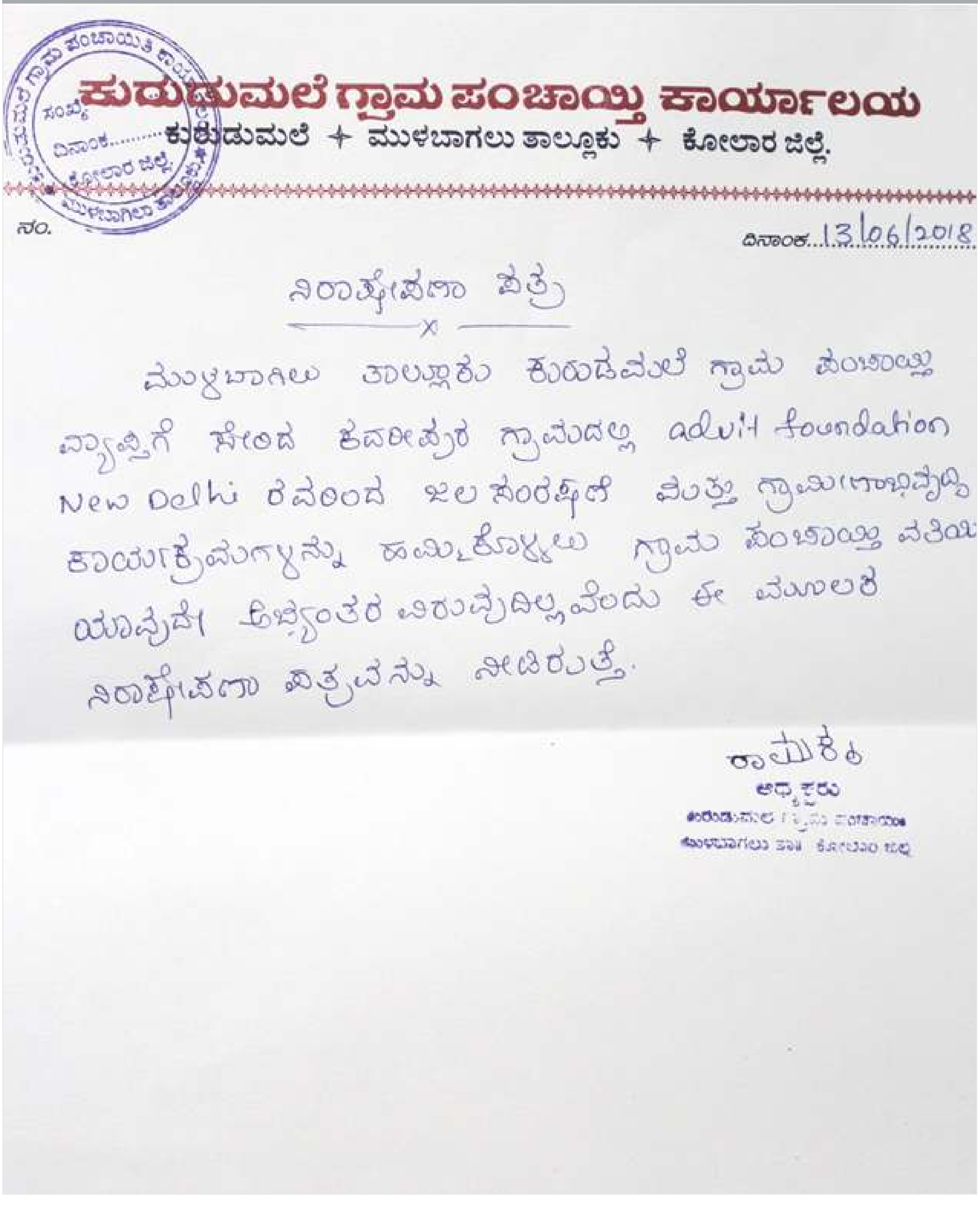
Thanking you,

Yours faithfully

(Mallikarjuna Reddy)
President
Amblikal Grama Panchayath

(C.P. Ashwath Narayana)
Panchayath Development Officer
Amblikal Grama Panchayath

Village Kadripura consent letter



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ಕುರುಡುಮಲೆ + ಮುಳಬಾಗಲು ತಾಲ್ಲೂಕು + ಕೋಲಾರ ಜಿಲ್ಲೆ.

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ದಿನಾಂಕ 13/06/2018

ನಿರಾಕ್ಷೇಪಣಾ ಪತ್ರ

ಮುಳಬಾಗಿಲು ತಾಲ್ಲೂಕು ಕುರುಡುಮಲೆ ಗ್ರಾಮ ಪಂಚಾಯ್ತಿ ವ್ಯಾಪ್ತಿಗೆ ಸೇರಿದ ಕದರೀಪುರ ಗ್ರಾಮದಲ್ಲಿ advit foundation New Delhi ರವರಿಂದ ಜಲ ಸಂರಕ್ಷಣೆ ಮತ್ತು ಗ್ರಾಮೀಣಾಭಿವೃದ್ಧಿ ಕಾರ್ಯಕ್ರಮಗಳನ್ನು ಹಮ್ಮಿಕೊಳ್ಳಲು ಗ್ರಾಮ ಪಂಚಾಯ್ತಿ ವತಿಯಿಂದ ಯಾವುದೇ ಅಭ್ಯಂತರ ಇರುವುದಿಲ್ಲವೆಂದು ಈ ಮೂಲಕ ನಿರಾಕ್ಷೇಪಣಾ ಪತ್ರವನ್ನು ನೀಡಿರುತ್ತೇ.

ಅಧ್ಯಕ್ಷರು

ANNEXURE – II

Baseline report

Kolar is one of the 30 districts in Karnataka state of India. It lies South-East of the state, bordering Andhra Pradesh and Tamil Nadu. It's a land locked district with mostly rocky terrain. The district is drought prone and falls in the Eastern Dry-agro Climatic Zone characterized by typical monsoon tropical weather with hot summers and mild winters.

The annual average rainfall in this district is 748 mm. South-West monsoon contributes to 55% of rainfall between June-September. North-East monsoon contributes to 30% of the rainfall between October-December. The remaining 15% rainfall is contributed by Pre-monsoon. September and October are the wettest months with an average of 100 mm of rainfall per month.

Even though Kolar district has the maximum number of irrigation tanks (2,980 tanks) in Karnataka, their dependability for irrigation depends upon rainfall conditions. Hence, Irrigation and drinking water needs are mostly met from ground water through bore wells. The depth of irrigation bore wells range from 100 - 400 meters below ground level and the typical yield is 0.5 to 20 m^3/hr. The long term post monsoon ground water levels at almost half the district has shown a receding trend ranging from 0.31-0.7 m/year.

The Net Ground Water available per year in the district is 29,144 hectare-meter (ham) but the current usage is 52,635 ham. Hence, the entire district falls under over exploited category. Thus there is an immediate need for construction of sub surface dams, check dams, percolation tanks, point recharge structures etc. Ground water recharge has a special significance for the all-round development of this water-starved district.

Village Kunibande was chosen as one of the project site because of their acute water problem and a significant ST population. Village Kadripura was chosen as the other project site because of the presence of large lower income group population living in the vicinity and presence of drinking and irrigation water problem.

Kolar district map

Demographic Details

Village name	Kunibande	Kadripura
Panchayat	Amblikal	Kurudamale
Taluk	Mulbagal	Mulbagal
District	Kolar	Kolar
Nearest Railway Station	Bangarpet (39 km)	Bangarpet (39 km)
Nearest Airport	Bangalore (105 km)	Bangalore (91 km)
Nearest Big Town	Mulbagal (16 km)	Mulbagal (2 km)
Socio Details		
Population	510	1343
Household	86	292
SC Population	64	415
ST Population	437	1
Land Use Pattern		
Total Geographical Area (Hectares)	269	201
Active Agricultural Land (Hectares)	120.78	44.67
Forest Area (Hectares)	90.32	37.23
Barren Land (Hectares)	9.38	24.34
Non Agriculture Land (Hectares)	13.11	61.02
Culturable Waste Land Area (Hectares)	6.18	8.98
Fallows Land other than Current Fallows Area (Hectares)	4.95	9.88
Other Fallows and Community and other purpose Land	3.72	15.85
Under Irrigation	21.62	44.67
Drinking Water Source	1 Community bore well	1 Community bore well

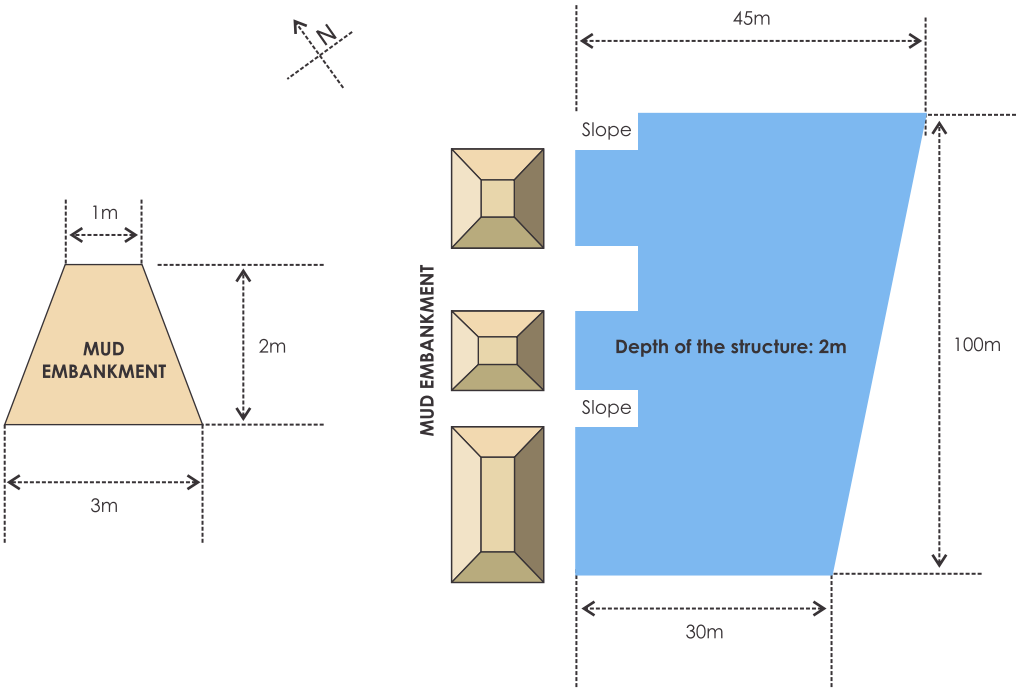
Glimpses of baseline survey

ANNEXURE – III

Water structure location and design

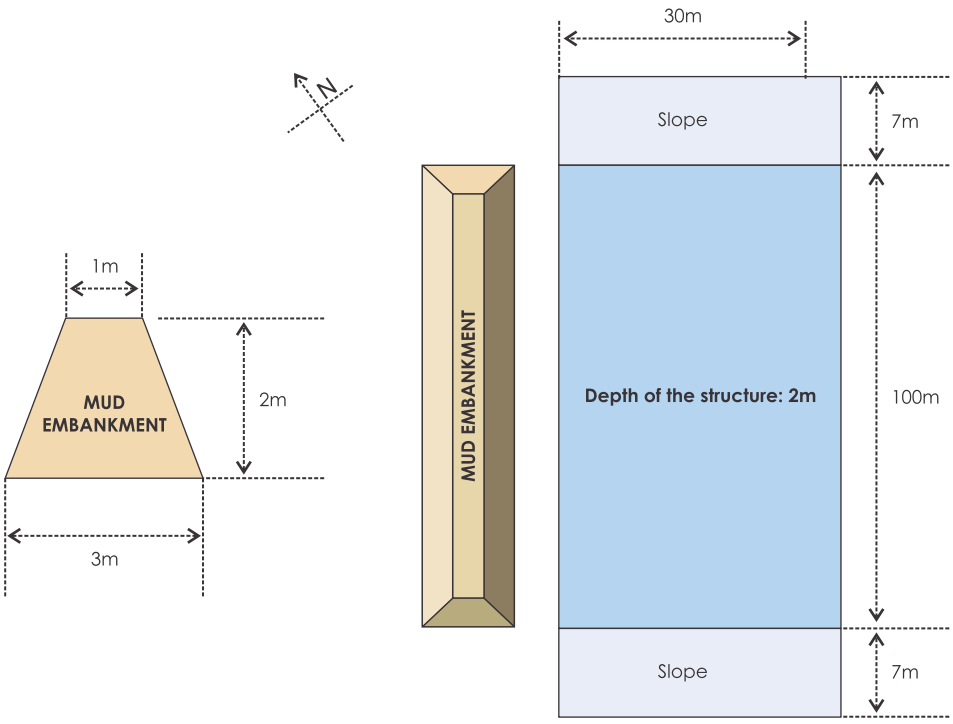
Project Site 1: Village Kunibande

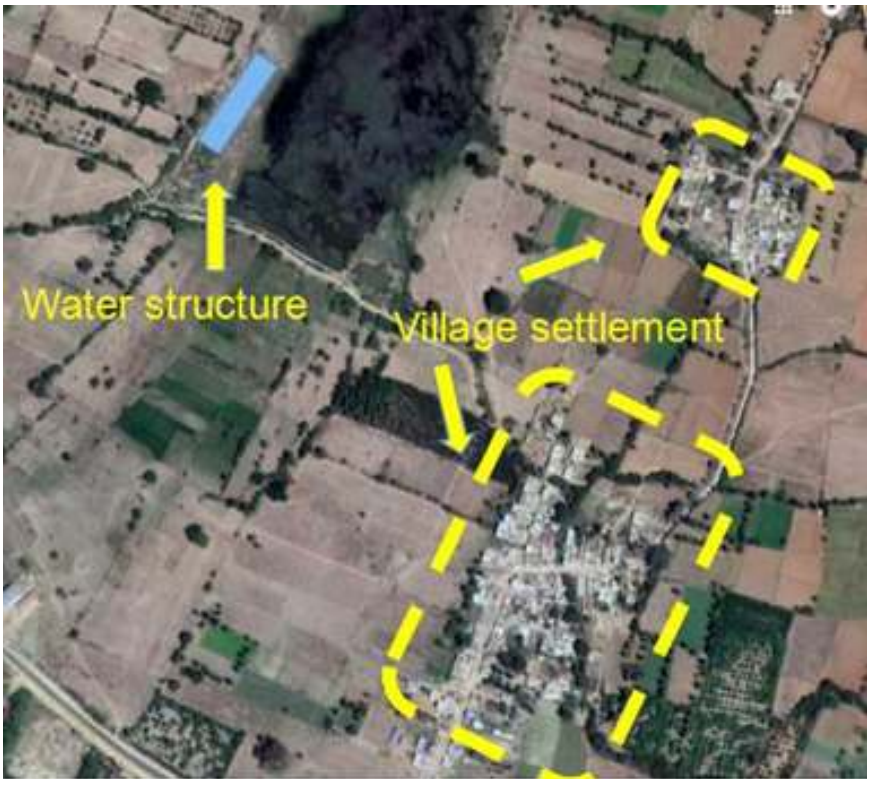
Latitude: 13.259556 **Longitude:** 78.432559



Project Site 1: Village Kadripura

Latitude: 13.175332 **Longitude:** 78.63264





ANNEXURE – IV

Completion letter from the panchayat

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12/01/2019

we thank Advit Foundation for building a rain water storage structure in village kadiPula. The storage capacity is 6500cum. Around 5000 people living in kadiPula and closeby two villages will be benifitted.

we thank Pernod Ricard India charitable Foundation for supporting and funding this project The structure was made in June 2018. we look forward to continued support for further development of our Panchayat.

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ಅಧ್ಯಕ್ಷರು
ಕುರುಡುಮಲೆ / ಮುಳಬಾಗಲು ತಾ|| ಕೋಲಾರ ಜಿ||

AMBLIKAL GRAMA PANCHAYATH OFFICE

Amblikal , Mulbagal Taluk, Kolar District

12/01/2019

On behalf of Amblikal Panchayat, I thank Advit Foundation for Constructing a water storage structure for collecting rain water in village Kunibande. 6000 people in and around Kunibande will be benifited because of this project. The holding capacity of the structure is 9000cum.

We thank Pernod Ricard India charitable Foundation for their support and funding. We look forward to more support from them. The structure was completed in june, 2018.

Yours faithfully

(Mallikarjuna Reddy)
President
Amblikal Grama Panchayath

(C.P. Ashwath Narayana)
Panchayath Development Officer
Amblikal Grama Panchayath

ANNEXURE – V

Advit Foundation – a brief profile

Advit Foundation (www.advit.org) is a not for profit development organization, working for Conservation of Environment Resources and Livelihood Enhancement. Advit has sought to conserve environment and empower communities through viable options of sustainable development.

Advit is the managing partner for the Solar Information Centre at The National Institute of Solar Energy Gwalpahari under Ministry of New and Renewable Energy, GoI. It is a training partner with the Electronics Sector Skills Council of India (ESSCI) for Solar Electronics. Advit runs a solar training centre with HARTRON. The organization was also the state nodal partner managing the Rajiv Gandhi Renewable Energy Park in Gurugram for Haryana Government from 2009 - 2015.

With a vision of promoting approaches to sustainability, Advit's work focuses on watershed development, renewable energy promotion, skill upgradation, and entrepreneurial trainings. This is achieved using information and communication systems tools and undertaking environment education and conservation initiatives. Forward linkages are sought through outreach programmes and market connects. Advit operates through the following project areas:

Awareness

Advit strives to generate awareness on the need to educate, provide a platform for learning to all and impart the importance of conserving environment and conserving resources in our everyday life. Activities focus on environment conservation, entrepreneurial trainings and economic empowerment.

Education

The vision is to create and nurture a learning culture that believes in and breathes change through education. Advit Foundation's rural training centre, Aarohan, has been set up to mitigate the unemployment and underemployment problems among the rural youth in the country. The trainings and skill upgradation programmes are geared towards skill upgradation and entrepreneurship development.

Advit designs and implements environmental programmes pertinent to:

- Holistic village development and skill trainings that help in livelihood enhancement.
- Environment awareness and resource conservation in schools and other educational institutions.
- Facilitating environment compliance in industries - Trainings on occupational health and safety, safe chemical handling and disposal, water conservation, energy audits, industry production process efficiency and resource conservation in production processes.
- Information dissemination and implementation of programmes on energy efficiency, solar, biogas and waste management.

Conservation

The programme highlights and suggests alternatives that can help address the challenges of resource conservation. The need for intervention and the alternatives that would improve resource management and development activities are sought. These include implementation of projects in water conservation and energy efficiency.

- Overall development of the village and people living in the watershed.
- Conservation, regeneration and judicious use of resources – natural and human.

A few glimpses of organisation's work:

- Designed and constructed micro watersheds. Undertaken more than 18 water conservation structures in villages in Phagi, Mandore, Rothwara, Dudu blocks in Rajasthan and Amravati, Maharashtra.
- Undertaking Solar Electrical Training with certification from NSDC and HARTRON. Trained more than 2000 candidates since 2013. Supporting partners have been Ministry of New and Renewable Energy, GoI, RECL, Applied Materials Pvt Ltd.
- 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.
- Undertaken 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.
- Distribution of 100 energy efficient cooking stoves in Phagi.
- Facilitated set up of community toilets in 5 villages in Phagi.
- Facilitated set up of large scale drinking water systems in Behror.
- Facilitated industries to comply with environment standards - Undertaken 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 Gurugram.
- 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.

Our programme centres

Energy Centre

- Solar & biogas promotion
- Resource efficiency in industries
- Solar electrical vocational training

Water Centre

- Watershed development
- Sustainable village development
- Skill upgradation & income enhancement
- Roof top water harvesting

Aarohan: Advit's Rural Self Employment Training Centre

- Skill training and entrepreneurship development
- Women empowerment
- Rural tourism

Eco Initiatives

- Environmental education
- Tree plantation and green space development
- Under-privilleged school upgradation
- Community development initiatives in peri-urban areas

Centre for Learning

- Occupational health & safety training
- Safe chemical handling training
- Project baseline and impact assessment studies
- Awareness sessions on workplace harassment

Touching lives

13+ years	2,50,000+ rural lives transformed	25,000+ industrial workers trained	2500+ tribal households electrified on solar	3 lac+ cu m water storage capacity created	4 states Haryana Rajasthan Maharashtra Telangana

Awards & Empanelment

- Empaneled with TISS CSR Hub.
- Empaneled with the National CSR Hub of the Indian Institute of Corporate Affairs, MCA.
- 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 - Electronics Sector Skills Council of India (ESSCI) for Solar Electronics.
- TISS-SVE training-hub partner on solar.

advit foundation

www.advit.org

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